



United States  
Department of  
Agriculture

Forest  
Service

Midewin National  
Tallgrass Prairie  
(815) 423-6370

30071 South State Route 53  
Wilmington, IL 60481

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File Code: 1950

Date: March 1, 2001

Dear Friends of Midewin,

The Midewin Demolition and Removal of Unneeded and Unsafe Facilities and Structures Environmental Assessment is now available for public review and comment over the next 30 days.

On December 8, 2000 Midewin National Tallgrass Prairie initiated a public comment period to scope for issues regarding the proposed demolition. The scoping period ended on January 8, 2001. Public comments received were used to identify significant issues, mitigation measures, and to craft the alternatives. As the Prairie Supervisor, I am the Forest Service deciding official for this project.

**The 30 day public comment period for this environmental assessment closes on Monday, April 2, 2001.** Responses to all public comments on the draft Environmental Assessment will be a part of the final Environmental Assessment. A final Environmental Assessment, a Finding of No Significant Impact, and a Decision Notice will be published after considering all public comments received.

Comments may be sent via the Internet to [wmains@fs.fed.us](mailto:wmains@fs.fed.us) or mailed to William Mains at the address above.

Please be sure to include the following information when providing written comments:

- Your name, address, organization represented, and title;
- Title of the document you are commenting on;
- Specific facts and supporting reasons regarding your comments.

Copies of the Decision Notice will be mailed to those submitting comments and those requesting copies. For further information regarding this environmental assessment or project, please contact William Mains at (815) 423-6370.

Thank you for providing your comments on this environmental assessment.

Sincerely,

*/s/ FRANK KOENIG*  
Prairie Supervisor



**Environmental Assessment  
for  
Demolition and Removal of Unneeded and Unsafe  
Facilities and Structures.**

**MIDWIN NATIONAL TALLGRASS PRAIRIE  
Will County, Illinois**

**March 1, 2001**

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# 1. PROJECT SCOPE

## Introduction

This site-specific environmental assessment (EA) documents the potential environmental effects of demolition and removal of unneeded and unsafe facilities and structures under control of the USDA, Forest Service (USFS), who also manages Midewin National Tallgrass Prairie (MNTP). The MNTP occupies much of the US Army's former Joliet Arsenal. This EA was prepared in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations. This EA discloses the direct, indirect, and cumulative environmental impacts and any irreversible or irretrievable commitment of resources that would result from the proposed action and No Action Alternative. Based on this EA, the USFS's Prairie Supervisor will decide whether or not to demolish and remove unneeded and unsafe facilities and structures.

An Interdisciplinary Team of resource specialists (identified in Section 7) used a systematic approach for analyzing the proposed project and alternatives to it, estimating the environmental effects, and preparing this EA. The planning process complies with NEPA and the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 CFR 1500-1508). An EA is "a concise public document ... that serves to briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of "no significant impact" (40 CFR 1508.9).

## Project Area

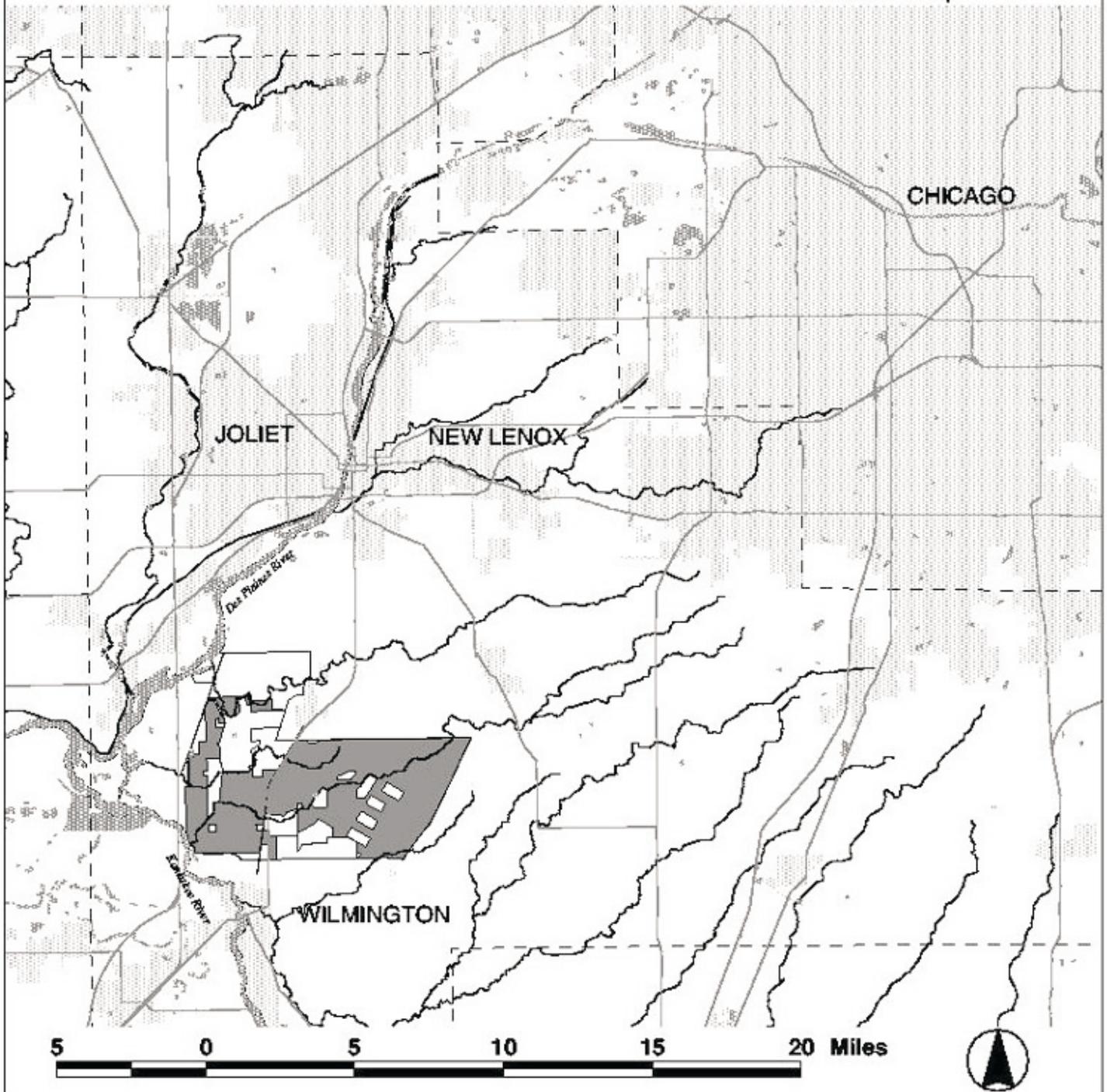
Lands within the project area have been developed as part of the Army arsenal lands. The land was transferred with a complex of abandoned buildings and structures including warehouses, bunkers, power poles, bridges and various other structures and buildings, including associated roads and rail grades.

The combined total project area occupies approximately 100 acres of the of the approximately 15,189-acre MNTP, 15 miles south of Joliet and 4 miles north of Wilmington, Illinois (see Figure 1). Adjacent to the project area are the Joliet Army Training Area and the yet to be completed Deer Run Industrial Park, Lincoln National Veterans Cemetery, Will County landfill, and Island City Industrial Park.

The MNTP is part of the Prairie Parkland, an area of approximately 40,000 acres that includes the Illinois Department of Conservation's Des Plaines Conservation Area, Goose Lake Prairie State Park, Heidecke Lake Fish and Wildlife Area and portions of corporate lands owned by Commonwealth Edison, General Electric, Mobil Corporation, Amoco Corporation, Stepan, Dow Chemical, and other large tracts. In all there are 22 proximal areas in the Prairie Parkland owned by State, County, and local governments, corporations, and interested private landowners located within 12 miles of Midewin.

# Midwin Agricultural Land Use Environmental Assessment

Location Map



## LEGEND

- Major Road
- County Boundary
- Open Water
- Major Stream
- Midwin NTP
- Municipality

## Location Information

Midwin is located approximately 45 miles SW of downtown Chicago and 15 miles South of Joliet. It is located the Channahon, Jackson, Manhattan, Wilmington, Florence and Wilton Townships of southwest Will County, Illinois

Projection: UTM Meters  
Zone 16, NAD83  
Data Source: Midwin GIS  
Created 01/01, jbm  
Midwin National Tallgrass Prairie  
USDA Forest Service  
30071 South State Hwy 53  
Wilmington, Illinois 60481  
(815)-423-6370  
[www.fs.fed.us/mntp](http://www.fs.fed.us/mntp)

Figure 1

Past activities on private and government lands that affected the MNTP have included the following:

- Conversion of natural prairie grasslands to agricultural uses: row crop fields, pastures, and hayfields.
- Drainage and agricultural conversion of wetlands.
- Alteration of wetlands, streams, and riparian forest by agricultural runoff, stream channelization, and siltation.
- Hunting, to extinction, of large ungulates (bison and elk) and predators (mountain lion and wolf).
- Conversion of large, perennial agricultural grasslands (pastures and hayfields) to row croplands.
- Fragmentation of extensive natural habitats.
- Suppression of the natural fire regime.
- Introduction of non-native wildlife, invertebrates, and plants, which then competed with the native species.
- Development of a commercial infrastructure of roads, energy transportation, and communications.
- Conversion of all types of open lands (including agricultural, ruderal, and natural systems) to industrial, commercial, and residential uses.
- Quarrying and mining of bedrock, coal, gravel, and sand.

All of these activities except coal mining have occurred on land now held by the USFS at MNTP. The major impact, of course, was the construction and operation of the Joliet Army Arsenal.

### **Proposed Action**

The proposed action consists of the demolition of a number of designated structures, removal and appropriate disposal of waste materials, and finally fill, regrade and seed demolition sites in order to prepare the sites for future prairie and stream restoration. The structures designated for demolition (see Appendix 1) include power poles, bridges, water tower bases, substantial buildings, and associated roads and rail grades. Some of these structures are in clusters while others are isolated. The structures to be demolished are widely distributed at MNTP as shown in Appendix 2.

Specific details on the Proposed Action and the No Action Alternative are contained in Section 2 of this EA.

### **Relationship to Management Plans**

The Land and Resource Management Plan (LRMP) for Midewin is currently under development by the USFS. Under the enabling legislation (PL-104-106 Illinois Land Conservation Act of 1995, signed into law on February 10, 1996) the Forest Service may conduct management activities at MNTP prior to completion of a LRMP. Demolition and removal of unneeded and unsafe facilities and structures is consistent with the USFS's "Analysis of Management Situation" (July 1999), management objective of managing for a large unfragmented grassland habitat.

### **Purpose and Need for Action**

Consistent with the Illinois Land Conservation Act of 1995, the Forest Service is to restore the tallgrass prairie at MNTP. In order for this to be accomplished a large portion of the physical facilities built by the Army must be removed. This action is also necessary to help ensure the safety of MNTP workers and visitors.

### **Project Objectives**

The Interdisciplinary Team identified the following objectives for the demolition and removal of unneeded and unsafe facilities and structures at MNTP:

1. The main objective is to remove buildings and structures that present a potential safety hazard to the public as well as present an obstacle to prairie restoration in which the goal is to protect/enhance habitat for sensitive plant and animal species.
2. A secondary objective is to accomplish these land management objectives in a cost-effective manner.

### **Decision to be Made**

The USFS Prairie Supervisor will decide whether or not to demolish unneeded and unsafe facilities and structures at MNTP over the next five years. This EA will provide the basis for the Prairie Supervisor to determine whether an EIS will be required, should significant impacts result from the chosen alternative.

### **Public Involvement Summary**

The public was invited to participate in this analysis in December 2000. The Interdisciplinary Team contacted approximately 600 interested parties on December 8, 2000, requesting comments by January 8, 2001. A scoping package was distributed that included a project description, site map, and a request that interested parties consider the following specific questions:

1. Is there any information about the project area (MNTP) that you believe is important in context of the proposed activities that the Forest Service might have overlooked?
2. For the group you represent, what are the potential effects of this proposal that you are particularly concerned about?
3. Are there reasonable alternative ways to meet the Purpose and Need (the rationale for conducting activities) for which you would like the Forest Service to develop and analyze the environmental effects?
4. Are there environmental effects in addition to the ones listed (in the scoping document), which you feel are important and would like to have displayed in the EA? If so, please include your rationale for why they should be analyzed.

Nine written comments were received in response to the scoping letter.

The scoping package and comments are included in Appendix 3.

### **Key Issues**

Key issues and other concerns related to the proposed action were identified by reviewing appropriate source materials being used to develop the LRMP and by internal scoping to identify site-specific issues and concerns. Comments received in response to the scoping letter were reviewed to help define the key issues to be examined. These issues were used to formulate alternatives and to prescribe mitigation measures. In addition, they served as a basis for analyzing effects. The following issues were identified as important for this proposal:

Water Quality and Aquatic Ecology (Streams and Wetlands). Determination of the effects of the alternatives on these resources, including positive effects of resolving watershed concerns by removing existing bridges/trestles and abutments from the floodplain. Issues of concern are erosion of stream banks, debris buildup that interferes with free flow of streams, and potential adverse water quality effects due to creosote.

Air Quality and Noise. Determination of the effects of demolition and removal. USFS reserves the use of explosives as a demolition method. This would not be a new action in the project area, but rather would represent an increment in an already occurring activity. The USFS does not intend primary use of explosives as a demolition method, but must allow for their consideration. Issues also include short-term impacts of waste hauling activities (traffic, air emissions, dust).

Recreation and Visual Quality. Determination of the effects of the alternatives on these resources, including positive effects of removal of structures.

Sensitive Plant and Animal Populations. Determination of the biological effects on sensitive species. According to USFS staff, sensitive habitats are not in the same areas as the proposed demolition work. Timing of demolition work will be addressed in the mitigation/prevention section so as not to disturb, for example, seasonal nesting species adjacent to affected areas.

Public Safety, Demolition Safety, Removal and Disposal of Debris. Address the opportunity to remove structures that are public safety hazards, concerns regarding general demolition safety, debris removal concerns, including safety of workers and the public when removing transite building materials. Demolition concerns include that waste piles be removed within a reasonable amount of time. If fiscally advantageous, address the potential for reuse and recycling.

Soils, Drainage, Preparation for Restoration. Address the need and opportunity to restore soils, topography, and drainage to facilitate later restoration of habitat and watershed functions in accordance with the LRMP. Provide immediate site stabilization of exposed grounds and control of invasive species. Prepare erosion and sediment control plans. Planting to non-native species.

The following were originally identified as being key issues but due to the lack of environmental impacts associated with the proposed project they are not key issues.

Land Use. No land use allocation will be made with this project decision.

Heritage Resources. No effects are anticipated. The Forest Service will provide the necessary compliance with NHPA Section 106. USFS is in possession of a blanket sign-off for old Army buildings from the IHPA and the ACHP. Similar structures at other sites have been preserved and restored for historical purposes. None of the unsafe and unneeded structures at Midewin needs to be preserved.

## 2. ALTERNATIVES

### Alternative Development

Based upon written comments received in response to the December 8, 2000, scoping notice, along with the associated key issues, the Interdisciplinary Team formulated two project alternatives. The Proposed Action (Alternative 1) seeks to remain consistent with the enabling legislation and the restoration goals at Midewin. The No Action Alternative was also analyzed as required by NEPA.

The alternatives are:

Alternative 1 Complete demolition and removal of all identified unneeded and unsafe buildings and structures.

Alternative 2 No Action.

### Alternative 1 - Proposed Action - Demolition and Removal of Unneeded and Unsafe Facilities and Structures

This Proposed Action consists of the demolition of a number of designated structures, removal and appropriate disposal of waste materials, and fill, regrade, and seed the demolition sites in order to prepare these sites for future prairie and stream restoration (see Appendices 1 and 2), consistent with the goals of the Draft Midewin Land and Resource Management Plan (LRMP). The structures designated for demolition consist of warehouses, other building types, power poles and bridges. Some of these structures are clustered together while others are isolated. Under the Proposed Action, demolition and removal of structures and buildings over the next five years would occur as budget permits or as partnering opportunities occur. Also the proposed action over the next five years will not preclude options for future land uses contemplated in the Draft Midewin LRMP alternatives.

### Facility and Structure Description

The structures proposed for demolition are described below and detailed in Appendix 1. The location of these structures are indicated in Appendix 2. Affected areas around the buildings and structures proposed for demolition will vary and depend upon location of each structure and the physical site conditions. Areas disturbed will be minimized and kept to that needed for demolition and removal. Typically, this area will not exceed 100 ft. around the perimeter of all buildings, bunkers and bridges and 50 ft. around telephone poles and above ground water line appurtenances with the exception of water tower bases, in which the area of impact will be 100 ft. around the area in where the water tower base is removed.

1. Transite warehouses: A group of 22 warehouses located in the northeast portion of the MNTP just south of Hoff Road and between Chicago Road and Road 1E.

These are wood frame buildings with walls and roofs comprised of corrugated transite, a form of non-friable (i.e., not easily crumbled or pulverized) asbestos concrete. They are single story structures each covering an area of approximately 25,000 ft<sup>2</sup> each and are arranged in five rows, parallel to Hoff Road. Between the warehouses rows are remnants of railroad feeder lines and access roads. These railroad and road grades will also be removed and graded to the natural contour of the surrounding area.

2. Bridges: An inventory of bridges and trestles identified that 17 are a public hazard/attractive nuisance. They also are creating watershed concerns – causing erosion of stream banks, debris buildup that interferes with free flow of streams. Removal of the bridges and associated approaches on Prairie Creek is proposed in order to restore the natural stream channel and remove flood water restrictions imposed by the bridges. Prairie Creek bridges are located from a point about 2000 ft. upstream of the mouth of the creek (at the Kankakee River near the southwestern edge of MNTP) to the northeast corner of the MNTP, just south of Hoff Road. Of the 17 bridges, all but one provided crossings for rail tracks. Most are constructed of timber throughout, with a number of supports in the streambed, but some are constructed partly of concrete and steel. The spans are from 100 to 142.5 ft. long and elevated from 9 to nearly 15 ft. above the creekbed. The bridges, approaches, and associated roads/rail grades will be removed.

Another eight bridges and associated approaches and roads/rail beds will be removed. These bridges over Jordan Creek, Grant Creek, and Klingler Creek will be removed, due to being unsafe. They are between 21- 28.2 ft. long, except for one (DL-1, on Jordan Creek) that is 113.5 ft. long. The two bridges on Jordan Creek are a 1-span steel truss bridge and an 8-span timber trestle. The three bridges on Grant Creek are concrete box culverts. Of the three bridges on Klingler Creek and one of its tributaries that are proposed for demolition and reconstruction, the two on Klingler Creek are concrete slab bridges and the third on the tributary is a steel culvert. Future action will reconstruct these bridges on Klingler Creek in order to allow access to Klingler Cemetery. The reconstructed bridges will be designed to accommodate flood flows and to minimize channel impacts. Streambank stabilization would follow completion of all bridge and abutment removal.

3. Bunkers: A group of up to eight bunkers and unsafe associated structures are proposed for demolition. These are semi-cylindrical concrete structures approximately 30 ft. wide and 40 ft. long inside. The concrete roof/wall is approximately 15 in. thick at the base and approximately 6 in. thick at the center of the ceiling. They are covered with several ft. of soil, which has grown up in grasses, forbs, and shrubs. Several of the selected bunkers have a wood-frame structure (now rotted) located outside the access door. The floor of the bunkers is concrete, of unknown thickness, the surface of which is about four ft. above the exterior grade. The eight bunkers selected for demolition are located in a group

of about 130 bunkers on the west side of Illinois Highway 53 and on the easternmost line ("J" Line) proceeding north to Schoolhouse Road.

4. Warehouses: 14-15 brick and 3 corrugated steel warehouses between 25,000 ft.<sup>2</sup> – 26,134 ft.<sup>2</sup>, clustered in two groups will be demolished. Also to be demolished are associated roads and rail grades. The southern most grouping consists of two rows totaling 11 buildings located just north of the future Will County landfill. This cluster extends across Road 1W, about one mile north of Arsenal Road. The other cluster is located about 1500 ft. northeast of the first and consists of nine buildings. The Forest Service may refurbish two or three of these buildings in a future action, if a need and use are identified.
5. Other buildings: 57 other buildings and structures, scattered widely throughout MNTP, but mostly east of Illinois Rt. 53. These consist of toilet/shower buildings, guardhouses, miscellaneous storage and administration buildings, loading docks, etc.
6. Other Structures: Approximately 3,000 power poles and above ground water line appurtenances, which includes approximately 100 fire hydrants will also be demolished. These also are scattered widely, mostly on the eastern half of MNTP. Three water tower bases are also proposed for demolition.

### **Demolition and Site Stabilization**

The methods employed for demolition of the designated structures will vary in relation to the type of structure, its location, the materials of construction, and contractor experience.

Site stabilization will occur at all sites after demolition and removal has been completed. Erosion and sediment control will take place during demolition, using best management practices. Sites will be regarded to contour (if feasible) with available soil. Topsoil will be added if needed and available. Regrading will eliminate site erosion, soil loss, and drainage problems.

Sites will be revegetated with appropriate cool season grasses that are specified by the Forest Service until final restoration with appropriate species.

### **Waste Disposal**

Solid waste generated by the demolition of the above structures will be disposed of at an off-site licensed commercial waste disposal facility. Certain materials, such as scrap metal, may be sold to a commercial waste recycler depending on market conditions and economics.

Large quantities of wood debris, such as utility poles and bridge and building framing members, may be difficult and costly to dispose of due to their bulk and awkward shapes. Therefore, a wood chipping operation may be set up on site to grind this material into

smaller pieces resembling a coarse mulch that could then be handled more easily and economically. Chipped wood may even provide a useful material for daily cover or temporary roadway maintenance at an off-site landfill. To be economical and efficient, a central wood chipping operation would need to be established on site. Heavy equipment, such as tracked or wheel loaders or mobile cranes, would be used to stockpile un-chipped and chipped wood for controlled periods of time and to load chipped wood into trucks for removal and disposal. Location of this wood chipping operation would be within the area of the transite warehouses. The reasons for this wood chipping site selection are accessibility to an access gate and major road, lack of sensitive species areas within the vicinity, and the availability of previously disturbed land.

### **Alternative 2-No Action**

This alternative would leave the site in its current condition. Demolition and removal of unsafe and unneeded buildings and structures would not take place. These lands would remain unmanaged until such time that they were restored in accordance with the Midewin LRMP.

The No Action Alternative is not consistent with the enabling legislation and the restoration goals at Midewin. It would leave public safety hazards in place, impede prairie restoration due to fragmentation, and would leave structures that cause watershed concerns in place.

### **Alternatives and Actions Dropped from Further Analysis**

Partial demolition was suggested as an alternative. This implies the leaving of foundations and some bridges/trestles or other buildings and structures.

There is public interest in increasing public access to Midewin, and these existing structures present a potential safety hazard to the public (attractive nuisance) that must be removed to allow non-supervised recreation activities at Midewin. The structures and other facilities also present an obstacle to prairie restoration either through habitat fragmentation or landscape (visual) fragmentation. The legislated mission of MNTP, including restoration of prairie and provision of a variety of public opportunities, is not compatible with maintaining unused abandoned buildings and other structures not of historical or cultural heritage value. The identified structures are abandoned remnants of the former Arsenal operations, are generally in deteriorated condition, and are not up to a standard to be reused for MNTP purposes. The enabling legislation for MNTP envisioned restoration of a tallgrass prairie rather than preservation of building complexes.

The bridges and trestles are a public hazard/attractive nuisance. They also are creating watershed concerns – causing erosion of stream banks, debris buildup that interferes with free flow of streams and the potential adverse effects on water quality due to the creosote treated timbers. Furthermore, they were designed for a different use, not trail use. USFS

will build appropriate bridging structures for trails as those trails are designed in the future.

### **3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES OF THE ALTERNATIVES**

This chapter briefly describes the present condition of the environment and changes that may be expected by implementing the action alternative or by taking no action. The key issues generated through the scoping process, plus the requirements of the National Environmental Policy Act (NEPA), define the general scope of environmental concern for this project. This chapter forms the scientific and analytic basis for the comparison of alternatives.

Cumulative effects are discussed in Chapter 6 for each key issue identified below. Cumulative effects result from incremental impacts of proposed activities when added to other past, present, and reasonably foreseeable actions regardless of what agency or person undertakes such other actions.

#### **Water Quality and Aquatic Ecology**

##### Affected Environment

Surface water on MNTP drains through five perennial streams that generally flow in a west-southwesterly direction: Jackson, Prairie, Grant, Klingler and Jordan creeks. Together, these creeks drain 109 square miles of urban, agricultural, and undeveloped land to the Des Plaines or Kankakee rivers (Table 1). Of the five creeks found on MNTP property, Jackson Creek will not be affected by this project.

In the reaches containing bridges to be demolished, Prairie Creek is a perennial fish-bearing stream with a stable, diverse aquatic community including over twenty species of fish. Streamflows vary from less than 1 cfs (cubic ft. per second) during dry summer conditions to several hundred cfs during rain or rain-snow events. Numerous beaver dams provide special aquatic habitat and detain streamflow during low to moderate stages. The channel form and substrate vary. On the east side (in the till plain) the substrate is predominantly a mixture of gravel, sand, and finer material dispersed among riffles and pools. On the west side (outwash plain), the stream flows on bedrock in many sections and elsewhere has riffles dominated by boulders or cobble in riffles and pools or runs dominated by small gravels, sand, and finer sediment.

The creek was thoroughly channelized in the past, which reduced its tendency for inundation of the floodplain. Numerous stream crossings, including the bridges covered here, constrict flow to the channel, which results in channel scour during large flood events. Floodplain structures, including bunkers covered here, limit floodplain access and storage capacity. Debris jams accumulate rapidly at railroad trestles, resulting in bank erosion and channel bed scour.

The other creeks in which bridge removal will occur are on Grant Creek and Jordan Creek both of which have similar watershed use and are ecologically similar to Prairie Creek. However, these creeks have smaller flows. Bridge removal and future replacement is to occur on Klingler Creek and minor tributary to Klingler Creek. Klingler Creek is much smaller than Prairie Creek. The aquatic communities in Grant Creek and Jordan Creek are less diverse or abundant than in Prairie Creek, largely because their watershed areas are smaller, resulting in lack of streamflow during dry summer conditions. The beds of Grant Creek and Jordan Creek are dominated by fine sediments with some bars of sand or small gravel.

**Table 1. Streams of the Midewin Watershed Potentially Affected by the Project Alternatives (Source: Openlands, Date Unknown).**

<b>Stream</b>	<b>Perennial Stream Miles</b>	<b>Drainage Area (mi<sup>2</sup>)</b>	<b>Watershed Land Uses</b>
Grant Creek (DesPlaines River Sub-Basin)	4.5	11	Agricultural Village of Elwood Industrial Prairie parkland Transportation
Prairie Creek (Kankakee River Sub-Basin)	21	47	Agricultural Rural residential Prairie parkland Tank farms Industrial Transportation
Klingler Creek, Tributary to Prairie Creek (Kankakee River Sub-Basin)	3.2	-	Agricultural Prairie parkland Forested
Jordan Creek (Kankakee River Sub-Basin)	8	14	Agricultural Prairie parkland Industrial Transportation Rural residential
<b>TOTAL</b>	33.5	109	

**Table 2. Summary of Estimated 1997 Land Uses of the Midwin Watershed (Source: Openlands, Date Unknown).**

Land Uses		Area (acres)	Percent of Total
Urban	Suburban Residential	4,500	6
	Commercial	500	1
	Light Industrial/Office	2,500	3
	Heavy Industrial	2,000	2
	Municipal/Institutional	100	<1
	Highway	500	1
	Construction	100	<1
	Utility	1,000	1
	<b>SUBTOTAL</b>	<b>11,200</b>	<b>14</b>
Rural	Open Space/Protected	5,000	6
	Parks/Cemetery/Recreation	4,000	5
	Army Training Facility	3,000	4
	Rural Residential/Estates	2,000	2
	Rural Community	1,500	2
	Surface Water/Wetlands	200	<1
	Cropland	47,100	58
	Pasture	6,000	7
	Hay	1,000	1
	<b>SUBTOTAL</b>	<b>69,800</b>	<b>86</b>
<b>TOTAL</b>		<b>81,000</b>	<b>100</b>

On September 16, 1996, Prairie Creek was sampled for fish at stream miles 5.3 and 9.7. The results were compared to similar data collected by R.W. Larimore *et al.* in 1960-1964 and are shown in Table 4. The 1996 fish survey revealed that Prairie Creek was “fully supportive of aquatic life”. The Index of Biotic Integrity (IBI) uses fish sampling data to indicate the overall health and integrity of a stream. The IBI assesses the health of fish communities using twelve different factors. These twelve factors fall into three categories: species composition, trophic composition, and fish abundance and condition. The data yield an overall site score ranging from 12, for exceptionally poor quality, to 60, for sites of exceptionally high quality. The IBI integrates information from individual, population, community, and ecosystem levels into a single ecologically based index of water resource quality.

**Table 3. Results of Fish Surveys and IBI Ratings for Prairie Creek**  
**(Source: Ragusa 1996, documented in Openlands Project and Illinois State Museum, 1999).**

Measure	Station: Mile 5.3		Station: Mile 9.7		Stations Combined	
	1960-64	1996	1960-64	1996	1960-64	1996
Total Species	22	19	12	20	28	22
IBI Ratings	-	50	-	44	-	47

IBI = Index of Biotic Integrity (>41 is considered to be fully supportive of aquatic life, 21-40 is partially supportive, and <21 is considered non-supportive, according to Illinois 305(b) water quality assessment methodology in Illinois EPA 2000).

- = No Data available.

Glass (1994), as cited by the Openlands Project and the Illinois State Museum (1999), contends that Prairie Creek is potential habitat for three Illinois endangered or watch list fish species, because of their occurrence downstream in the Kankakee River: Pallid Shiner (*Notropis amnis*), Greater Redhorse (*Moxostoma valenciennesi*), and River Redhorse (*Moxostoma carinatum*). Smith (1979) acknowledges that little is known about the preferred habitat of Pallid Shiner, but suggests it is clear vegetated pools with little or no current. Greater Redhorse prefers shallow, clear waters of medium to large-sized river reservoirs and lakes, similar to the river Redhorse (Pflieger 1975). These habitat preferences do not make Prairie Creek an attractive candidate for restoration of these rare fish populations. None of these three fish have been found in Prairie Creek in past surveys (Table 5), although 35 other species that are not sensitive have been documented.

In Grant Creek, Ragusa found 19 species of fishes, including the Common Carp.

No fisheries data are available to describe Jordan Creek or Klingler Creek. Small fish are known to use both creeks, particularly during spring high flows. The aquatic communities also include macroinvertebrates such as crayfish, dragonflies, and midges.

**Table 4. Fish Species Recorded for Prairie and Grant Creeks\*  
(Source: Ragusa, 1996, as documented in Openlands, Date Unknown).**

Species	Creek	
	Prairie	Grant
Rock Bass	X	
Common Stoneroller	X	X
White Sucker	X	X
Red Shiner	X	X
Spotfin Shiner		X
Carp		X
Silverjaw Minnow	X	
Creek Chubsucker		
Fantail Darter	X	
Johnny Darter	X	X
Orangethroat Darter	X	
Grass Pickerel	X	X
Hornyhead Chub	X	X
Northern Hog Sucker	X	
Black Bullhead	X	
Yellow Bullhead	X	X
Green Sunfish	X	X
Pumpkinseed	X	
Orangespotted Sunfish	X	
Longear Sunfish		
Striped Shiner	X	X
Redfin Shiner	X	
Smallmouth Bass	X	
Largemouth Bass	X	
Hornyhead Chub	X	X
Golden Shiner	X	
Common Northern Shiner	X	
Bigmouth Shiner		X
Rosyface Shiner	X	X
Sand Shiner		
Stonecat	X	X
Slender Madtom	X	
Southern Redbelly Dace		
Bluntnose Minnow	X	X
Creek Chub	X	X
Ribbon Shiner	X	X
Emerald Shiner	X	
Suckermouth minnow	X	
Black Redhorse	X	
Golden Redhorse	X	
Blackstripe Topminnow	X	
Blackside Darter		
Rainbow Darter	X	
<b>TOTAL</b>	35	19

\*This list includes the results of several studies and may not represent current conditions. There is no known fish sampling data for Jordan or Klingler Creek at Midwin.

Limited water quality data has been collected at the site (none on creosote). These streams are moderately nutrient rich. Suspended solids are somewhat high, but may reflect wet weather conditions or high phytoplankton concentrations in summer.

The Forest Service has removed rolling terrain with relatively high rates of soil erosion from cropping and planted them to pasture over the last several years. The last of these areas will be planted to pasture in the spring of 2001. Additionally, the Forest Service has excluded livestock from stream corridors. As a result, current water quality should improve.

### Environmental Consequences

#### Alternative 1

Alternative 1 consists of the demolition of a number of designated structures at the MNTP, removal and appropriate disposal of waste materials in order to facilitate goals of the Draft Midwin Land and Resource Management Plan in which the goal is the restoration of the natural prairie landscape is the objective.

Of the 17 bridges slated for removal on Prairie Creek most are constructed of timber throughout, with two or three supports in the streambed, but some are constructed partly or wholly of concrete. The spans are from 100 to 142.5 ft. long and elevated from 9 to nearly 15 ft. above the creekbed. The bridges and trestles are a public hazard/attractive nuisance. They also are creating watershed concerns – causing erosion of stream banks, debris buildup that interferes with free flow of streams.

Another eight bridges will be removed because they have been deemed to be unsafe. These are located over Jordan Creek (2), Grant Creek (3) and Klingler Creek (3). These are constructed wholly of concrete or of steel and timber. They are typically shorter than the Prairie Creek Bridges (i.e., 21- 28.2 ft), except for one (DL-1, on Jordan Creek) that is 113.5 ft long.

Prior to bridge removal, debris accumulations located upstream side of bridges will be removed manually and by crane. The bridges across Prairie Creek will be removed by mobile crane, to the extent that the timber sections can be extracted by this means. Vertical supports will be drawn up from the streambed by crane. In some cases, the breakup of the timber frame will be facilitated by unbolting sections. Concrete bridges will be broken up by jackhammer, other mechanical means, or by concrete saw and removed piecemeal. The smaller concrete bridges such as those on Grant Creek (box culverts) and on Klingler Creek will be broken up by jackhammer or other mechanical means. One of these (DL-2, on Jordan Creek) is a steel trestle that has totally failed; it may be cut up with torches and removed in pieces.

Environmental consequences for bridge removal will include temporary downstream sedimentation that may have a minor adverse impact on water quality and aquatic ecology. This may be caused by the disruption of the creekbed by removal of the timber

and concrete pylons, as well as by construction equipment that will need to enter the creekbed for access. Sedimentation caused by equipment disturbance and the breaking up the concrete box culverts and bridge pylons may also occur. All necessary erosion control measures will be taken during demolition and site work will comply with best management practices for water quality protection.

Debris dam removal will restore the natural flow of the creeks that the dams have prevented. Bridge removal will allow for the restoration of natural creek flow, provide greater flood storage, and facilitate wetland/riparian restoration. Also, it will inhibit debris accumulation, and prevent bed scouring and bank erosion caused by these structures. The improvements associated with the long-term benefits outweigh the short-term adverse effects of removal.

## Alternative 2

Demolition and removal of unsafe and unneeded buildings and structures would not take place. These lands would remain unmanaged until such time that they were restored in accordance with the Midewin LRMP.

The No Action consequences would leave the unneeded and unsafe bridges and culverts in their current condition. Debris accumulation affecting the natural creek flow and erosion caused by these the bridge structures would persist. Creosote treated timbers would remain in the creeks possibly affecting water quality. Creosote contains Polycyclic Aromatic Hydrocarbons (PAHs); which can cause harm to aquatic organisms. The No Action Alternative is also not consistent with the enabling legislation and the restoration goals at Midewin. It would leave public safety hazards in place, and would leave structures causing watershed concerns in place.

Under the No Action Alternative, the debris will continue to accumulate and the structures will continue to deteriorate. Flood storage will continue to be impeded and wetland/riparian restoration will not take place. The streams will scour around the bridges or the pilings. Eventually, failure will occur, resulting in a rapid release of debris and sediment in quantities that will likely exceed those that will occur during removal. There are sediment beds around some of the trestles, e.g. just downstream from scour pools. Failure of the structures will re-direct the current and result in erosion of some of these bed features. As with removal, there will ultimately be a long-term stabilization of the sites, but it will come through a longer period of on-going erosion and bridge failure, and all materials would be washed downstream.

## **Air Quality and Noise**

### Affected Environment

The Illinois EPA (1999) described air quality in the Will County/Joliet Pollution Summaries Index Sector during 1999 as “good” more than 80 percent of the time. The

remainder of the time, air quality was described as “moderate”. At no time during 1999 did the area exhibit “unhealthful”, “very unhealthful”, or “hazardous” air quality.

Petroleum refineries and other industrial uses occur on lands surrounding the MNTP. These industries emit various pollutants into the atmosphere, including volatile organic materials, particulate matter, carbon monoxide, sulphur dioxide, and nitrogen oxide.

Aerial application of herbicides/pesticides is not permitted on agricultural land within MNTP.

Current row cropping and small grain cropping at MNTP is done using no-till practices. As a result, little dust is generated.

Farm machinery used to plant, maintain, and harvest row crops and small grain crops within MNTP currently adds an insignificant amount of pollution to the air in comparison to surrounding industries.

### Environmental Consequences

#### Alternative 1

Alternative 1 consists of the demolition of a number of designated structures at the MNTP, removal and appropriate disposal of waste materials, and the restoration of the natural prairie landscape consistent with the goals of the Draft Midewin Land and Resource Management Plan (LRMP).

Currently all buildings and structures are abandoned or unused. Neither air nor noise pollutants are being discharged from these structures. Temporary air and noise pollutants associated with demolition and removal are likely to occur. Factors that will determine the extent of air and noise impacts will be demolition methods employed, traffic, vehicle air emissions and dust associated with waste hauling.

The use of explosives as a demolition method would not be a new action in the project area. It has been noted that the Army routinely uses explosives to decommission LAP lines in areas contiguous to Midewin. Explosive use for demolition will be considered if other options for demolition are not cost effective.

Air emissions generated by the demolition of the various structures will vary by the material that it is constructed from. Temporary dust generation associated with demolition and debris removal can be mitigated using various dust suppression methods as discussed in the mitigation section. Air emissions generated by construction vehicles would be temporary and add an insignificant amount of pollution to the air in comparison to surrounding industries.

Timing of demolition and removal activities will be addressed in the mitigation section. If it is expected that adverse impact on sensitive species could occur during sensitive

times of year (nesting season, for example), timing of certain types of activities in certain areas will have to be restricted.

## Alternative 2

Demolition and removal of unsafe and unneeded buildings and structures would not take place. These lands would remain unmanaged until such time that they were restored in accordance with the Midewin LRMP. Although air quality and noise generation would not change, the No Action Alternative is not consistent with the legislation and the restoration goals at Midewin.

## **Heritage Resources**

### Affected Environment

Heritage resource sites likely to be present near the project area include Euro-American farmsteads and related features such as roads, fence lines, discard areas, churches, schools and cemeteries dating from the mid-nineteenth to the mid-twentieth centuries, as well as a prehistoric Native American mortuary, village and limited activity camps sites. Native American sites potentially date as early as 12,000 to 10,000 B.C., and as late as the 1830s. There is also the possibility of sites or features associated with the World War II-era Kankakee Ordinance Works, or the later Joliet Arsenal, that are located in the study areas.

Will County has traditionally been agriculturally oriented. In 1880, 98 percent of the land in the county was farmed. Between 1860 and 1949, the acres of Will County under farmland cultivation grew from 243,086 acres to 375,049 acres. With the exception of the land occupied by the Elwood Ordinance Plant and the Kankakee Ordinance Works (i.e., the Joliet Arsenal), the farmland included in MNTP has been under continuous cultivation since at least 1880.

### Environmental Consequences

#### Alternative 1

Structures proposed for demolition and removal are not considered to have historic value. The Forest Service is in possession of a blanket sign off for old Army buildings from both the Illinois Historic Preservation Officer and the Advisory Council on Historic Preservation. None of the unsafe and unneeded structures at MNTP needs to be preserved. The sites that these buildings and structures have been built on have already been disturbed therefore it is unlikely that removal of these structures and buildings would cause any further disturbance to heritage resources. 2-3 brick warehouse structures within Group 62 may be preserved for use as MNTP operations or interpretation.

## Alternative 2

Demolition and removal of unsafe and unneeded buildings and structures would not take place. These lands would remain unmanaged until such time that they were restored in accordance with the Midewin LRMP. The buildings that would not be demolished under the No Action Alternative have not been classified as historically significant, therefore, the No Action Alternative would not be preserving any heritage resources.

### **Recreation and Visual Quality**

#### Affected Environment

The “*Analysis of the Management Situation*” (July 1999) outlined specific planning and decision criteria that are being used to develop and evaluate alternatives to the Midewin LRMP. These include providing for environmental education/interpretation opportunities and providing for recreation activities and facilities that foster knowledge, appreciation, and understanding of prairie ecosystems.

Because of ongoing salvage and cleanup operations, much of the MNTP is closed to the general public. At the present time there is no public recreational access to the project area portion of the MNTP east of Illinois Route 53. Deer hunting (administered by the IDNR) is available by permit in the southwest portion of the project area. This hunting area occurs along River Road and in portions of the bunker field located south of Prairie Creek from October through January.

Midewin, as part of the Recreation Fee Demonstration Program, has the authority to charge fees for recreation activities and programs. At least 80 percent of fees collected at MNTP, including those currently collected for deer hunting, will be reinvested on-site.

Three accessible hunting blinds are available by reservation for people with disabilities. Two of these sites are located in the River Road Hunting Area and are available all season. The site located in the Bunker Hunting Area is available for shotgun, muzzleloader, and late season archery hunting.

Escorted tours of the MNTP are currently available upon request from April through October. These tours introduce visitors to the natural and cultural history of the MNTP. Topics covered in the tours include the evolution of the tallgrass prairie, the history of human use and occupation of the site, creation of the MNTP, and management challenges facing the Forest Service and IDNR in undertaking restoration of an area this large. Tours are limited to 25 individuals or 10 vehicles.

## Environmental Consequences

### Alternative 1

This alternative consists of the demolition of a number of designated structures at the MNTP, removal and appropriate disposal of waste materials, and site restoration consistent with the goals of the Draft Midewin Land and Resource Management Plan (LRMP).

Ten existing bridges across Prairie Creek (Nos. 1-8, 10, 40), structure 70412, and numerous telephone poles would be demolished within the boundaries of the MNTP Bunker Hunting Area. As Prairie Creek forms the northern edge of the Bunker Hunting Area, removal of these bridges would not limit hunter access to the area.

Two existing bridges across Prairie Creek (Nos. 16 and PC-3) and structure No. 41-1 would be demolished within the boundaries of the MNTP River Road Hunting Area.

While demolition would be timed to minimize adverse effects on deer hunting, some demolition and/or debris removal efforts during deer hunting season (October-January) could be unavoidable. Such efforts would likely reduce deer numbers within the established hunting areas and reduce deer hunting success. Similarly, demolition activities could disturb existing habitats for deer. These effects would be short-term in duration.

Demolition and debris removal activities would be seen and/or heard by recreationists engaged in guided tours of MNTP. Demolition activities would remove items of interest to some individuals engaged in tours and distract others. Conversely, demolition activities would be of interest to some individuals. These effects would be short-term in duration.

Removal of unsafe and unneeded structures throughout MNTP would facilitate the opening of additional MNTP lands to public recreation over the next five years. It would also help create the vast open grassland vistas typical of tallgrass prairie.

### Alternative 2

Demolition and removal of unsafe and unneeded buildings and structures would not take place. These lands would remain unmanaged until such time that they were restored in accordance with the Midewin LRMP.

Existing bridges across Prairie Creek (Nos. 16 and PC-3) would continue to provide deer hunters within the River Road Hunting Area with access across the creek.

Deer numbers within the River Road and Bunker Hunting areas would likely be higher under the No Action Alternative than under Alternative 1, as no habitat would be altered

and no noise generated. This would likely result in higher hunting success over the next five years, relative to Alternative 1.

By leaving unsafe and unneeded buildings and structures in place over the next five years some items of visual and recreation interest would be preserved. These items would block views and disrupt the vast, open grassland vistas typical of the tallgrass prairie. Much of the MNTP would remain closed to recreation in order to protect public safety. Guided tours could continue to provide recreational access.

## **Sensitive Plant and Animal Populations**

### Affected Environment

In the areas surrounding the structures proposed for demolition most of the habitat has been strongly altered, through ancillary construction of roads, railroads, and fences, and through agricultural operations. Between and around rows of buildings, adventitious grasses and forbs have sprung up in areas not paved. Power poles and guard houses have been placed along road shoulders, for the most part, with the result that vegetation within the 100-ft. working radius (buildings, bridges) or the 50-ft. radius (poles, water appurtenances) contains many alien species.

All state or federal endangered (SE, FE) or threatened (ST, FT) plant or animal species occurring in the project region, as well as the Regional Forester's Sensitive Species (RFSS), have been considered in terms of the potential effects of the proposed action. The initial list, comprising 30 species, has been narrowed through the examination of field records documenting population distribution and discussion with USFS staff to include the eight following species:

Sullivant's Coneflower, *Rudbeckia fulgida*, var *sullivanti* (RFSS)

This species is found in calcareous wet habitats such as dolomite prairie, and other mesic open sites. It has been found in grasslands south of Prairie Creek and in the wetland near the bunker field north of Schoolhouse Road. It may be expected in other sites at MNTP, especially west of Illinois Route 53. Small populations of this species are found in many parts of MNTP, although none are known within the specified work perimeters.

Henslow's Sparrow, *Ammodramus henslowi* (RFSS, SE)

This small grassland sparrow has been found nesting at MNTP in ungrazed grassland. None of the fields near the proposed demolition sites contains grassland of appropriate height (40-80 cm) or is of sufficient size to support this species. None of the areas immediately surrounding a demolition site has the ungrazed grassland required by this sparrow. It has been found in only one tract east of Illinois Route 53 and in two tracts west of Route 53.

Short-eared Owl, *Asio flammeus* (RFSS, SE)

This owl has been found at MNTP only in winter to date, but has nested at Goose Lake Prairie approximately 10 miles to the west. It forages over grassland in search of voles, preferring brush-free pastures and ungrazed fields. It is therefore a temporary visitor to many of the fields near structures to be demolished. It may be expected in the fields near the structures to be demolished, but is unlikely among the structures themselves.

Northern Harrier, *Circus cyaneus* (RFSS, SE)

This hawk is present at MNTP in small numbers during all months of the year and one or two pairs may breed in some grassland tracts in years of high prey (small rodents) populations (USFS 2000). Within the areas surrounding structures proposed for demolition, the harrier is considered an occasional transient. It is not expected to be a frequent visitor to the structures scheduled for demolition.

Upland Sandpiper, *Bartramia longicauda* (RFSS, SE)

MNTP supports the largest aggregation of the Upland Sandpiper in Illinois. This shorebird breeds in grassland in which the vegetation is less than 30 cm. high, and generally shorter for rearing the young. It has bred in many grazed MNTP fields west of Illinois Route 53, including some near the bridges and bunkers to be demolished. Several grassland areas near the target structures are currently managed to produce the short-grass conditions preferred by this shorebird. To date, the Upland Sandpiper has not been found nesting in fields adjacent to the project target structures.

Bobolink, *Dolichonyx oryzivorus* (RFSS, State Watch List)

MNTP supports the largest breeding concentration of Bobolinks (850-900 birds) in Illinois. This bird prefers ungrazed fields with a grass height of 20-35 cm. for breeding, but will also breed in a variety of other grasslands when other conditions, especially the area (minimum: 30-50 ha.) are suitable. Nesting is scattered throughout MNTP, but especially in areas of tall grass, most of which are found west of Illinois Route 53. This species has not been found within the demolition perimeter of any of the structures, but may be expected during the nesting season in ungrazed fields near the structures.

Migrant Loggerhead Shrike, *Lanius ludovicianus migrans* (RFSS, ST)

MNTP supports a substantial and apparently stable breeding population of Migrant Loggerhead Shrike. This predatory songbird prefers short-grass prairie for nesting and foraging. For nesting, it utilizes small trees, preferring thorny species. At MNTP it is more common on the west side of the property and has nested immediately east of the bunker field proposed for demolition. This bird nests in low trees in or near grassland, preferring the short grassland that results from grazing. A nest was found in 2000 near the northeast corner of the bunker field north of Schoolhouse Road. No pairs of shrikes have been found near other demolition structures.

### Plains Leopard Frog, *Rana blairi* (RFSS)

This frog, a member of the widespread *Rana pipiens* species complex, has been found in a small area along Prairie Creek and is presumed to breed in one or more wetlands near the stream. Successful breeding requires a fish-free body of water. It is considered potentially present near many of the bridges scheduled for demolition. This species has been found along Prairie Creek and is believed to breed in fish-free wetlands in the vicinity of the creek. Studies are underway to improve the ability of biologists to distinguish between the eggs and tadpoles of this frog and those of the Common Leopard Frog, which also occurs at MNTP. Meanwhile, the possibility of the frog breeding in a temporarily water-filled ditch cannot be completely discarded.

### Environmental Consequences

#### Sullivant's Coneflower

##### Alternative 1

Sullivant's Coneflower has not been observed on any of the areas in which demolition of buildings and structures would occur. It has been located in a wetland near to the proposed bunker and the Prairie Creek bridge demolition sites near to the bunkers. Temporary demolition activity and construction traffic is not anticipated to affect the wetland in which the Coneflower has been observed thus the species is not expected to be affected. It is possible that removal of bridges from Prairie Creek could injure some individuals of this species, but recolonization is possible after site restoration.

##### Alternative 2

The No Action Alternative is not expected to affect this species.

#### Henslow's Sparrow

##### Alternative 1

None of the areas immediately surrounding a demolition site has the ungrazed grassland habitat required by this sparrow. After demolition and restoration of the grasslands it is possible that the habitat would be suitable for the Henslow's Sparrow. Temporary demolition activity and construction traffic is not anticipated to affect the sparrow.

##### Alternative 2

The No Action Alternative is not expected to affect this species.

## Short-eared Owl

### Alternative 1

This owl is known only as a wintering species at MNTP and forages over a variety of grassland habitats. It may be expected in the fields near the structures to be demolished, but is unlikely among the structures themselves. Nesting near any of the proposed demolition areas has not been observed. Human activities near fields potentially used by the owl will deter the owl from hunting those fields, but the temporary nature of the demolition activities will mean that the disturbance will be brief and not sufficiently severe to affect the winter survival of the visiting owls. Increased grasslands after site restoration may increase small rodent populations thus increasing foraging area for the owl.

### Alternative 2

The No Action Alternative is not expected to affect this species.

## Northern Harrier

### Alternative 1

The harrier ranges widely on MNTP during winter and may breed in some grassland tracts. If nesting does occur near any project sites, demolition and removal activity may disturb nesting Harriers. However, the Harrier is not expected to be a frequent visitor to the structures scheduled for demolition. Since it is considered an occasional transient within the grassland areas surrounding some of the structures it is not anticipated to be affected by the temporary demolition activity and construction traffic. Increased grasslands after site restoration may increase small rodent populations, thus increasing foraging area for the Harrier.

### Alternative 2

The No Action Alternative is not expected to affect this species.

## Upland Sandpiper

### Alternative 1

Several grassland areas near the target structures are currently managed to produce the short-grass conditions preferred by this shorebird. To date, it has not been found nesting in fields adjacent to the project target structures. If nesting is to occur near the project sites, demolition and removal may disturb nesting Upland Sandpipers. Timing of demolition not to coincide with nesting can prevent any negative effects caused by this alternative. After project completion an increase in the acreage of grasslands would occur which may benefit the sandpiper.

## Alternative 2

The No Action Alternative is not expected to affect this species. However an increase in grassland area would not occur, which may restrict habitat expansion for the sandpiper.

## Bobolink

### Alternative 1

This species has not been found within the demolition perimeter of any of the structures, but may be expected during the nesting season in ungrazed fields near the structures. If nesting is to occur near the project sites, demolition and removal activities may disturb nesting Bobolinks. Timing of demolition and removal activities not to coincide with nesting can prevent any negative effects caused by this alternative. After project completion, an increase in the acreage of grasslands would occur which would benefit the Bobolink.

### Alternative 2

The No Action Alternative is not expected to affect this species. However, an increase in grassland area would not occur, which may restrict habitat expansion for the Bobolink.

## Migrant Loggerhead Shrike

### Alternative 1

This bird nests in low trees in or near grassland, preferring the short grassland that results from grazing. A nest was found near the northeast corner of the bunker field north of Schoolhouse Road. No pairs of shrikes have been found near other demolition structures. Since nesting has occurred near the project sites, demolition and removal activities may disturb nesting Shrikes. Timing of demolition and removal activities not to coincide with nesting can prevent any negative effects caused by this alternative. After project completion, an increase in the acreage of short grasslands would occur which would likely benefit the Shrike.

### Alternative 2

The No Action Alternative is not expected to affect this species. However, an increase in short grassland area would not occur, which may restrict habitat expansion for the Shrike.

## Plains Leopard Frog

### Alternative 1

This species has been found along Prairie Creek and is believed to breed in fish-free wetlands near the creek. Demolition and removal activities can have negative effects on the Plains Leopard Frog if located within the designated 100 ft. radius of the bridge abutments and within the stream channels during demolition activities. However, upon first approach of demolition workers the frog would likely leave the immediate area. No wetlands are to be impacted by demolition activities and since breeding is not believed to occur within the streams, breeding is not anticipated to be affected.

### Alternative 2

The No Action Alternative is not expected to affect this species.

## **Public Safety, Demolition Safety, Removal and Disposal Debris**

### Affected Environment

The methods employed for demolition of the designated structures will vary in relation to the type of structure, its location, the materials of construction, and contractor experience.

### Public Safety, Demolition Safety

All demolition and removal activities will be in compliance with all of OSHA's (Occupational Safety and Health Administration) regulations. Within active construction areas, perimeter fencing and markings will be used to deter any non-authorized personnel from the work site.

## **4. MITIGATION AND MONITORING**

### **Mitigation Included in Contractor Specifications**

The following mitigation items will be included in contractor specifications:

- Access to facilities to be demolished is to be confined to existing roads via the shortest route, unless an alternative route is specifically approved by the Forest Service.
- Dust suppression will be employed during demolition, traffic, and debris handling.
- Areas disturbed will be minimized and kept to that needed for demolition and removal. Typically this area will not exceed 100 ft. around the perimeter of all

buildings, bunkers and bridges and 50 ft. around telephone poles and aboveground water line appurtenances with the exception of water tower bases in which the area of impact will be 100 ft. around the area in which the water tower base is felled unless additional area is approved by the Forest Service. The perimeter of the work zone will be marked by fencing or temporary flagging.

- All channel work will be conducted at low flow. Debris nets will be used to capture wood with creosote. Removal of silt accumulations will take place after work is completed.
- Stockpiling of debris will be only within the work perimeter or other approved area. Stockpiling of woody debris for chipping will occur at the transite warehouse site. It will be confined to the already disturbed area on and between the warehouse foundations. Debris will be removed from the site shortly after placement.
- Some restrictions will be applied to the dates of demolition
  - Concrete bunkers will be demolished during the period of August through March, so as not to interfere with the nesting activities of the nearby Migrant Loggerhead Shrike, Upland Sandpiper and Bobolink.
  - Bridge demolition will be conducted during the lower flow months of July through October or during other low flow time periods, so as to coincide with the lowest flows of the year.
- Access to Prairie Creek from the south bank will be restricted to the existing railbed. Debris will not be placed on the south bank. The operation of heavy equipment in the creekbed will be minimized.
- Water tower bases will be removed by removing the legs on one side and dropping the tower in that direction. As this may exceed the designated work perimeter, the area to receive the tower will be subject to Forest Service approval.
- In order to minimize the cost of landfilling timber, all wood removed will be chipped at a central location and trucked to a landfill off-site. This wood will include bridge timbers, debris dams, building construction, and power poles.
- Site stabilization will take place at all disturbed sites. Erosion and sediment control during demolition will be conducted using best management practices. Streambank stabilization will occur at all bridge sites where demolition takes place.
- Grading, using topsoil or fill available following structure removal, will take place in preparation for restoration. The goal is to create the desired topography, soil profiles, and drainage patterns to support later restoration efforts. Site

stabilization using a vegetative cover of a cool season grass mixture specified by the Forest Service will occur on all disturbed sites.

### **Additional Mitigation and Monitoring Measures**

The USFS will consider the following additional measures:

- In order to ensure that species of concern are not impacted adversely, appropriate Forest Service staff should perform a rapid field survey of each demolition site during the month or two before the actual demolition. In the event that a species of concern is considered likely to be impacted, appropriate restrictions will have to be placed on the demolition process. The demolition contract will include a clause to ensure sufficient flexibility for additional environmental protection that may be needed.
- The Forest Service should consider leaving in place a few wooden power poles, to serve as hunting perches for large raptors. Where cross-arms are present, these should be left also. An inspection of existing poles, looking for telltale droppings, should aid in identifying which poles would be left.
- The Forest Service should monitor the demolition process frequently to ensure adherence by the contractor to the environmental stipulations.
- The Forest Service should monitor the restoration of the demolition sites, especially where buildings are removed, to ensure that that resulting habitat is what is intended. Habitat Suitability Index evaluations or other evaluations may be used, as appropriate.

## **5. SUMMARY OF EFFECTS OF ALTERNATIVES**

### **Water Quality and Aquatic Ecology**

#### Alternative 1

Temporary water quality effects that will occur during demolition and removal of bridge and culverts include downstream sedimentation caused by disruption of creekbed by demolition equipment and structure removal.

Restoration of the natural flow of the creek will be accomplished with bridge and culvert removal. Greater flood storage will be provided and wetland/riparian restoration will take place. Debris accumulations will be removed and will not likely recur. Removal of creosote treated bridge pilings will remove a potential contaminant source of surface water.

## Alternative 2

The No Action Alternative would leave unsafe and unneeded bridges and culverts in place. Debris accumulation affecting natural flow of the creeks would persist. Pilings and culverts that cause alterations of creek hydrology and result in bank scouring would persist.

## **Air Quality and Noise**

### Alternative 1

Air quality associated with increased vehicle traffic would add an insignificant amount of pollution to the area. Temporary dust generated by the demolition of the various structures would increase, however, dust suppression methods would be implemented to minimize the impact. Noise generated from the demolition, removal and wood chipping process would temporarily increase during working hours. Areas in which noise may disturb adjacent sensitive areas would be mitigated by timing activities not to coincide with nesting or breeding activities.

### Alternative 2

Air quality and noise levels would remain unchanged under the No Action Alternative.

## **Heritage Resources**

### Alternative 1

Structures slated for demolition are not considered to have historic value. Lands in which demolition is to occur have already been impacted therefore further subsurface disturbance of historic resources would not occur.

### Alternative 2

The buildings that would not be demolished under the No Action Alternative have not been classified as historically significant. Therefore, the No Action Alternative would not be preserving any heritage resources.

## **Recreation and Visual Resources**

### Alternative 1

The demolition of structures and the subsequent removal of debris would limit hunter access within established hunting areas and could have adverse effects on deer numbers and hunting success over the next five years.

Removal of unsafe and unneeded structures would facilitate the opening of additional MNTP land to public recreation. It would also decrease visual fragmentation and increase the vast open vistas typical of the tallgrass prairie.

#### Alternative 2

Hunter access within established hunting areas would be unaltered under the No Action Alternative. Deer numbers and possibly hunting success would likely be higher under Alternative 2 than under Alternative 1.

Few Additional lands would be opened to the public over the next five years and visual resources would be largely unaltered. Alternative 2 would not facilitate the development of the trails and other recreational amenities recommended in the Midewin LRMP.

### **Sensitive Plant and Animal Populations**

#### Sullivant's Coneflower

##### Alternative 1

Temporary demolition activity and construction traffic is not anticipated to affect the wetland in which the Coneflower has been observed thus the species is not expected to be affected. Re-colonization is possible after site restoration. Restored prairie may increase the Coneflower's range within MNTP.

##### Alternative 2

The No Action Alternative is not expected to affect this species. Habitat fragmentation will continue to occur and may limit the distribution of the Coneflower.

#### Henslow's Sparrow

##### Alternative 1

Temporary demolition activity and construction traffic is not anticipated to affect the sparrow. After demolition and restoration of the grasslands it is possible that the habitat would be suitable for the Henslow's Sparrow.

##### Alternative 2

The No Action Alternative is not expected to affect this species. Habitat fragmentation will continue to occur and may limit the range of the Sparrow within MNTP.

## Short-eared Owl

### Alternative 1

Human activities associated with demolition activities near fields potentially used by the owl will deter the owl from hunting those fields, but the temporary nature of the demolition activities will mean that the disturbance will be brief and not sufficiently severe to affect the winter survival of the visiting owls. Increased grasslands after site restoration may increase small rodent populations thus increasing foraging area for the owl.

### Alternative 2

The No Action Alternative is not expected to affect this species. The fragmented and limited grassland area will not be restored, thus limiting the foraging range of the owl.

## Northern Harrier

### Alternative 1

The Harrier is not a frequent visitor to the structures scheduled for demolition. Since it is considered an occasional transient within the grassland areas surrounding some of the structures it is not anticipated to be affected by the temporary demolition activity and construction traffic. Increased grasslands after site restoration may increase small rodent populations, thus increasing foraging areas for the Harrier.

### Alternative 2

The No Action Alternative is not expected to affect this species. However an increase in foraging area will not occur, which may continue to restrict the foraging area for the Harrier.

## Upland Sandpiper

### Alternative 1

The Sandpiper has not been found nesting in fields adjacent to the proposed demolition structures. If nesting is to occur near the project sites, demolition and removal may disturb nesting Upland Sandpipers. Timing of demolition not to coincide with nesting can prevent any negative effects caused by this alternative. After project completion an increase in the acreage of grasslands would occur, which may benefit the Sandpiper.

### Alternative 2

The No Action Alternative is not expected to affect this species. However an increase in grassland area would not occur, which may restrict habitat expansion for the Sandpiper.

## Bobolink

### Alternative 1

This species has not been found within the demolition perimeter of any of the structures, but may be expected during the nesting season in ungrazed fields near the structures. If nesting is to occur near the project sites, demolition and removal activities may disturb nesting Bobolinks. Timing of demolition and removal activities not to coincide with nesting can prevent any negative effects caused by this alternative. After project completion, an increase in the acreage of grasslands would occur, which would benefit the Bobolink.

### Alternative 2

The No Action Alternative is not expected to affect this species. However, an increase in grassland area would not occur, which may restrict habitat expansion for the Bobolink.

## Migrant Loggerhead Shrike

### Alternative 1

A nest was found near the northeast corner of the bunker field north of Schoolhouse Road. No pairs of shrikes have been found near other demolition structures. Since nesting has occurred near the project sites, demolition and removal activities may disturb nesting Shrikes. Timing of demolition and removal activities not to coincide with nesting can prevent any negative effects caused by this alternative. After project completion, an increase in the acreage of short grasslands would occur which would likely benefit the Shrike.

### Alternative 2

The No Action Alternative is not expected to affect this species. However, an increase in short grassland area would not occur, which may restrict habitat expansion for the Shrike.

## Plains Leopard Frog

### Alternative 1

This species has been found along Prairie Creek and is believed to breed in fish-free wetlands near the creek. Demolition and removal activities can have negative effects on the Plains Leopard Frog if located within the designated 100 ft. radius of the bridge abutments and within the stream channels during demolition activities. However, upon first approach of demolition workers the frog would likely leave the immediate area. Removal of debris dams may reduce some of the littoral aquatic plant life. No wetlands

are to be impacted by demolition activities and since breeding is not believed to occur within the streams, breeding is not anticipated to be affected.

## Alternative 2

The No Action Alternative is not expected to affect this species.

## **6. CUMULATIVE EFFECTS**

Cumulative effects are a result of the incremental impacts upon a resource that result from the interaction of two or more individual actions. Cumulative effects can be either beneficial or have an adverse effect (or beneficial to one and adverse on another).

The overall results of this demolition program will be the creation of additional habitat for management under the grassland management program. Removal of the warehouses, for example, is necessary for attainment of a large area of grassland at the north edge of MNTP and decrease habitat fragmentation.

Removal of the smaller structures, poles, and water tower bases will create a more natural habitat setting. It also will remove some perches used by raptors (mainly Red-tailed and Rough-legged Hawks, and Kestrels), but there probably are enough trees to provide perches for these birds.

The cumulative effect of removing bridges and associated debris dams from Prairie Creek, Grant Creek, Klingler Creek, and Jordan Creek will be to return these streams to more natural conditions. Some of the debris dams may be restored by beavers, replacing the lost pools.

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## **Appendix 1**

### **Descriptions of Buildings, Bunkers, Bridges and Assorted Structures Identified for Demolition**

## Descriptions of Buildings, Bunkers and Assorted Structures Identified for Demolition

### Group 22 Transite Warehouses

Structure Reference Number	Use	Number of Stories	Square Feet	Construction Materials
27001 - 27022	warehouse	1	25,000	Wood frame, Concrete foundation, and corrugated asbestos (transite) walls and roofing

### Bunkers

Structure Reference Number	Use	Number of Stories	Square Feet	Construction Materials
Bunker #1-#8	ammunition storage	1	1,865	Concrete, timber framing outside access door

### Group 62 Warehouses

Structure Reference Number	Use	Number of Stories	Square Feet	Construction Materials
62001 - 620011	warehouse	1	25,000	8" thick brick, steel frame, transite roofing
62012	warehouse	1	25,570	8" thick brick, steel frame, transite roofing
62014	warehouse	1	25,998	8" thick brick, steel frame, transite roofing
62017	warehouse	1	26,134	8" thick brick, steel frame, transite roofing
62018	warehouse	1	25,706	corrugated steel walls and roofing, wood frame
62019	warehouse	1	25,426	corrugated steel walls and roofing, wood frame
62020	warehouse	1	25,706	corrugated steel walls and roofing, wood frame

Structure Reference Number	Use	Number of Stories	Square Feet	Construction Materials
<b>Assorted Structures</b>				
01046	guardhouse	1	89	wood walls and framework, concrete foundation
01027A	guardhouse	1	120	wood walls and framework, concrete foundation
01027B	guardhouse	1	120	wood walls and framework, concrete foundation
01027C	guardhouse	1	120	wood walls and framework, concrete foundation
03A027A	guardhouse	1	120	wood walls and framework, concrete foundation
03A027B	guardhouse	1	120	wood walls and framework, concrete foundation
03A027C	guardhouse	1	120	wood walls and framework, concrete foundation
02027A	guardhouse	1	120	wood walls and framework, concrete foundation
02027B	guardhouse	1	124	wood walls and framework, concrete foundation
03027A	guardhouse	1	120	wood walls and framework, concrete foundation
03027B	guardhouse	1	120	wood walls and framework, concrete foundation
65035	guardhouse	1	300	concrete block walls, concrete foundation, transite
706-12	gardhouse	1	64	wood frame, sheet metal walls and roof
706-13	guardhouse	1	64	wood frame, sheet metal walls and roof
706-13	guardhouse	1	64	wood frame, sheet metal walls and roof
65036	guardhouse	1	300	corrugated steel walls, asbestos floor tiling, wood ceiling/shingled roof, concrete foundation, small (50 gallon?) metal above ground tank next to building wall.
27029	pit outhouse	1	26	wood frame, transite walls and roof
27030	pit outhouse	1	26	wood frame, transite walls and roof
6379A	pit outhouse	1	26	wood frame, transite walls and roof
6379B	pit outhouse	1	26	wood frame, transite walls and roof
PO63C	pit outhouse	1	26	wood frame, transite walls and roof
PO66B	pit outhouse	1	26	wood frame, transite walls and roof
PO66C	pit outhouse	1	26	wood frame, transite walls and roof
PO66D	pit outhouse	1	26	wood frame, transite walls and roof
PO66A	pit outhouse	1	26	wood frame, transite walls and roof
23023A	outhouse	1	26	wood frame, transite walls and roof
23034	superintendent's office & change house	1	1,860	concrete
6225A	superintendent's office	1	1,000	wood, asphalt foundation
6226C	change house	1	1,023	wood, concrete foundation
64035	equipment room	1	1,440	transite walls, concrete foundation
64036	change house	1	3,509	masonry block walls, corrugated steel roof, concrete foundation
70713	Emp. Chg. Bldg.	1	3,337	masonry block, concrete foundation
41103	pump house	2	193	masonry block walls, concrete foundation
41104	pump house	2	211	masonry block walls, concrete foundation

Structure Reference Number	Use	Number of Stories	Square Feet	Construction Materials
41105	pump house	2	194	masonry block walls, concrete foundation
41131	pump shelter	1	52	masonry block walls, concrete foundation
41141	pump shelter	1	64	masonry block walls, concrete foundation
PS1	pump shelter	1	100	fire brick walls, wood roof, concrete foundation
PS2	pump shelter	1	100	wood, concrete foundation
VP1	water flow adjustment valve	1	25	concrete, steel water line appurtenances
07142	storage building - tools	1	772	metal walls with insulation material inside walls, concrete foundation
2307B	storage shed	1	1,440	masonry block from ground surface to 3' above grade, remaining structure wood, gravel floor, no foundation
70412	yard master's office	1	481	masonry block walls, concrete foundation
70414	supervisor's office	1	992	masonry block walls, concrete foundation
70423	truck inspector's office	1	576	masonry block walls, concrete foundation, transite floor tiles
70423A	loading dock	NA	90 ft <sup>3</sup> concrete w/ steel supports sunk into concrete, unknown amount of wood	concrete, steel, & wood
71009	commercial truck inspection office	1	384	concrete block, concrete foundation & transite roof
71510	flammable material storage	1	85	concrete block & transite?
722-14	carpenter shop	1	529	wood, masonite board
07182	locomotive house	1	488	steel framework, concrete foundation
76111	rec. ctr.	1	352	
			capacity (gallons)	
67002	water tower base		150,000	concrete base foundation, steel
67003	water tower base		150,000	concrete base foundation, steel
67004	water tower base		150,000	concrete base foundation, steel

## Descriptions of Bridges Identified for Demolition

### Bridges on Prairie Creek and Other Unsafe Bridges

Structure Reference Number		Waterway	Bridge Dimensions			Bridge Description	Construction Materials	Estimated Timber/debris at base of bridge (ft <sup>3</sup> )	Abutment Type
			Length (ft)	Width (ft)	Clearances (ft)				
87-4	Railroad Bridge	Prairie Creek	142.5	8.8	14.75	timber railroad bridge	timber	11,520	none
DL-2	Road Bridge	Jordan Creek	42	16	unknown	1-span steel truss (failed)	steel truss, timber deck	see report	stone
DL-1	Railroad Bridge	Jordan Creek	113.5	8.2	8	8-span timber trestle on timber pile bents	timber	see report	none
KC-1	Road Bridge	Klingler Creek	22	18.5	7.5	1-span concrete slab	concrete	0	concrete
PC-5	Railroad Bridge	Prairie Creek	114.5	8.8	12.5	8-span timber trestle	timber	9,000	none
KC-2	Road Bridge	Klingler Creek	21	14	5.3	concrete slab on steel beams	concrete, steel	see report	concrete
KC-3	bridge	Klingler Creek	28	12	6	6' diameter steel culvert	steel truss, timber deck	0	N
26	Railroad Bridge	Grant Creek	26.2	14.1	5	railroad ballast covered, triple cast-in-place box	concrete, railroad ballast surface	1,600	concrete

Structure Reference Number		Waterway	Bridge Dimensions			Bridge Description	Construction Materials	Estimated Timber/debris at base of bridge (ft <sup>3</sup> )	Abutment Type
			Length (ft)	Width (ft)	Clearances (ft)				
						culvert			
27	Railroad Bridge	Grant Creek	27.2	14.1	5	railroad ballast covered, triple cast-in-place box culvert	concrete, railroad ballast surface	2,000	concrete
24	Railroad Bridge	Grant Creek	28.2	14.1	5	railroad ballast covered, triple cast-in-place box culvert	concrete, railroad ballast surface	3,030	concrete
16	Railroad Bridge	Prairie Creek	102.2	14.3	10.5	4-span rolled steel beam with timber deck & walkway	concrete, steel, timber	216	concrete
40	Railroad Bridge	Prairie Creek	100	10	15	4-span steel beam with railroad tie deck & concrete abutment & piers	concrete, steel, timber	4,000	concrete
10	Road Bridge	Prairie Creek	121.2	18	10.5	treated timber	timber	see report	N

Structure Reference Number		Waterway	Bridge Dimensions			Bridge Description	Construction Materials	Estimated Timber/debris at base of bridge (ft <sup>3</sup> )	Abutment Type
			Length (ft)	Width (ft)	Clearances (ft)				
						roadway bridge			
8	Railroad Bridge	Prairie Creek	122	15	10	timber railroad bridge	timber	1,280	N
7	Railroad Bridge	Prairie Creek	122	9	11	timber railroad bridge	timber	see report	N
6	Railroad Bridge	Prairie Creek	122	9	12	timber railroad bridge	timber	see report	N
5	Railroad Bridge	Prairie Creek	124	9	10.5	timber railroad bridge	timber	see report	N
4	Railroad Bridge	Prairie Creek	124	10	10.8	timber railroad bridge	timber	2,400	N
3	Railroad Bridge	Prairie Creek	122	9	10.3	timber railroad bridge	timber	2,400	N
2	Railroad Bridge	Prairie Creek	122.5	12	10.5	timber railroad bridge	timber	1,280	N
1	Railroad Bridge	Prairie Creek	124	9.2	9	timber railroad bridge	timber	4,000	N
PC-3	Railroad Bridge	Prairie Creek	100	10	9.3	3-span steel beam with railroad tie	timber, steel, 2 concrete pier supports	see report	concrete

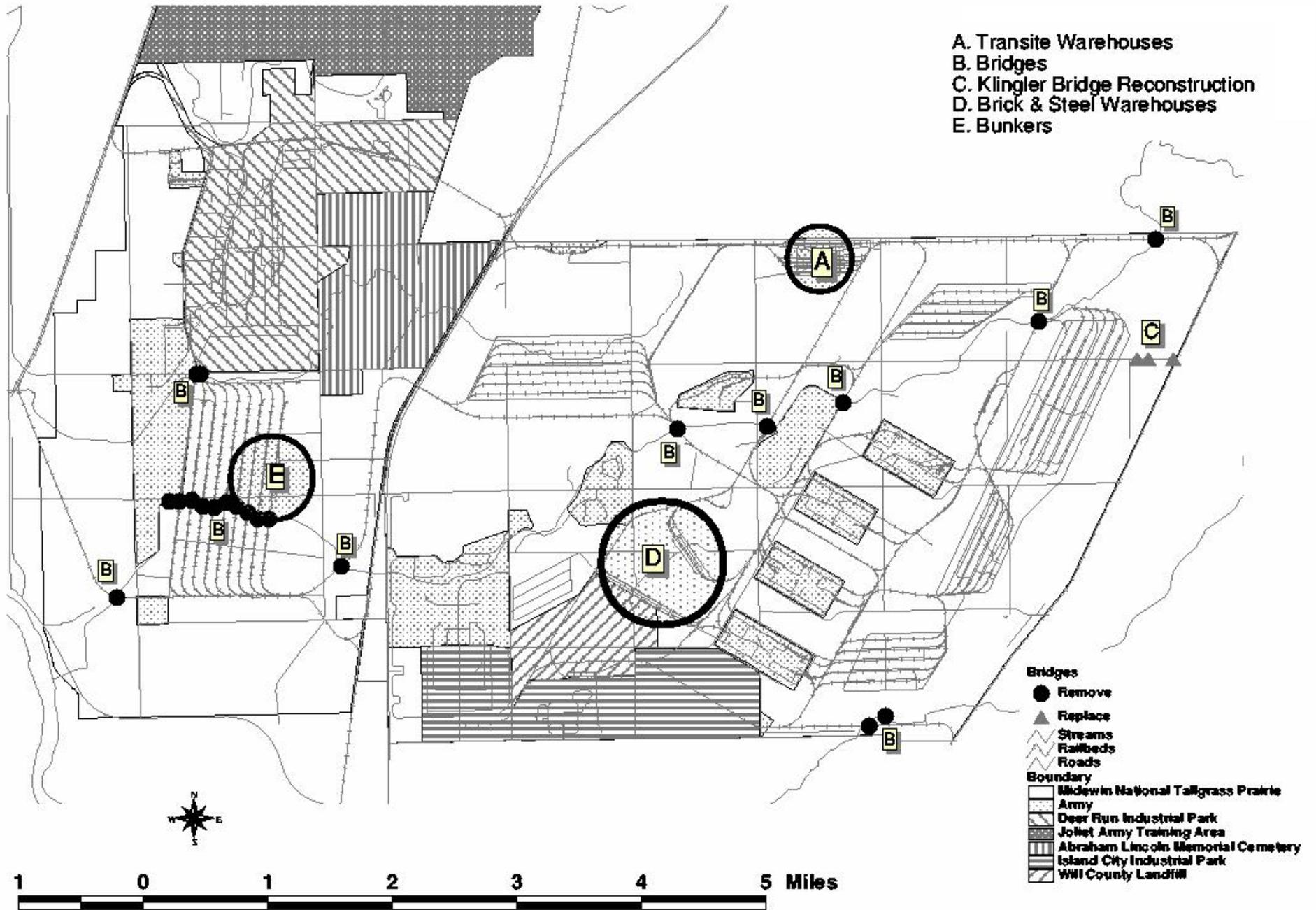
Structure Reference Number		Waterway	Bridge Dimensions			Bridge Description	Construction Materials	Estimated Timber/debris at base of bridge (ft <sup>3</sup> )	Abutment Type
			Length (ft)	Width (ft)	Clearances (ft)				
						deck			
87-1	Railroad Bridge	Prairie Creek	141.5	9	unknown	timber trestle bridge	timber	4,200	N
PC-4	Railroad Bridge	Prairie Creek	140	8.2	14.5	10-span timber trestle	timber	32,000	N
PC-6	Railroad Bridge	Prairie Creek	130	8.2	12	10-span timber trestle	timber	24,000	N

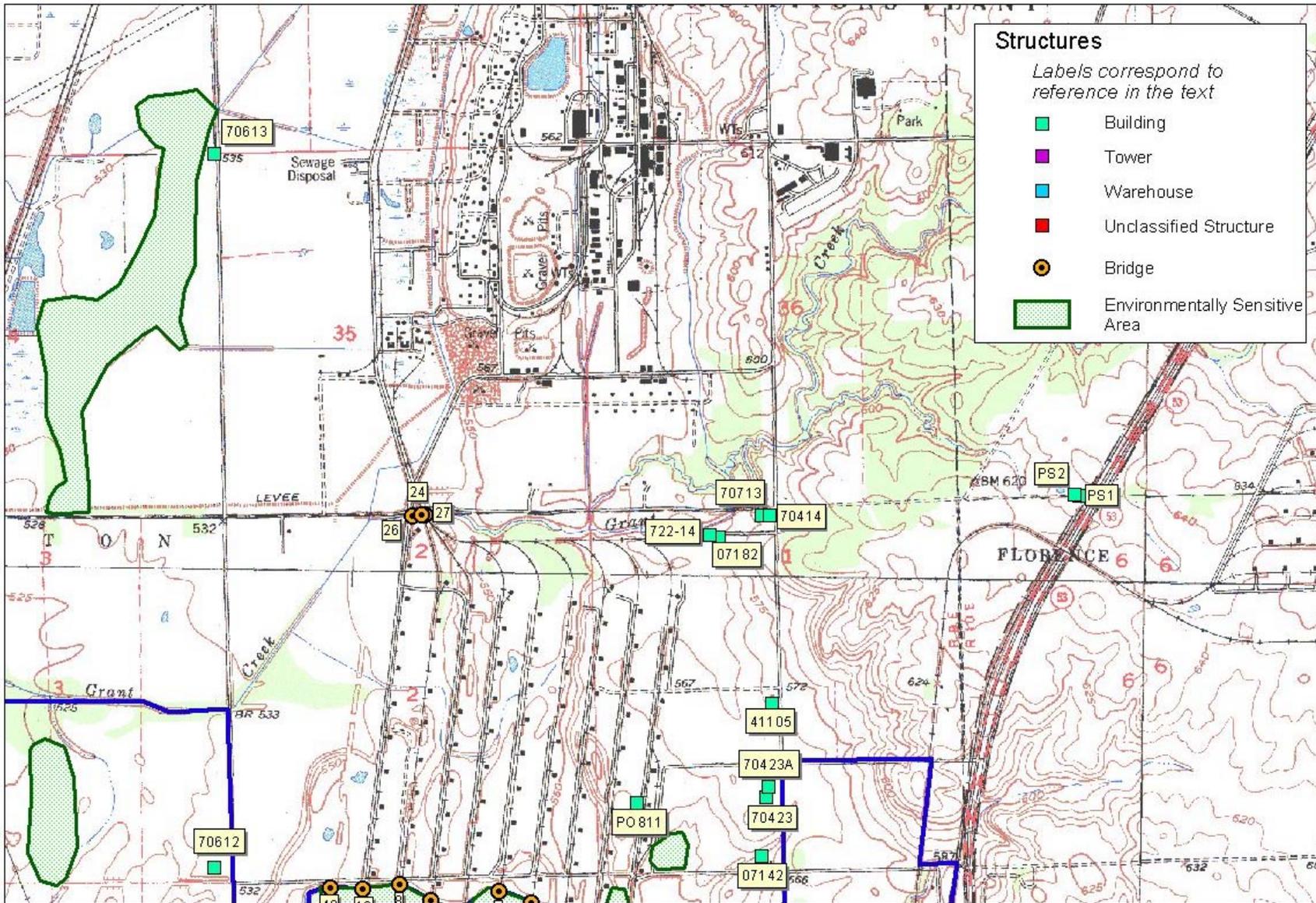
## **Appendix 2**

### **Site Maps**

Midwin Unsafe & Unneeded Building Demolition  
 Environmental Assessment  
 Overall Site Map

- A. Transite Warehouses
- B. Bridges
- C. Klingler Bridge Reconstruction
- D. Brick & Steel Warehouses
- E. Bunkers



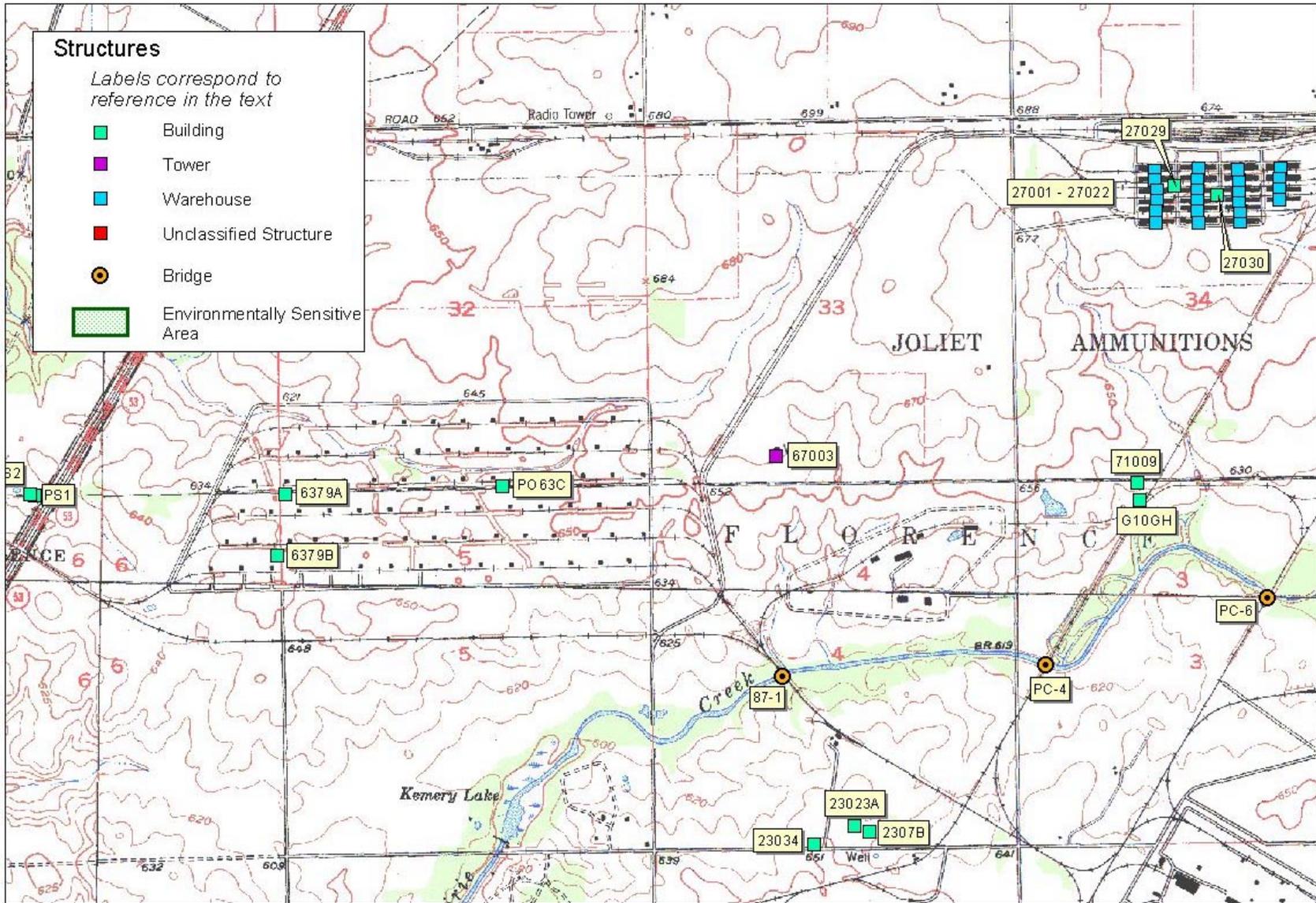


**SITE MAP - SECTION 1 of 6**  
 DEMOLITION ENVIRONMENTAL ASSESSMENT  
 Midewin National Tallgrass Prairie

**Structures**

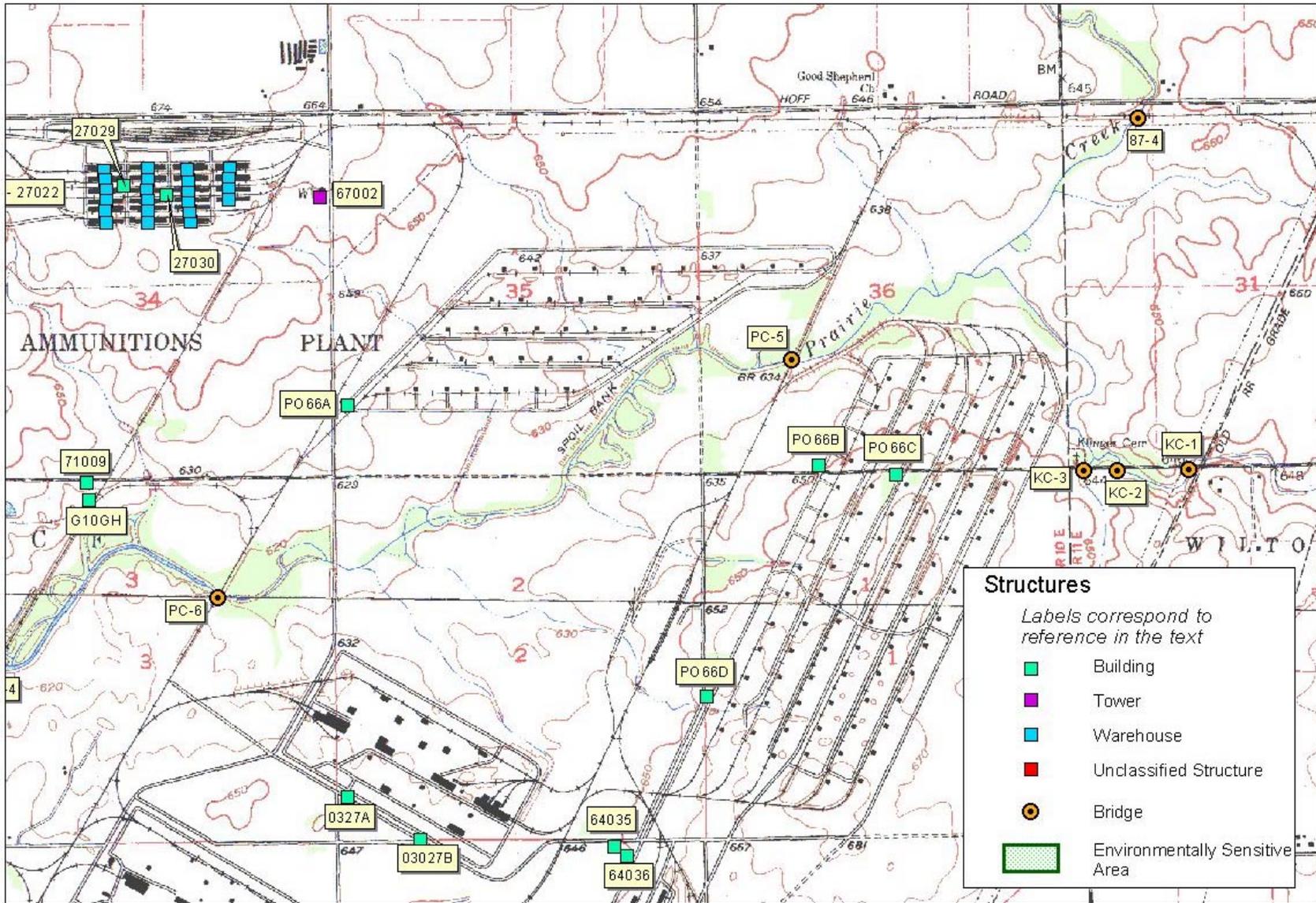
*Labels correspond to reference in the text*

- Building
- Tower
- Warehouse
- Unclassified Structure
- Bridge
- Environmentally Sensitive Area

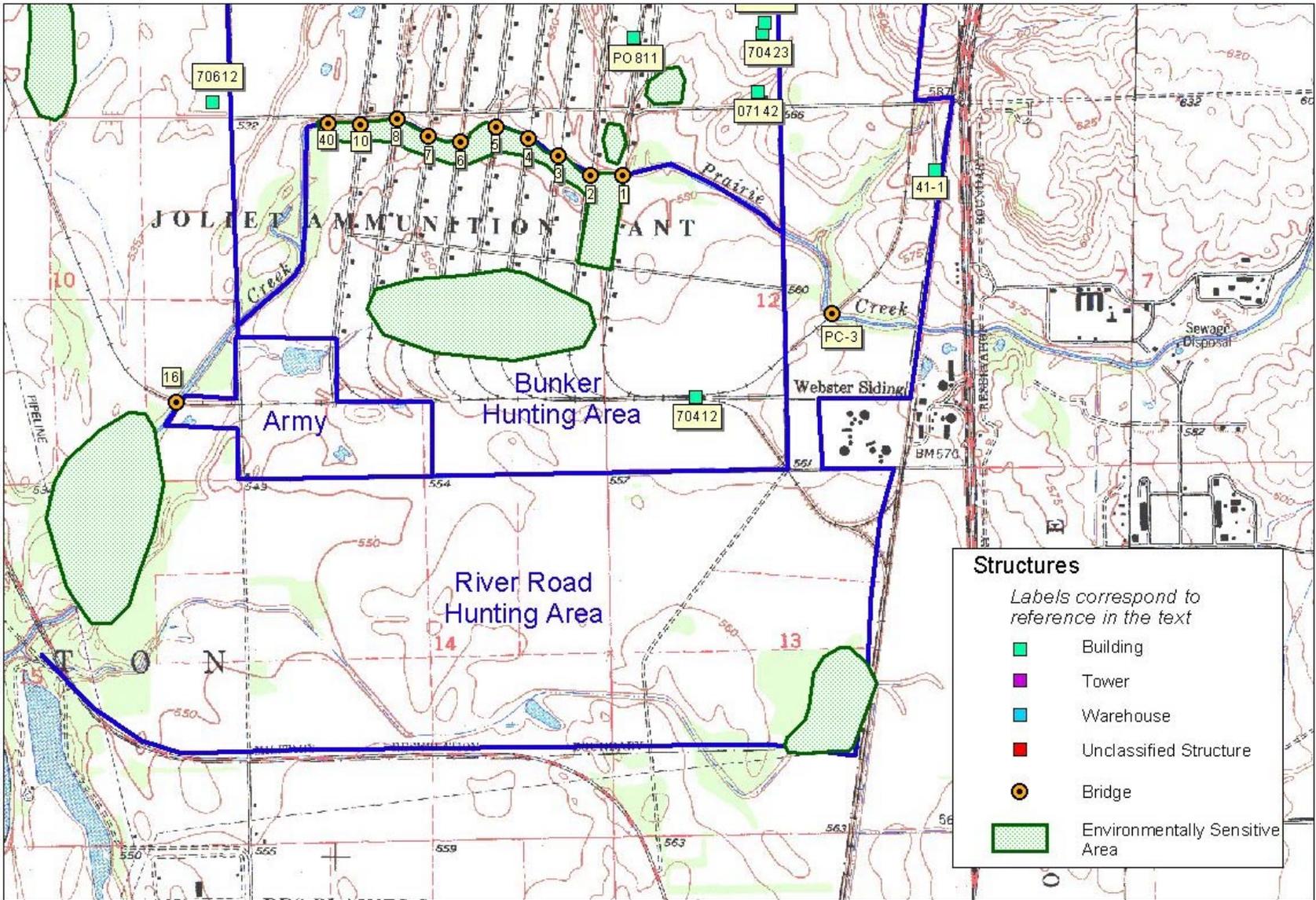


200 0 200 400 Feet

**SITE MAP - SECTION 2 of 6**  
DEMOLITION ENVIRONMENTAL ASSESSMENT  
Midwin National Tallgrass Prairie

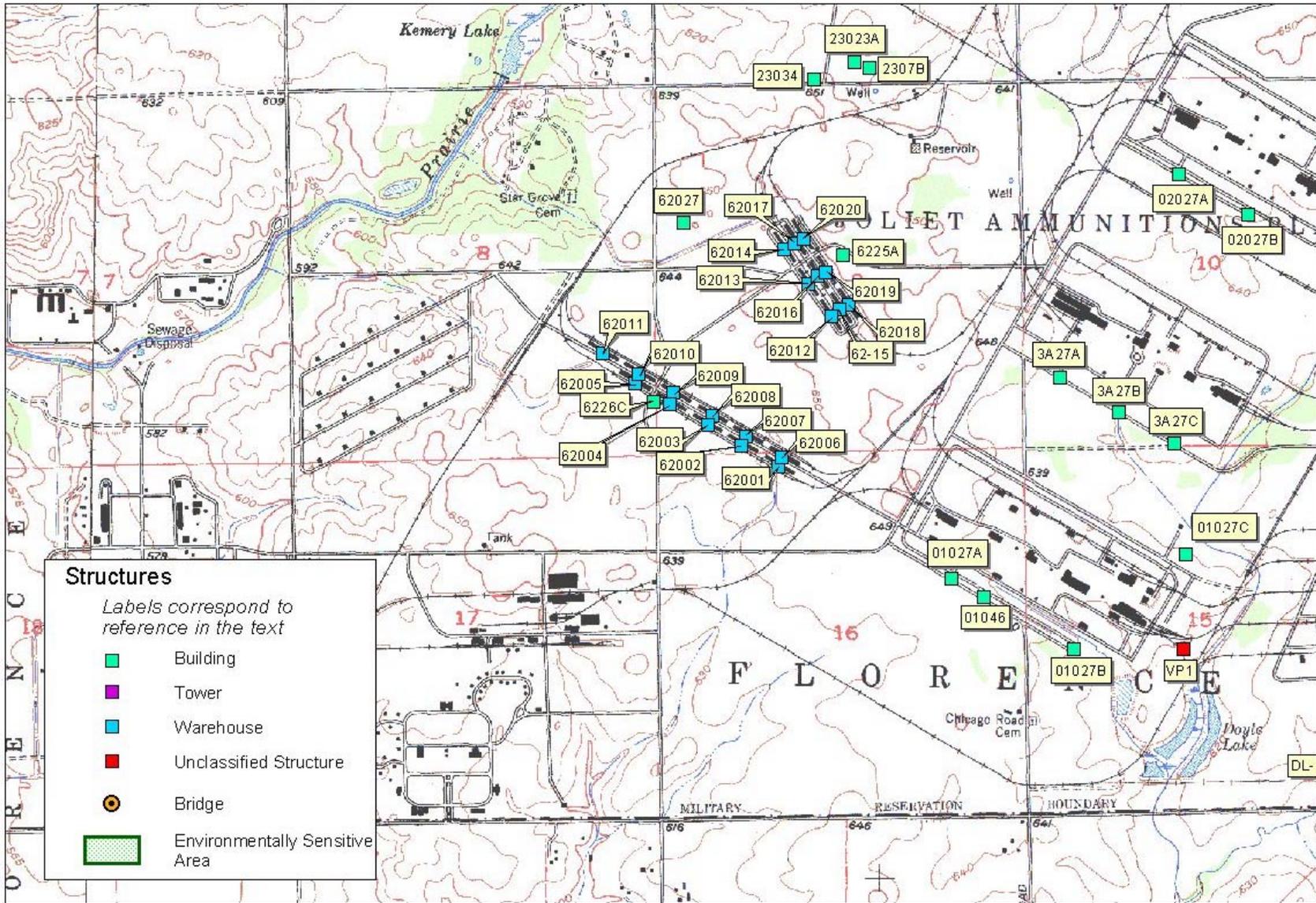


**SITE MAP - SECTION 3 of 6**  
 DEMOLITION ENVIRONMENTAL ASSESSMENT  
 Midewin National Tallgrass Prairie



200 0 200 400 Feet

**SITE MAP - SECTION 4 of 6**  
 DEMOLITION ENVIRONMENTAL ASSESSMENT  
 Midewin National Tallgrass Prairie



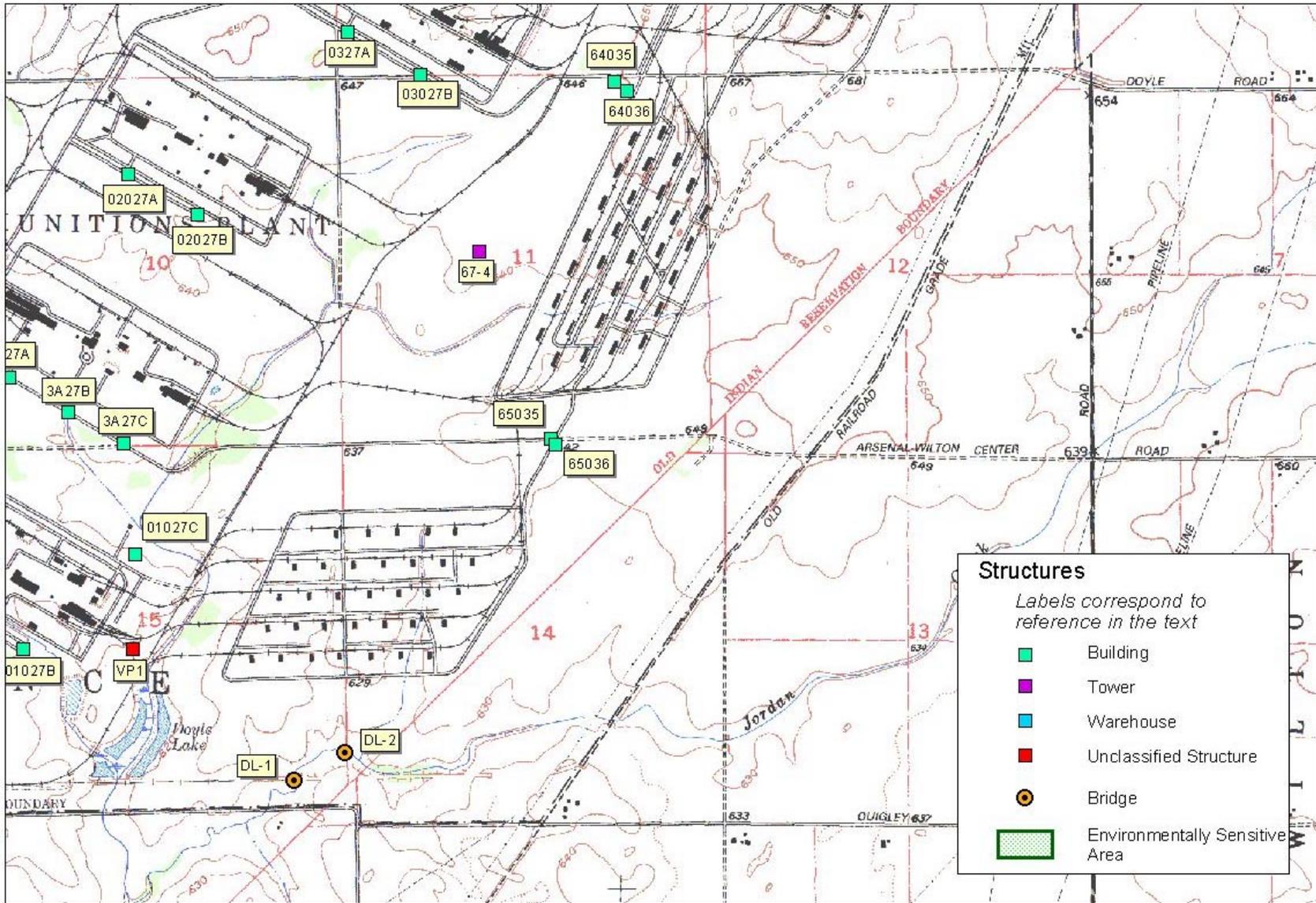
**Structures**

*Labels correspond to reference in the text*

- Building
- Tower
- Warehouse
- Unclassified Structure
- Bridge
- Environmentally Sensitive Area



**SITE MAP - SECTION 5 of 6**  
 DEMOLITION ENVIRONMENTAL ASSESSMENT  
 Midewin National Tallgrass Prairie



**SITE MAP - SECTION 6 of 6**  
 DEMOLITION ENVIRONMENTAL ASSESSMENT  
 Midewin National Tallgrass Prairie