IA 86
FROM IA 9 TO 700 FEET SOUTH OF 110TH STREET
DICKINSON COUNTY, IOWA
STP-086-1(10)—2C-30

ENVIRONMENTAL ASSESSMENT AND SECTION 4(f) *DE MINIMIS* IMPACT FINDING

Submitted Pursuant to 42 USC 4332(2)(c)

By The

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
And
IOWA DEPARTMENT OF TRANSPORTATION
OFFICE OF LOCATION AND ENVIRONMENT

The signatures are considered acceptance of the general project location and concepts described in the environmental document unless otherwise specified by the approving officials. However, such approval does not commit to approve any future grant requests to fund the preferred alternative.

For the Iowa Division Administrator
Federal Highway Administration

For the Office of Location and Environment
Iowa Department of Transportation

6/30/14
Date of Approval for Public Availability

The following persons may be contacted for additional information:

Mr. Lubin Quinones, P.E.
Iowa Division Administrator
Federal Highway Administration
105 6th Street
Ames, Iowa 50010
Telephone: 515-233-7300

Mr. Jim Rost
Office of Location and Environment
Iowa Department of Transportation
800 Lincoln Way
Ames, Iowa 50010
Telephone: 515-239-1225

PREFACE

The Transportation Equity Act of the 21st Century (TEA-21) (23 CFR) mandated environmental streamlining in order to improve transportation project delivery without compromising environmental protection. In accordance with TEA-21, the environmental review process for this project has been documented as a Streamlined Environmental Assessment (EA). This document addresses only those resources or features that apply to the project. This allowed study and discussion of resources present in the study area, rather than expend effort on resources that were either not present or not impacted. Although not all resources are discussed in the EA, they were considered during the planning process and are documented in the Streamlined Resource Summary, shown in Appendix A.

The following table shows the resources considered during the environmental review for this project. The first column with a check means the resource is present in the project area. The second column with a check means the impact to the resource warrants more discussion in this document. The other listed resources have been reviewed and are included in the Streamlined Resource Summary.

Table 1: Resources Considered

SOCIOECONOMIC		**NATURAL ENVIRONMENT**	
☑	☐ Land Use	☑	☑ Wetlands
☑	☐ Community Cohesion	☑	☑ Surface Waters and Water Quality
☐	☐ Churches and Schools	☐	☐ Wild and Scenic Rivers
☐	☐ Environmental Justice	☐	☐ Floodplains
☑	☐ Economic	☑	☑ Wildlife and Habitat
☐	☐ Joint Development	☑	☑ Threatened and Endangered Species
☑	☑ Parklands and Recreational Areas	☑	☑ Woodlands
☐	☐ Bicycle and Pedestrian Facilities	☑	☑ Farmlands
☑	☑ Right-of-Way		
☑	☑ Relocation Potential		
☑	☑ Construction and Emergency Routes		
☑	☑ Transportation		
CULTURAL		**PHYSICAL**	
☑	☑ Historical Sites or Districts	☑	☑ Noise
☑	☑ Archaeological Sites	☑	☐ Air Quality
☐	☐ Cemeteries	☑	☐ Mobile Source Air Toxics (MSATs)
		☑	☐ Energy
		☑	☑ Contaminated and Regulated Materials Sites
		☑	☐ Visual
		☑	☑ Utilities
☑	**CONTROVERSY POTENTIAL Wildlife Management Areas (WMAs) and Waterfowl Production Areas (WPAs) are adjacent to the current alignment and can't be avoided.**		
☑	**Section 4(f): Wildlife or Waterfowl Refuge WMAs and WPAs are considered to be Section 4(f) refuges.**		

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

Section 1 Description of the Proposed Action 1-1
1.1 Proposed Action 1-1
1.2 Study Area 1-1
Section 2 Project History 2-1
Section 3 Purpose and Need For Action 3-1
3.1 Purpose of the Proposed Action 3-1
3.2 Need for the Proposed Action 3-1
3.2.1 Substandard Roadway 3-1
3.2.2 Crash Rates 3-2
Section 4 Alternatives 4-1
4.1 No Build Alternative 4-1
4.2 Alternatives Considered but Dismissed 4-1
4.2.1 Alternative 2 4-2
4.2.2 Alternative 4 4-3
4.3 Proposed Alternative 4-3
Section 5 Environmental Analysis 5-1
5.1 Socioeconomic Impacts 5-1
5.1.1 Parklands and Recreational Areas 5-1
5.1.2 Right-of-Way 5-3
5.1.3 Relocation Potential 5-4
5.1.4 Construction and Emergency Routes 5-5
5.1.5 Transportation 5-6
5.2 Cultural Impacts 5-8
5.2.1 Historical Sites or Districts 5-8
5.2.2 Archaeological Sites 5-9
5.3 Natural Environment Impacts 5-10
5.3.1 Wetlands 5-10
5.3.2 Surface Waters and Water Quality 5-13
5.3.3 Wildlife and Habitat 5-16
5.3.4 Threatened and Endangered Species 5-19
5.3.5 Woodlands 5-21
5.3.6 Farmlands 5-21
5.4 Physical Impacts 5-22
5.4.1 Noise 5-23
5.4.2 Contaminated and Regulated Materials Sites 5-25
5.4.3 Utilities 5-30
5.5 Cumulative 5-31
5.6 Streamlined Resource Summary 5-36

Section 6 Disposition 6-1
6.1 Federal Agencies 6-1
6.2 State Agencies 6-1
6.3 Local/Regional Units of Government 6-1
6.4 Locations Where this Document Is Available for Public Review 6-2
6.5 Potential Permits Required for the Project 6-2
6.6 Statewide Transportation Improvement Program and Transportation Improvement Program Status 6-2
Section 7 Comments and Coordination 7-1
7.1 Agency and Tribal Coordination 7-1
7.2 NEPA/404 Merge Coordination 7-3
7.3 Public Involvement 7-4
7.3.1 Public Meetings 7-4
7.3.2 Correspondence 7-5
7.3.3 Future Public Involvement 7-5
Section 8 References 8-1

Tables

Table 5-1 Potential Wetland Impacts 5-12
Table 5-2 Federally Listed Species in Dickinson County 5-20
Table 5-3 Roadway Projects Near the Study Area 5-32
Table 5-4 Summary of Impacts 5-36

Figures

Figure 1-1 Iowa Highway 86 Vertical Alignment Project Location 1-3
Figure 1-2 Iowa Highway 86 Designated Detour Route during Construction 1-4
Figure 4-1 Iowa Highway 86 Vertical Alignment Project Alternatives 4-6
Figure 5-1 Iowa Highway 86 Environmental Constraints and Impacts 5-39
Figure 5-2 Iowa Highway 86 Environmental Constraints and Impacts 5-40
Figure 5-3 Iowa Highway 86 Environmental Constraints and Impacts 5-41
Figure 5-4 Iowa Highway 86 Environmental Constraints and Impacts 5-42
Figure 5-5 Iowa Highway 86 Environmental Constraints and Impacts 5-43
Figure 5-6 Iowa Highway 86 Proposed Borrow Areas 5-44
Figure 5-7 Parks, Recreation, Wildlife and Waterfowl, and Historic Sites 5-45
Figure 5-8 Existing and Proposed Trails 5-46
Figure 5-9 Soil and Groundwater Corrective Action Areas for Benzene at Vick's Corner 5-47
Figure 5-10 Location of the Proposed Action and Other Projects 5-48

Appendices

Appendix A Streamlined Resource Summary
Appendix B Agency and Tribal Coordination
Appendix C Farmland Protection Form
Appendix D Section 4(f) Memorandum of Agreement

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 1

DESCRIPTION OF THE PROPOSED ACTION

SECTION 1
DESCRIPTION OF THE PROPOSED ACTION

This Environmental Assessment (EA) has been prepared in compliance with the requirements of the National Environmental Policy Act of 1969 (NEPA). This EA informs the public and interested agencies of the proposed action and alternatives to the proposed action in order to gather feedback on the improvements under consideration.

1.1 Proposed Action

The Iowa Department of Transportation (Iowa DOT) and the Federal Highway Administration (FHWA) are evaluating potential alternatives to maintain, improve, or replace a 3.9-mile segment of IA 86 from Iowa Highway 9 (IA 9) to near the Minnesota border within Dickinson County, Iowa (the Project). Figure 1-1 shows the general location of the Project; it also indicates the location of a separate project to realign the curvature of IA 86[1].

Iowa DOT proposes to improve IA 86 by constructing two 14-foot-wide driving lanes, and 8-foot-wide shoulders (4 feet paved and 4 feet granular). Foreslopes are a graded part of the roadway cross section that extend outside of the shoulders to ensure the stability of the roadway and to provide a reasonable opportunity for recovery of an out-of-control vehicle. Foreslopes having a grade of 6 feet horizontal for each foot of vertical decrease (a 6:1 ratio) would be constructed from the shoulder, and at a 3:1 ratio from the edge of the 6:1 slope to drainage ditches. However, 4:1 foreslopes from the shoulder to the ditches would be constructed in areas where both sides of IA 86 are bordered by designated natural lands.

1.2 Study Area

The primary area of investigation for the Project extends from the IA 86/IA 9 intersection northward to near the Minnesota border, including 250 feet on either side of the alignment (the Study Area). The Study Area was expanded to also include locations where borrow would be needed and access roads improved to align with the revised vertical alignment. Wildlife Management Areas (WMAs) and Waterfowl Production Areas (WPAs) are adjacent to this segment of IA 86 and are on both sides of the roadway in some locations. Although the scale of Figure 1-1 is too large to accurately show the Study Area limits, those limits are included in close-up views in Figures 5-1 through 5-5 in Section 5, Environmental Analysis.

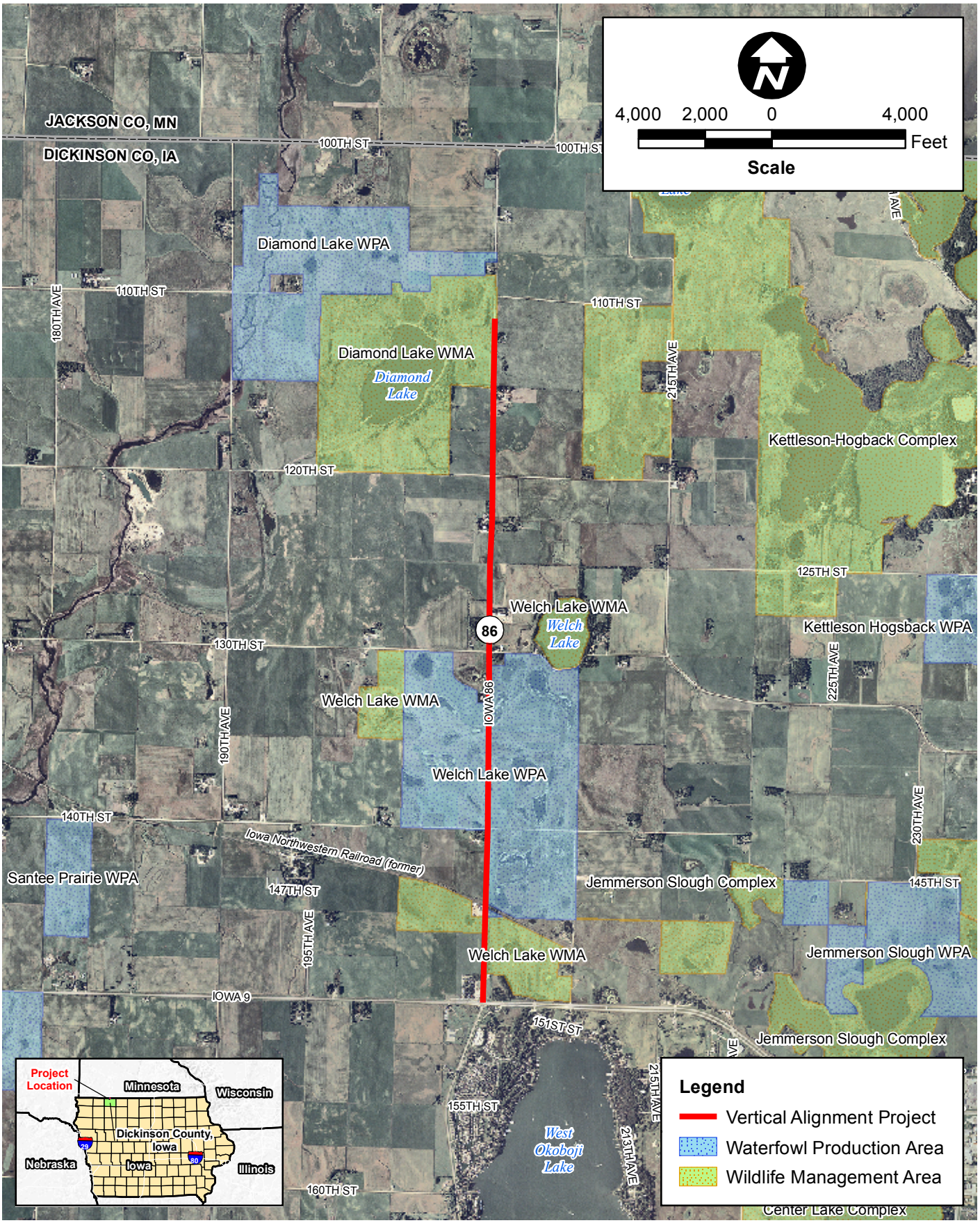
[1] The IA 86 curve realignment project is a separate project along IA 86 that is being performed to reduce the curvature of the route into Minnesota. A Categorical Exclusion is being prepared to evaluate the environmental impacts of that project.

The IA 86/IA 9 intersection is a logical terminus for the southern limit of the Project. The southern boundary of the proposed curve realignment project for IA 86 is a logical terminus for the northern limit of the Project because the adjacent curve realignment project has independent utility[2].

The Study Area boundaries were established to allow the development of a range of alternatives that could address the functional and structural issues of IA 86. The Study Area is larger than the area proposed for construction activities for the Project. However, some impacts, such as traffic, would extend beyond the Study Area; Section 5 addresses where this would occur. For example, the route of the designated construction detour is also being evaluated for impacts. The detour route extends from the IA 86/IA 9 intersection, along IA 9 east to its dual designation as U.S. Highway 71 (US 71), north on US 71 to Interstate 90 (I-90) (Figure 1-2). Out-of-distance travel[3] associated with the detour is approximately 18.7 miles. During the anticipated 8-month construction timeframe, access would be maintained for local residents.

[2] A project that has independent utility would be usable and would represent a reasonable expenditure of funds even if no additional transportation improvements in the area were constructed. For example, a project segment must be able to function on its own, without further construction of an adjoining segment.

[3] Out-of-distance travel requires going out of one's way to make a desired connection.



Z:\Projects\IDOT\70888_NEPA_Iowa_86_Redesign\map_docs\mxd\EA\Vertical_Alignment_Project_Location_EA.mxd\march11\jcm

HDR

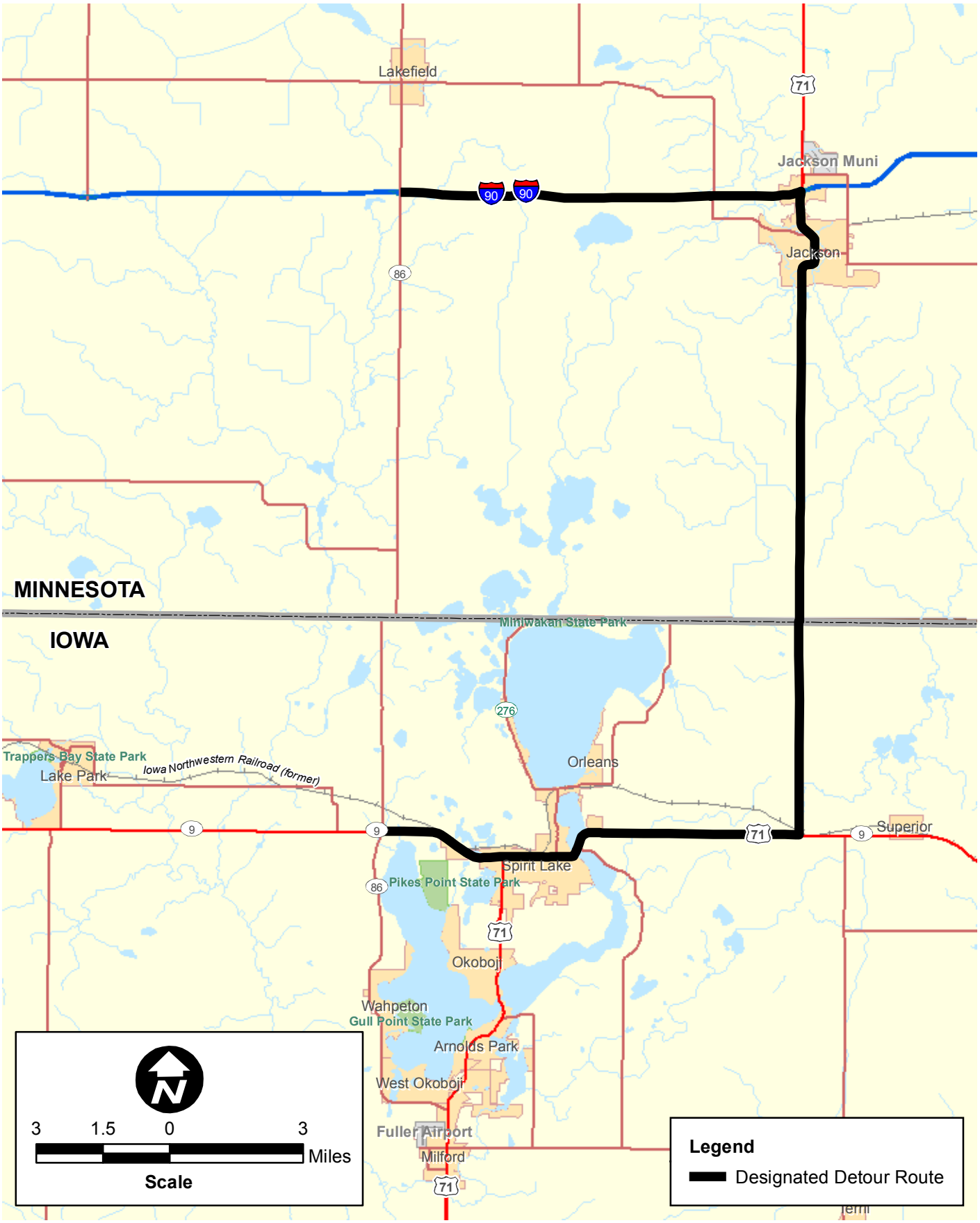
Iowa Highway 86 Vertical Alignment Project Location

Iowa Department of Transportation

Iowa Highway 86 Environmental Assessment

DATE
March 2011

FIGURE
1-1



Z:\Projects\IDOT\70888_NEPA_Iowa_86_Redesign\map_docs\mxd\EA\Detour_Route_EA.mxd\march11\jcm

HDR

Iowa Highway 86 Designated Detour Route During Construction

Iowa Department of Transportation

Iowa Highway 86 Environmental Assessment

DATE

March 2011

FIGURE

1-2

SECTION 2

PROJECT HISTORY

SECTION 2
PROJECT HISTORY

This section describes Project background and events leading up to the proposed action. This section also discusses the IA 86 curve realignment project because of its connection to the vertical alignment improvement project.

IA 86 in Dickinson County, constructed as a county road in 1954, was subsequently transferred to the State of Iowa and became a state highway. Although the road has never been widened, this segment of IA 86 was resurfaced in 1958 and 1974, and seal coated in 1994. Portions of the segment were seal coated in 1996 and 1998 as maintenance projects.

The need for expansion of the road and shoulder width, as well as improvement of the vertical and curve alignment of the roadway, was identified decades ago. The deficient sag and crest vertical curves[2] affect driver's sight distance, which has resulted in an above-average crash rate (see Section 3.2, Need for the Proposed Action). Iowa DOT decided to address the issues on the IA 86 segment from IA 9 to the Minnesota border by conducting two separate projects: 1) the vertical alignment improvement project from IA 9 to near 100th Street and 2) a curve realignment project from the northern terminus of the Project to just north of the Minnesota border. The needed improvements are being planned to minimize impacts on designated natural public lands adjacent to IA 86 in several locations.

The current IA 86 vertical alignment improvement study, which includes this EA, related studies, and preliminary design of the eventually selected alternative, commenced in July 2007. A separate curve realignment improvement study (also begun in July 2007) was used to support preparation of a Categorical Exclusion (CE), covering IA 86 from the northern terminus of the Project to just north of the Minnesota border. A public meeting for both IA 86 projects was held on August 2, 2007, at the Community Center on the Dickinson County Fairgrounds in Spirit Lake, Iowa. Iowa DOT representatives described the condition of IA 86, presented the plans for the study process, discussed how the public can become involved in the study, addressed issues concerning construction, and obtained input on the preliminary range of alternatives and environmental constraints in the Study Area. Forty-two people attended the meeting, including a state representative. The need for improvements to IA 86 was a common theme of the public input at the meeting. The need to complete the two IA 86 projects in a timely manner was another common concern. Iowa DOT sent early coordination letters to Federal, state, and local agencies and has used the concurrence point process to receive additional input from designated agencies (see Section 7, Comments and Coordination).

---

[2] A sag vertical curve connects a segment of road with another segment of road that has a more positive grade, such as downhill to uphill. A crest vertical curve connects a segment of road with another segment of road that has a more negative grade, such as uphill to downhill.

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 3

PURPOSE AND NEED FOR ACTION

SECTION 3
PURPOSE AND NEED FOR ACTION

This section describes the purpose of and need for the proposed action based on the transportation system problems that currently exist in the Study Area. This section details the structurally and functionally substandard nature of the existing IA 86, and explains the importance of IA 86 for traffic in Dickinson County.

3.1 Purpose of the Proposed Action

The purpose of the proposed action is to improve the vertical and horizontal alignment of the IA 86 roadway, its shoulders and slopes thereby providing a safer facility that meets Iowa DOT's current design standards for a principal arterial highway.

3.2 Need for the Proposed Action

The need for the proposed action is based on a combination of factors, as follows:

- Substandard roadway—The existing IA 86 has narrow travel lanes and shoulders, steep foreslopes, and poor vertical alignment.
- Crash rate—The crash rate on this segment is above the state average.

The substandard nature of the roadway and its higher than average crash rate, are discussed in more detail below.

3.2.1 Substandard Roadway

The existing roadway has 22-foot-wide pavement, with 11-foot-wide driving lanes and 5-foot-wide granular shoulders. Iowa DOT's minimum design standards for a rural two-lane highway require 14-foot-wide driving lanes and 8-foot-wide granular shoulders[5]. IA 86 would be constructed with composite shoulders, consisting of a 4-foot asphalt paved shoulder and a 4-foot granular shoulder (.This segment was originally constructed in 1954 and has not been widened. The vertical alignment consists of approximately 10 deficient sag vertical curves and 10 deficient crest vertical curves. The existing roadway does not meet the minimum standards for sight distance[6] (a minimum length of 570 feet).

[5] According to the standards, the outside 2 feet of each 14-foot roadway lane are part of the "effective" shoulder. The shoulder consists of an additional 8 feet of width; the total width from the centerline to the outside edge of the shoulder is 22 feet.

[6] Sight distance is a driver's ability to see ahead for making decisions, stopping, or braking.

Natural public lands areas designated as WMAs and WPAs are along one side of IA 86 for most of the segment, and are on both sides of the roadway in some areas (see Figure 1-1). The areas with the least desirable vertical alignment tend to be where the designated natural public lands are on both sides of the roadway.

Annual average daily traffic (AADT) along the Project was 1,820 vehicles per day as of 2007 (Iowa DOT, April 29, 2010) and is projected to have 2,400 AADT in 2012 and 3,800 AADT in 2032. Currently, 15 percent of the traffic is heavy trucks, with no change in that percentage projected for the future.

3.2.2 Crash Rates

During a five-year study period from 2002 through 2006, there were 18 crashes along the Project, including nine personal injury crashes and nine property damage crashes (Iowa DOT, Office of Traffic and Safety, February 2008). The 18 crashes on this road segment equate to a calculated 111 crashes per 100 million vehicle miles, which is 12 percent above the statewide average of 99 crashes per 100 million vehicle miles for rural state highways (Iowa DOT, Office of Traffic and Safety, June 2006). The nine injury crashes equate to a calculated 55 injury crashes per 100 million vehicle miles, which is 91 percent above the statewide average of 29 injury crashes per 100 million vehicle miles for rural state highways. There were a total of 16 injuries on this road segment between January 1, 2002 and December 31, 2006. No fatalities occurred during this period.

SECTION 4

ALTERNATIVES

SECTION 4
ALTERNATIVES

This section discusses the alternatives investigated to address the purpose and need for the proposed action. A range of alternatives was developed, including slight variations to the road's alignment. The No Build Alternative, the alternatives considered but dismissed, and the Proposed Alternative are discussed below.

4.1 No Build Alternative

With the No Build Alternative, there would be no road construction to improve the vertical or horizontal alignment. The existing roadway currently consists of 22-foot-wide pavement, with 11-foot-wide driving lanes and 5-foot-wide granular shoulders. The road would continue to be used in its existing configuration. This alternative would not improve deficient sag and crest vertical curves or the narrow lanes, shoulders and substandard slopes. The roadway width would not meet current design standards for a principal arterial highway, perpetuating the above-average potential for accidents. Maintenance activities, such as patching and repaving, would occur to support continued use of IA 86 within the Study Area. Maintenance would not address the design and safety issues discussed in Section 3, Purpose and Need for Action, therefore the No Build Alternative is not considered a reasonable course of action. However, NEPA, as implemented through 40 Code of Federal Regulations (CFR) 1502.14, requires consideration of the no action alternative. Therefore, this alternative was carried forward to serve as a baseline for comparison with any other alternatives considered.

4.2 Alternatives Considered but Dismissed

As discussed in Section 2, Project History, the IA 86 vertical alignment improvement study commenced in July 2007, based on Iowa DOT's internal evaluation of options to address problems with the vertical alignment within the Study Area. A basic concept for improving IA 86 was presented at a public meeting on August 2, 2007. Four alternatives – the No Build Alternative and three build alternatives[7] – were developed by the Iowa DOT Office of Design. Because of the presence of natural public lands (WMAs and WPAs) throughout the Study Area, only alignments along or adjacent to IA 86 were considered to be reasonable build alternatives. Other, off-alignment alternatives that would serve as IA 86 could not avoid the natural public lands and would result in much greater impact to those resources.

The build alternatives differed in their vertical and horizontal alignments and in the slope of the foreslopes adjacent to the roadway shoulders. One of the three build alternatives would

[7] The No Build Alternative was identified as Alternative 1, and the three build alternatives were identified as Alternatives 2, 3, and 4.

be located on the existing roadway's alignment. The two remaining build alternatives were located adjacent to the existing alignment to minimize impacts on the WMAs and WPAs.

The range of alternatives was developed using local transportation and land use plans, public input, and coordination with review agencies. Three build alternatives were considered. These alternatives are described below and include the alternatives developed during the vertical alignment improvement study (Iowa DOT, Office of Design, February 12, 2008). As initially planned, all three build alternatives would begin at IA 9 and would end about 700 feet north of 110th Street. Figure 4-1 shows the centerline locations of these three alternatives. Segments of Alternatives 2 and 3 where a shift in alignment is proposed, are identified by mileposts. Subsequent to the 2007 study, the northern terminus of the vertical alignment improvement project (which is also the southern terminus of the curve realignment project) was shifted from approximately 700 feet north of 110th Street to approximately 700 feet south of 110th Street. Figure 4-1 shows the original northern terminus when three build alternative alignments were being considered.

The proposed typical roadway for IA 86 within the Study Area includes two 14-foot-wide driving lanes and 8-foot-wide shoulders (4 feet paved and 4 feet granular). Drainage would be installed along both sides of the road, and culverts would be lengthened as necessary. Side roads and entrances would be modified as needed to meet the new grade of the road. Utility poles and some subsurface utilities would need to be relocated.

Under all three build alternatives, IA 86 would be closed during construction and an off-Project detour would be established along IA 9, US 71, and I-90. Access would be maintained for local residents.

4.2.1 Alternative 2

Alternative 2 would involve widening and resurfacing the existing roadway in the areas where WMAs and WPAs are on both sides of the roadway from IA 9 to just south of 130th Street, a distance of about 2 miles. The roadway would be widened from 22 feet to 28 feet and resurfaced with a 3-inch layer of hot-mix asphalt. The shoulders would be widened from 5 feet to 8 feet on each side (4 feet paved and 4 feet granular). Foreslopes at a ratio of a 4:1 slope would be constructed adjacent to the shoulders. The vertical alignment would not be changed in this segment of IA 86. At least five sag and five crest vertical curves would not be improved, thus requiring a Design Exception from FHWA Iowa Division.

In areas not adjacent to WMAs and WPAs, the roadway would be reconstructed along the existing alignment to 28-foot-wide pavement and 8-foot-wide shoulders (4 feet paved and 4 feet granular). The foreslopes in this segment of IA 86 would be at a ratio of a 6:1 slope to approximately 20 feet from the edge of the shoulder, and then a 3:1 slope would extend to a drainage ditch. The vertical alignment of this roadway segment would be improved to increase the line-of-sight distance on sag and crest vertical curves.

In the area where Diamond Lake WMA and WPA are west of the road (north of 120th Street), the horizontal alignment of the roadway would be shifted 35 feet east of the existing centerline to avoid encroachment into these lands. Pavement and shoulder widths would be 28 feet and 8 feet, respectively, and 6:1 and 3:1 foreslopes would be constructed. The vertical alignment of the roadway would be improved, but some of the vertical curves would remain deficient.

Alternative 2 would not meet the purpose and need discussed in Section 3. Although this alternative would minimize impacts on natural public lands and environmental impacts, it would not address the deficient sag and crest vertical curves which limit the line–of-sight distance for motorists. The vertical alignment of the roadway would not meet Iowa DOT standards. Therefore, Alternative 2 was eliminated from further consideration.

4.2.2 Alternative 4

Alternative 4 would involve total reconstruction of IA 86 on its current alignment within the Study Area, to improve the existing horizontal and vertical alignment. The new pavement would be 28-foot-wide pavement. Shoulders would be 8 feet wide (4 feet paved and 4 feet granular). Foreslopes at a ratio of 6:1 slope would extend to a distance of, approximately 20 feet from the edge of the shoulder and then a 3:1 slope would extend to a drainage ditch. The horizontal alignment of the roadway would follow the centerline of the existing road for the entire length of the Project, incorporating the 6:1 and 3:1 foreslopes.

Alternative 4 would meet the purpose and need by correcting roadway deficiencies, but would impact 14.9 acres of the WMAs and WPAs. This alternative would take land from both Welch Lake and Diamond Lake WMAs and Welch Lake WPA, but would not divide the WMA or WPA lands. Alternative 4 would take wetlands from within both Welch Lake WPA; and Diamond Lake WMA. These WMAs and WPAs are protected by Section 4(f) of the U.S. Department of Transportation Act of 1966. Section 4(f) protection means that in order for those lands to be taken for the roadway purposes, there must be no other reasonable and prudent alternative and that all possible planning has been done to minimize harm.

Initial conservative analysis of an alignment for Alternative 4, using a maximum width of impact from grading (for cuts and fills), resulted in estimated wetland impacts of 1.4 acres. A comparison of impacts on wetlands, Section 4(f) lands, and other environmental resources determined that other alternatives exist that would impact fewer acres of to Section 4(f) resources. Alternative 4 was eliminated from further consideration primarily because it would impact more Section 4(f) resources than other alternatives.

4.3 Proposed Alternative

Alternative 3 would involve total reconstruction of IA 86 in the Study Area to improve the existing cross section and vertical alignment. The new pavement would be 28-foot-wide pavement. Shoulders would be 8 feet wide (4 feet paved and 4 feet granular). Foreslopes at a ratio of a 6:1 slope would extend to a distance of, approximately 20 feet from the edge of the shoulder and then a 3:1 slope would extend to a drainage ditch.

The vertical alignment of the existing roadway would be improved by cutting crest vertical curves and filling sag vertical curves. All of the deficient vertical curves would meet current design standards. The greatest projected cut is estimated at 11 feet, and the greatest depth of fill is estimated at 15 feet (which would extend foreslopes up to 105 feet wider than the existing foreslopes). Grading would extend beyond the foreslopes in some areas to match existing topography and drainage. Most cut and fill depths would range from 5 to 8 feet.

Curbing is planned to be installed in the vicinity of the Montgomery substation, just south of the former Iowa Northwestern Railroad right-of-way (ROW) to avoid or reduce potential impacts on the substation grid, by staying out of the fenced area of the substation. North of the former Iowa Northwestern Railroad ROW to just south of 130th Street, the horizontal alignment of the roadway would be shifted to approximately 45 feet west of the existing centerline. Foreslopes at a ratio of 4:1 would minimize the impact on the larger area of the WPA on the east side of the road. The roadway alignment would shift up to 30 feet west and east between 130th and 120th Street to avoid requiring acquisition of residences. Approximately 2,500 feet north of 120th Street, the alignment would shift about 30 feet to the east to potentially avoid permanent acquisition of Diamond Lake WMA property, located on the west side of the roadway.

Alternative 3 would reconstruct IA 86 on varying alignments and would use varying foreslopes to minimize impacts on WMAs and WPAs. The acreage of impact was initially estimated to be 10.8 acres, compared to the 14.9 acres of impact projected for Alternative 4. Alternative 3 would meet the purpose of and need for the proposed action by modifying the vertical alignment of the roadway to correct the existing deficient sag and crest vertical curves and by widening the pavement and shoulders to meet the current Iowa DOT design standards for rural state highways.

The northern terminus of the Project was changed from 700 feet north of 110th Street to 700 feet south of 110th Street to accommodate design changes in the curve realignment project to the north.

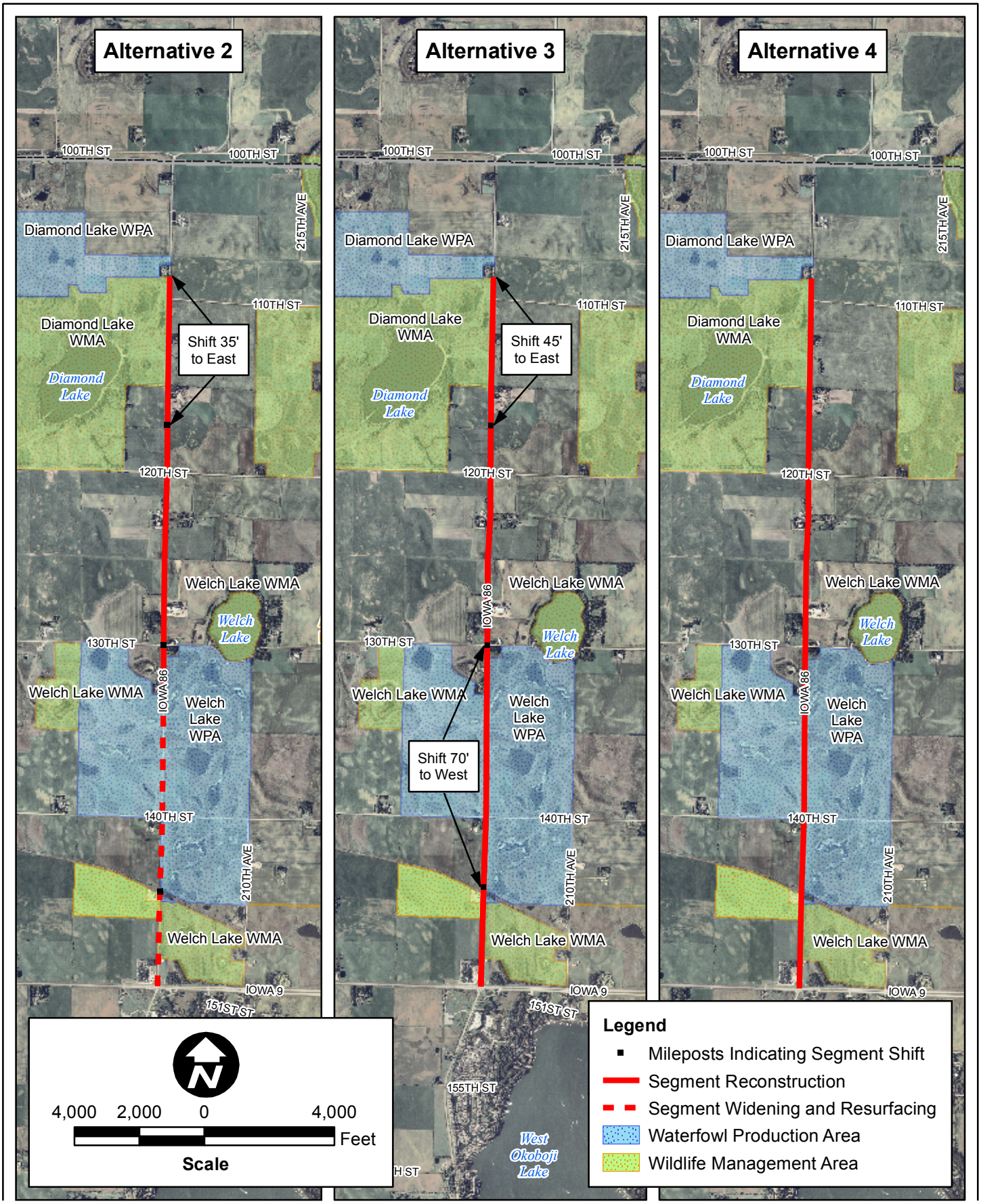
Iowa DOT refined Alternative 3 to avoid Section 4(f) resources where possible, and to minimize the use of Section 4(f) land (WMAs and WPAs). Minimization measures incorporated into the design included using 4:1 foreslopes wherever WMA and WPA land is adjacent to the highway, minimizing the shift from the existing centerline between the former Iowa Northwestern Railroad and a point approximately 1,300 feet south of 130th Street to 45 feet instead of 70 feet (to minimize the use of Welch Lake WPA to the west of IA 86), and adjusting the alignment of the proposed roadway and drainage ditches where feasible. The design was also refined to provide at least temporary access to the Welch Lake WMA and WPA and the Diamond Lake WMA and WPA from existing access points. The design refinements subsequent to the initial comparison of the three considered build alternatives have further reduced ROW acquisition impact to WMA and WPA land to only 8.6 acres.

Iowa DOT has recommended Alternative 3 as the preferred alternative. This alternative is preferred because it meets the purpose of and need for the proposed action while minimizing overall impacts. It will undergo additional design and be carried through the Environmental Assessment as the Build Alternative.

Final selection of an alternative, including a construction scenario, will not occur until FHWA and Iowa DOT evaluate all comments received as a result of public and agency review of this EA and the public hearing on this document. Following public and agency review of this EA, FHWA and Iowa DOT will determine if an Environmental Impact Statement (EIS) is required. If an EIS is required, then a preferred alternative will be selected through that process.

If an EIS one is not required, the selected alternative will be identified with a Finding of No Significant Impact (FONSI) document for this EA.

THIS PAGE INTENTIONALLY LEFT BLANK



Z:\Projects\IDOT\70888_NEPA_Iowa_86_Redesign\map_docs\mxd\EA\Vertical_Alignment_Project_Alternatives_EA.mxd\march11\jcm

HDR

Iowa Highway 86 Vertical Alignment Project Alternatives

Iowa Department of Transportation

Iowa Highway 86 Environmental Assessment

DATE
March 2011

FIGURE
4-1

SECTION 5

ENVIRONMENTAL ANALYSIS

SECTION 5
ENVIRONMENTAL ANALYSIS

This section describes the existing socioeconomic, cultural, natural, and physical environments in the Study Area that would be affected by the Proposed Alternative (Build Alternative). The resources with a check in the second column in Table 1, located at the beginning of this document, are discussed below. The Study Area is primarily a 500-foot-wide corridor centered on the centerline of IA 86 from the IA 86/IA 9 intersection northward approximately 3.9 miles. The Study Area was expanded to include areas of proposed borrow and access road improvements. Figures 5-1 through 5-5 (in order from the Project's southern terminus to its northern terminus) show a potential impact area boundary used for determining impacts on various environmental resources. Iowa DOT has identified one potential area (Borrow Area 8) to provide fill for the Project; Figure 5-6 shows the location of this area southwest of IA 86 and 130th Street.

Each resource discussion includes an analysis of the impacts of the two alternatives carried forward for detailed study: the No Build Alternative and the Build Alternative. When warranted, measures to avoid, minimize, or mitigate adverse impacts are also included. The potential impact area includes area planned to be disturbed based on a typical cross section to account for construction of the roadbed, shoulders, foreslopes, and drainage areas. Additionally, the potential impact area includes existing ROW (current ROW owned by Iowa DOT) that would need to be reconstructed to support the change in horizontal and vertical alignments. The potential impact area includes a buffer of additional land to allow flexibility in accommodating design features during final design; the actual area impacted by construction would be less than the area defined by the potential impact area boundary. The boundary was derived after the three potential build alternatives were evaluated (see Section 4). Consequently, a direct comparison of impacts as determined for alternatives in Section 4 and the Build Alternative is not possible because the design process was not continued in detail for Alternatives 2 and 3, and no additional buffer was established for those alternatives.

5.1 Socioeconomic Impacts

Evaluating the direct and indirect impacts that a transportation project has on socioeconomic resources requires consideration of impacts on land use (addressed in Appendix A) as well as the project's consistency with development and planning by a city or other public entity.

5.1.1 Parklands and Recreational Areas

To assess the potential impacts associated with the Build Alternative, sources were reviewed and a site visit was performed to identify parkland and recreational areas within and near the Study Area. Parks and recreation areas were evaluated to determine the eligibility of properties or sites for protection under Section 4(f) of the U.S. Department of Transportation Act and to evaluate them relative to the alternatives being considered.

There are no public parks within 1 mile of the Study Area. The public parks in Dickinson County are primarily near the Iowa Great Lakes, a series of natural lakes that offer a variety of recreational activities (Dickinson County, 2006). Figure 5-7 shows the two public parks closest to the Study Area: Triboji Beach and Pikes Point State Park.

No designated recreational areas were determined to be within the Study Area. Several miles of publicly owned recreational trails are located within Dickinson County. Figure 5-8 shows the locations of existing and proposed trails in the general vicinity of the Study Area. Dickinson County is also pursuing acquisition and conversion of the ROW of the abandoned Iowa Northwestern Railroad to a trail, but funding is currently not available for either full acquisition or conversion (Dickinson County, January 19, 2010; Dickinson County, December 13, 2010). The Iowa Natural Heritage Foundation (INHF), a non-profit conservation group, has acquired the property from the railroad. Dickinson and Osceola counties have purchased a segment of the former railroad ROW from INHF from near Sibley to near Lake Park, to the west of IA 86. A grant with funds to purchase the segment that crosses IA 86 was approved January 13, 2011; the purchase of this segment of ROW is anticipated after June 2011 (Dickinson County, January 14, 2011). The planned railroad trail is not considered a Section 4(f) recreational resource because the land is currently privately owned and is not being used for recreational purposes.

There are no parkland or recreation areas within Borrow Area 8.

No park or recreation areas qualifying as Section 4(f) resources were identified in or near the Study Area. However, lands considered to be waterfowl or wildlife refuges are located within the Study Area and are protected under Section 4(f). Although wildlife and waterfowl refuges may include recreational activities such as fishing and hunting, their major purpose is the conservation, restoration, or management of endangered species, their habitat, and other wildlife and waterfowl resources. Consequently, WMAs and WPAs adjacent to and near IA 86 are discussed in Section 5.3.3, Wildlife and Habitat.

No Build Alternative

The No Build Alternative would not require acquisition of any land from parks or recreational properties.

Build Alternative

The Build Alternative would not affect any existing parks or land utilized for recreational activities. The potential impact area and borrow area do not include any planned parkland. Although a future trail is being considered along the former Iowa Northwestern Railroad grade, the property is currently privately owned. County acquisition of the former railroad segment within the IA 86 Study Area would occur sometime after June 2011. The timeline for development is undetermined (Dickinson County, January 14, 2011). Modification of the railroad grade intersecting IA 86 would not cause a Section 4(f) use. Future use of the grade for a trail would not be precluded by improvement of IA 86.

5.1.2 Right-of-Way

To assess the potential impacts associated with the Build Alternative, ROW acquisition was evaluated based on existing ROW, private and public property boundaries, and future ROW needs.

The existing ROW extends approximately 45 feet from the centerline of IA 86 in both directions for the length of the Study Area, with the exception of the ROW near IA 9 and near 130th Street. About 550 feet north of the IA 9 centerline, the ROW begins to widen to accommodate turn lanes at the junction of IA 9 and IA 86. About 0.25 miles north of 130th Street to 0.5 miles north of 130th Street, the ROW widens to 120 feet (75 feet west of the centerline and 45 feet east of the centerline). The existing ROW within the potential impact area totals approximately 46.8 acres.

The Study Area is primarily a rural area with rolling terrain. Property owners in the Study Area include private individuals and companies, INHF, the State of Iowa (the WMAs and land being leased by Alliant Energy), and the United States of America (the WPAs). Iowa Department of Natural Resources (Iowa DNR) manages the WMAs for the State of Iowa and the WPAs for the U.S. Fish and Wildlife Service (USFWS).

The proposed borrow area is privately owned rural land.

No Build Alternative

The No Build Alternative would not require acquisition of any ROW along IA 86 north of IA 9.

Build Alternative

The Build Alternative would reconstruct and realign a 3.9-mile segment of IA 86 from IA 9 to near the Minnesota border. The potential impact area includes approximately 133.7 acres, of which 46.8 acres are within existing ROW. Consequently, up to 45.4 acres of new ROW would need to be acquired, and 41.0 acres of temporary easement would be needed to construct the Build Alternative. One residential relocation is anticipated (see Section 5.1.3, Relocation Potential, for more information). Approximately 22 acres of farmland, 8.7 acres of public land, and 0.5 acre of commercial land would be acquired. An additional 6.6 acres of rural residential land would be acquired for the proposed borrow sites.

During concept design, many constraints, including traffic safety, were considered for avoidance and minimization of impacts. With the exception of early hardship acquisitions[1], ROW acquisition would commence after completion of the NEPA process.

---

[1] Hardship acquisitions usually occur when a property owner makes a written request for acquisition of a property in advance of the normal time scheduled for acquisition due to some "hardship." The hardship justification must include reasons why a project causes a condition for the owner that is different from or disproportionate to the inconvenience suffered by the majority of those in the study area.

ROW acquisition would be based on fair market value of the portion of property acquired. For additional information, see the mitigation discussion in Section 5.1.3, Relocation Potential.

5.1.3 Relocation Potential

To assess the potential impacts associated with the Build Alternative, ROW acquisition and property relocations were evaluated based on the preliminary design for the Project. The affected area for this analysis is the potential impact area.

Existing properties along the IA 86 corridor are agricultural, commercial, residential, government owned (WMAs and WPAs), and trust owned (INHF property). Agricultural lands include houses, barns, and other outbuildings. Houses on the agricultural lands are set back approximately 75 to 565 feet from the centerline of IA 86; barns and outbuildings are set back approximately 50 to 895 feet from the centerline. Commercial buildings are set back approximately 75 to 315 feet from the centerline and are situated on land ranging in size from 3.5 to 8.3 acres. Houses on residential land are set back approximately 130 to 190 feet from the centerline, and properties range in size from about 2.0 to 19.6 acres. Assessed home values along IA 86 in the Study Area range from approximately $96,000 to $357,100 (Dickinson County, n.d.). Side roads along IA 86 between the north and south termini of the Project also contain houses and other outbuildings; the closest structures include a house set back approximately 70 feet and a garage about 40 feet, respectively, from the centerline of 130th Street.

No Build Alternative

The No Build Alternative would not require relocation or acquisition of any residences.

Build Alternative

The Build Alternative would not require acquisition of any residential properties. Although some property from residential parcels would need to be acquired for ROW, acquisition of residences would not be required. One residence is located within the potential impact area but is not planned for acquisition; the conservative buffer area includes the residence, but the current design avoids requiring acquisition. However, based on review of the final design by the homeowner, the residence may be acquired and relocated by option of the landowner. The residence is located northeast of the IA 86 and 130th Street intersection approximately 70 feet from the existing 130th Street ROW and 75 feet from existing IA 86 ROW. The affected residence is a single-family house located on a 2.3-acre lot in a rural setting (Dickinson County, n.d.). However, the house could be rebuilt (or potentially moved if determined to be practicable) on the remaining portion of the residential lot. An outbuilding on a farmstead west of IA 86 and south of 120th Street is in the potential impact area and may need to be acquired. No public facility, business, or farmstead would be displaced.

ROW acquisition could commence after completion of the NEPA process, except in the case of early hardship acquisitions. Following an appraisal, property owners would be offered and, should they choose to accept the offer, paid fair market value for their residential

property; they may also elect to donate their property. Payments would be through fee simple acquisition[2]. Acquisition and relocation of all properties, if preferred by the owner, would be conducted in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act) (42 USC 4601 et seq.), and the Iowa Relocation Assistance Law (Iowa Code, Chapter 316). Iowa Code Chapter 316 establishes a uniform policy for the fair and equitable treatment of displaced persons that serves to minimize the hardships of relocation. Sufficient land (19 acres) for reconstruction of a house exists on the one parcel where a relocation could be requested by the landowner. Consequently, no adverse relocation impacts are anticipated.

5.1.4 Construction and Emergency Routes

This section addresses potential impacts from construction routes and impacts on emergency routes. Emergency vehicles (ambulances, fire trucks, and police cruisers) respond to events using routes that are designated to reduce response times and account for access limitations.

No construction is currently ongoing within the Study Area. In addition to the proposed vertical alignment of IA 86, future construction of roadway improvements could occur in the Study Area. Cumulative impacts of reasonably foreseeable projects in conjunction with the Project are addressed in Section 5.5, Cumulative Impacts.

Transportation projects have the potential for impacts on emergency routes both during and subsequent to construction. To determine the emergency routes, the locations of public service providers (hospitals, fire departments, and police stations) within or near the Study Area were reviewed using public databases.

The Study Area includes no hospitals or emergency service facilities, but emergency response service routes extend through the Study Area. Lakes Regional Healthcare is approximately 2.5 miles southeast of the Study Area. The nearest fire department is located at 2001 Peoria Avenue in Spirit Lake, approximately 3 miles east of the Study Area. The closest police station is located at 1607 Ithaca Avenue in Spirit Lake, approximately 3 miles east of the Study Area.

No Build Alternative

The No Build Alternative would not affect the routes used by public service providers in traveling through the Study Area. However, the current condition of IA 86 (substandard roadway with narrow lanes, gravel shoulders, and poor line of sight) would continue to affect the safety and efficiency with which public and emergency service providers (and all users) access locations along IA 86 north of IA 9. Also, future construction on other projects within or near the Study Area could occur independently of the Project, and construction equipment could potentially be routed throughout the Study Area.

---

[2] Fee simple acquisition is an absolute title to land, free of any other claims against the title, which one can sell or pass to another by will or inheritance.

Build Alternative

Local access to residents along IA 86 would remain open during construction, and alternate routes would continue to provide access to local residents and attractions (such as the WMAs and WPAs). The introduction of construction equipment would add slightly to the level of traffic within the Study Area. Movement of the equipment would occur throughout the period of construction but is not anticipated to adversely affect traffic operations.

The existing IA 86 would be demolished and the new roadway, including standard foreslopes and drainage, would be constructed. Construction of the Build Alternative would have a short-term impact by requiring a detour for approximately 8 months. IA 86 would be closed to through-traffic during construction, and a temporary detour would be established along IA 9, U.S. Highway 71, and I-90 during construction (see Figure 1-2). Out-of-distance travel associated with the detour would be approximately 18.7 miles. Access to local residences and businesses would be maintained; however, slight delays for residents would occur because these routes would not be as efficient as the existing IA 86.

The Build Alternative would affect the routes used by public service providers who normally use IA 86. The efficiency of emergency services to the local area would decrease temporarily because temporary access would be less efficient than the existing IA 86. However, the impacts would be minor because the affected area is small, and access could be accomplished via alternate routes.

5.1.5 Transportation

Transportation resources include roadways, railroads, airports, and waterways as well as the equipment used (such as public transit buses) for the movement of people and materials. The transportation resources in the Study Area include IA 86 and the road network, traffic signals, and lighting. This section also addresses traffic and public (bus, paratransit, etc.) transportation.

IA 86 is a rural primary route, providing access from Milford and other small towns in the vicinity of West Okoboji Lake to local businesses and wildlife areas, as well as access for local residents to area towns. IA 86 changes to MN 86 in Minnesota and provides access to the City of Jackson, Minnesota, and I-90. The existing roadway has pavement 22 feet wide, with 5-foot granular shoulders. Numerous deficient vertical curves contribute to poor line-of-sight. Annual average daily traffic (AADT) along the Project was 1,820 vehicles per day as of 2007 (Iowa DOT, April 29, 2008) and is projected to have 2,400 AADT in 2012 and 3,800 AADT in 2032. Section 3.2.2, Crash Rates, discusses crash incidences along IA 86; the rate is above the statewide average for rural state highways (Iowa DOT, Office of Traffic and Safety, June 2006).

The Spirit Lake Municipal Airport, with a 3,015-foot runway, is the only public airport in the Spirit Lake area. A regional transit authority based in Spencer, Iowa, named "Rides," provides public transportation, using small buses, in northwestern Iowa, including Dickinson

County. There are no regularly scheduled routes or stops along IA 86 north of IA 9; however, residents can call for rides as needed (Rides, January 18, 2011).

Spirit Lake Community School District operates a school bus along IA 86, from IA 9 north to approximately 0.5 miles south of Minnesota. The bus typically travels north from IA 9 to 0.5 miles south of the Minnesota state line, turns around, makes a stop at 120th Street, travels south to 130th Street for a stop, and then travels east on 130th Street to other destinations (Spirit Lake Community School District, January 19, 2011).

The Project would not impact rail or water modes of transportation. The former railroad track that crosses IA 86 about 2,900 feet north of IA 9 was abandoned by the Iowa Northwestern Railroad in September 2008, and the track was removed from the railroad ROW within the Study Area. Water transportation is not present in the Study Area. Consequently, these modes are not further discussed in this EA.

No Build Alternative

The No Build Alternative would not involve construction of the Project, and IA 86 would remain a substandard roadway. Traffic flow would continue to worsen because the traffic along this route is projected to increase. Accidents would continue to occur at a rate above the statewide average for rural highways. Public and school transportation would continue to operate on IA 86. No other reasonably foreseeable projects planned in the Study Area would address these issues.

Build Alternative

The roadway would be reconstructed to meet the Iowa DOT minimum design standards for a rural two-lane highway, with two 14-foot-wide lanes and 8-foot-wide shoulders (4 feet paved and 4 feet granular). The vertical curves would be realigned to meet Iowa DOT standards for line-of-sight. These improvements would increase the safety of IA 86 and result in a safer, more efficient traffic flow. The realignment and reconstruction would improve access to the local area for residents and emergency vehicles. During construction, public and school transportation would operate on temporary local access roads. Depending on the configuration of the local access roads, the school district could temporarily use a large sports utility vehicle in place of the bus. Due to the slower travel speed anticipated on the temporary access roads, minor delays would be expected. No impacts to aircraft operations would occur. Public transportation would continue to operate on an on-demand basis. Both the public and school transportation entities anticipate slight changes to operations but not substantial impacts on the public (Rides, January 18, 2011; Spirit Lake Community School District, January 19, 2011). Temporary impacts on the transportation network during construction are addressed in Section 5.1.4, Construction and Emergency Routes.

5.2 Cultural Impacts

This section addresses potential impacts on both historic and archaeological resources. Direct effects were assessed by determining whether historic properties were present and

whether acquisition or a construction easement would impact the property. Indirect effects to cultural resources through noise, vibration, and access restriction were also evaluated.

5.2.1 Historical Sites or Districts

An Architectural/Historical Intensive Level Survey of the APE, completed in December 2009, recommended one individual property as eligible for listing on the NRHP. No existing or potential historic districts were identified. Property 30-00226, Vick's Corner (Vick's General Store and Gas Station), located at 2044 Highway 9 (the northwest corner of IA 9 and IA 86) was recommended as eligible for the NRHP under Criterion C (distinctive architecture). The convenience store and gas station building, constructed in 1932, is a Tudor Revival-influenced structure with a distinctive orange six-gabled roof. The building was moved to its present location from the southwest corner of IA 9 and IA 86 in 1962.

The Iowa State Historic Preservation Office (Iowa SHPO) concurred with the eligibility of Vicks's Corner for listing on the NRHP (Iowa DOT, February 24, 2010) but indicated that another property surveyed, the Swenson House at 1221 Highway 86 (Property 30-00232), merits further evaluation for a final determination of eligibility or non-eligibility. For purposes of this analysis, the stone Swenson House is assumed to be eligible under Criterion C. Appendix B, Agency and Tribal Coordination, includes a copy of the Iowa SHPO concurrence letter.

Historic sites of significance eligible for the NRHP are protected under Section 4(f). Therefore, Vick's Corner gas station and the Swenson House are considered to be Section 4(f) properties.

The Architectural/Historical Intensive Level Survey conducted in December 2009 did not find any historic structures within the proposed borrow area.

No Build Alternative

The No Build Alternative would result in no effect on historic properties in the Study Area. However, other unrelated projects would have the potential to directly or indirectly affect historic properties.

Build Alternative

Although ROW would be required from Vick's Corner gas station (up to 0.7 acre) and the former Swenson House properties (up to 1.1 acres), the structures considered eligible for listing on the NRHP would not be affected. There are no historic properties on borrow sites. Consequently, the effect determination for this Project is considered to be no adverse effect on historic properties. The Iowa SHPO concurred with the effect determination (Iowa DOT, February 24, 2010); Appendix B contains the concurrence letter.

Acquisition of property containing Vick's Corner gas station and the former Swenson House would result in a Section 4(f) direct use. The Project is being designed to ensure that construction activities do not impact the historic structures at Vick's Corner and the former

Swenson properties. Consequently, the structures that qualify the properties for protection under Section 4(f) would not be affected and incur a use. The planned improvements would have a minor impact on the Vick's Corner and former Swenson properties; would not impact the historic structures; and would not adversely impact the activities, features, attributes, and functions that qualify the property for protection under Section 4(f).

After considering the impacts on the Section 4(f) properties, and measures to avoid and minimize the impacts, FHWA proposes to make a *de minimis* impact determination for the impacts on the properties containing the historic structures. Appendix B contains an Iowa DOT letter to the Iowa SHPO (Iowa DOT, December 28, 2010), which indicates FHWA determined that the impacts are minor and qualify for a *de minimis* finding.

5.2.2 Archaeological Sites

Section 106 of the NHPA also requires Federal agencies to determine whether their undertakings will have adverse impacts on archaeological sites that are listed on or are eligible for listing on the NRHP. A review of known sites was conducted to determine if any were within the Study Area (which coincides with the APE for the Project), and a Phase I Intensive Archaeological survey was conducted within the APE. A report documenting the survey findings concluded that of the three archaeological sites identified, none were recommended as eligible for listing on the NRHP. In response to Iowa DOT's request for concurrence (Iowa DOT, August 5, 2008), the Iowa SHPO determined that Site 13DK124, a railroad segment of the former Iowa Northwestern Railroad initially constructed in 1882, was considered to be eligible for listing on the NRHP. Further discussion between Iowa DOT and the Iowa SHPO clarified that only the portion of the historic railroad over an arched bridge would be eligible for the NRHP (Iowa DOT, January 21, 2010). The bridge, constructed entirely of dressed blocks of reddish Sioux quartzite is unique and serves as a drainage outlet for the wetland area to the north that eventually drains into West Okoboji Lake to the south.

In addition to the archaeological survey within the APE, two Phase I Intensive Archaeological Investigations were conducted for nine potential borrow locations for the Project. No significant historic sites were identified, and the Iowa SHPO concurred with the findings of the surveys (Iowa DOT, October 9, 2009; Iowa DOT, January 8, 2010) (see Appendix B for correspondence). Borrow Site 8 was not cleared under the previous surveys but is currently under evaluation.

Site 13DK124 was considered eligible for listing based on the distinctive characteristics of a type, period, or method of construction, and is a property protected under Section 4(f).

No Build Alternative

With the exception of Site 13DK124, past surveys in the Study Area have not identified any archaeological sites eligible for listing on the NRHP. Removal of the rail, railroad ties, and railroad equipment by Iowa Northwestern Railroad (or its contractors) as an action separate from the Project is not anticipated to affect the eligibility of Site 13DK124. Consequently,

the No Build Alternative is assumed to have no adverse effect on historic properties and would not result in a Section 4(f) use of a historic property.

Build Alternative

The historic boundary of Site 13DK124, including the quartzite bridge serving as a drainage outlet for the surrounding wetland area, is not within the potential impact area. Consequently, the Project would have no adverse effect on historic properties. The Iowa SHPO concurred with the effect determination (Iowa DOT, August 5, 2008). The Iowa SHPO also concurred that use of the nine potential borrow sites investigated for archaeological resources would have no adverse effect on historic properties (Iowa DOT, October 9, 2009; Iowa DOT, January 8, 2010). Appendix B includes a copy of the concurrence letters signed by the Iowa SHPO. As noted previously, Borrow Site 8 is undergoing survey and evaluation.

Given that the historic boundary for Site 13DK124 is outside the potential impact area and the ROW needed for the Project, no Section 4(f) direct use of any significant archaeological property would occur. Proximity noise, vibration, access, and aesthetic impacts during and subsequent to construction would not constitute substantial impairment of Site 13DK124 and would not cause a Section 4(f) constructive use.

5.3 Natural Environment Impacts

This section characterizes natural resources in the Study Area and addresses potential impacts as a result of the No Build Alternative and the Build Alternative. The resources discussed are wetlands, surface waters and water quality, wildlife and habitat, threatened and endangered species, and farmlands.

5.3.1 Wetlands

A wetland determination was performed June 24, 2008 within and adjacent to the Study Area to a distance of 500 feet east and west of the existing IA 86 centerline (HDR, January 16, 2009). The wetland determination was based on wetland vegetation and surface hydrology; no subsurface hydrology or hydric soil indicators were analyzed. National Wetland Inventory (NWI) data were collected prior to the site visit and confirmed or denied based on observed on-ground conditions. Some wetlands that were not in the NWI also were observed in the Study Area and mapped. Waters of the U.S., including wetlands, waterways, lakes, natural ponds, and impoundments, are regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act, which requires a permit to authorize the discharge of dredged or fill material into waters of the U.S. (33 USC 1251 et seq.). Executive Order 11990, Protection of Wetlands, requires Federal agencies (including FHWA) to implement "no net loss" measures for wetlands (42 Federal Register (FR) 26951). These no net loss measures include a phased approach to wetland impact avoidance, then minimization of impacts if wetlands cannot be avoided, and finally mitigation.

The Study Area is located in the prairie pothole region formed in a post-glacial environment with poor drainage. Wetlands formed in numerous depressions. Many of the original wetlands in and near the Study Area were drained for agriculture. Several wetlands were restored in Welch Lake WPA (Iowa DNR, 1996). The wetland determination identified 19 wetlands partially or wholly within 500 feet of the existing IA 86 centerline (see Figures 5-1 through 5-5). The total area of the wetlands determined is 112.4 acres; the portion of these wetlands within 500 feet of the IA 86 centerline totals approximately 32.5 acres. All but two of these wetlands are classified as palustrine emergent[3]; the exceptions are palustrine forested[4] wetlands east of IA 86, approximately 500 feet north of IA 9 and near the intersection of IA 86 and the abandoned Iowa Northwestern Railroad track. The emergent wetlands are dominated by common cattail (*Typha latifolia*) and are inundated with surface water. Ten of the wetland areas are found in Welch Lake WPA (four of which are partially within existing ROW); one is partially within Welch Lake WPA, partially on private land, and partially within ROW; one is partially on private land and partially in Welch Lake WMA; and one is located in Diamond Lake WMA. Six of the wetlands are on private land (two of these are partially within existing ROW).

Borrow Area 8 includes approximately 0.5 acre of a 9.00-acre palustrine emergent wetland on its eastern boundary.

No Build Alternative

The No Build Alternative would not involve construction of the Project and therefore would not affect wetlands.

Build Alternative

The width of the potential impact area varies by location to account for shifts in alignment (to avoid and minimize impacts) and variations in elevation; the width of the potential impact area is typically 200 to 250 feet.

Based on wetland determination boundaries and the potential impact area, the Build Alternative is projected to impact 10 of the 19 wetlands within the Study Area. Up to 2.31 acres of wetlands would be affected, as shown in Table 5-1. Only wetlands within the potential impact area are listed in Table 5-1; consequently, the numbering of the wetlands is not sequential. Wetlands 3, 5, and 6 are located on both existing ROW and private land. Wetlands 4A and 4C are located solely within existing ROW. Wetlands 4D and 4J are located on both existing ROW and in Welch Lake WPA. Wetlands 4B and 4G are located in Welch Lake WPA. Given the extent of potential wetland impacts, a USACE Section 404 Clean Water Act permit (Section 404 permit) would be required.

---

3 Palustrine emergent is a wetland type characterized by cattail, bulrushes, and sedges.

4 Palustrine forested is a wetland type that is found adjacent to reservoirs and major tributaries and is characterized by cottonwood, alder, and black locust.

Table 5-1
Potential Wetland Impacts

Wetland Number	Wetland Type[1]	Wetland Size (acres)	Area Impacted (acres)	Affected Location
1	PEM	38.8	0.04	Diamond Lake WMA
3	PEM	0.16	0.16	ROW and private land
4A	PEM	7.71	0.35	Welch Lake WPA and ROW
4B	PEM	2.39	0.15	Welch Lake WPA
4C	PEM	13.26	0.08	ROW
4D	PEM	8.88	0.80	Welch Lake WPA and ROW
4G	PEM	0.35	0.08	Welch Lake WPA
4J	PFO	0.63	0.23	Welch Lake WPA and ROW
5	PEM	9.00	0.38	ROW and private land
6	PEM	0.23	0.04	ROW and private land
Total		**81.41**	**2.31**	

Notes:
[1] *PEM is palustrine emergent, PFO is palustrine forested.*

The Project was evaluated based on the latest design (including a buffer) and wetland determination boundaries, with the understanding that adjustments can be made later in the process to minimize wetland impacts. The current potential impact area boundary includes a buffer for flexibility in completing the final design; consequently, the area of wetlands impacted would be less than indicated in Table 5-1. During final design, potential minimization of wetland impacts under the Build Alternative would be evaluated subsequent to wetland delineation, and the design would be altered to minimize wetland impacts where practical. The USACE Section 404 permit application would include the detailed final design as well as efforts to minimize impacts on wetlands and other waters of the U.S.

A wetland delineation would be performed prior to development of Borrow Area 8; based on the anticipated small size of the wetland, Iowa DOT would avoid impacts on the wetland during excavation of the area.

Where wetland impacts cannot be avoided, mitigation would occur at ratios determined by USACE; Iowa DOT would select a location for mitigation, subject to USACE approval. Mitigation ratios are determined based on the type and location of mitigation proposed for the affected wetlands, but mitigation would be completed in a manner consistent with Project permits. Iowa DOT has committed to acquisition of a parcel of land for mitigation of Section 4(f) impacts, and the parcel would also be used to mitigate for wetland impacts (see Section 5.3.3, Wildlife and Habitat, for details). A preliminary analysis of suitable sites within the parcel to be acquired would be performed and included in the mitigation concept for the USACE Section 404 permit application and the Iowa Section 401 Water Quality Certification. This permit and certification process would occur after completion of the NEPA process.

5.3.2 Surface Waters and Water Quality

Water resources include rivers, lakes, ponds, and other surface water bodies. For purposes of this analysis, the topic of water quality is also assumed to apply to groundwater. Adequate quantity and quality are both important criteria in evaluating surface water and groundwater. Surface water features in the Study Area were determined through the use of aerial photography, topographic mapping, and a site visit. Groundwater in the Study Area was evaluated through information on groundwater and wells provided on the Iowa DNR website (see further discussion and references below) and background research on a leaking underground storage tank site within the Study Area (see Section 5.4.2, Contaminated and Regulated Materials Sites). Potential impacts on surface water, groundwater, and water quality (of both surface water and groundwater) were evaluated by considering the proximity of the Project to water resources and certain aspects of the Project (demolition, construction, and operation of the new roadway).

The Study Area is located within two watersheds: the West Okoboji watershed (with an area of 19,916 acres) from IA 9 to approximately 0.8 miles north of 130th Street, and the Little Sioux River Drainage Ditch 19 watershed (with an area of 36,316 acres) north of this point (Iowa DNR, n.d., Watershed Atlas). The only defined channel (waters of the U.S.) within the Study Area occurs approximately 1,600 feet south of the IA 86/110th Street intersection (see Figure 5-5) and is designated on the National Hydrography Dataset (NHD) as an intermittent stream. None of the other NHD-mapped channels contain a definable channel. This unnamed intermittent stream begins east of IA 86 and flows northwest to an emergent wetland adjacent to Diamond Lake, a perennial lake about 1,400 feet west of IA 86. Welch Lake is located about 1,200 feet east of IA 86 just north of 130th Street. West Okoboji Lake is located about 2,000 feet southeast of IA 86 and IA 9.

Under Section 303(d) of the Clean Water Act (33 USC 1251 et seq.), states are required to develop lists of impaired waters that do not meet water quality standards in the state. Iowa DNR has responsibility for water quality programs and standards in Iowa. Based on their review of streams, rivers, and other surface water bodies, Iowa DNR has designated about half of the waters for beneficial uses and assesses quality of these waters. None of the surface water within the Study Area is classified for beneficial uses; therefore, the water quality has not been assessed (Iowa DNR, n.d., Watershed Atlas). Surface water is not used for a source of potable water within the Study Area. Potable water is piped in from the west by the Osceola Rural Water Supply. A private well in the Study Area was drilled in 1961 and is located approximately 1,300 feet south of 120th Street, approximately 100 feet west of Iowa 86 (Iowa DNR, Geological Survey, n.d., Geologic Sample Database). This well was not located during Iowa DOT's field exam conducted for evaluating the design for reconstruction of IA 86 (Iowa DOT, Highway Division, November 5, 2009); it is not known whether the well is still active, is used as a source of potable water, or has been plugged and abandoned.

The water table[5] in the Study Area is located in unconfined glacial till above the Dakota Formation. It is approximately 95 to 195 feet deep in the northern part of the Study Area and as shallow as 1 foot near IA 86 and IA 9, based on static water levels reported in wells. A private well in the central part of the Study Area was drilled in the 1960s. Fifteen monitoring wells were drilled in the vicinity of IA 86 and IA 9 in 2003 to determine the extent of an organic plume from two leaking underground storage tanks (LUSTs). Several potable water wells were drilled approximately 0.5 miles south of the Study Area in the 1980s (Iowa DNR, n.d., Hydrogeologic Atlas; GEOTEK, April 30, 2003). Groundwater is rated as poor in the region including the Study Area (Iowa DNR/International GNSS (Global Navigation Satellite Systems) Service (IGS), n.d.), but no specific groundwater quality information was provided by this source.

No Build Alternative

The No Build Alternative would not affect surface water and groundwater, nor would it affect the quality of surface water or groundwater in the Study Area.

Build Alternative

Replacement of an existing culvert would impact approximately 618 feet of the intermittent stream (a water of the U.S.) which flows under IA 86 approximately 1,600 feet south of 110th Street. A Section 404 authorization would be required to help minimize the potential for impacting wetlands, as discussed in Section 5.3.1, and the unnamed intermittent stream. In accordance with the "Notification" general condition associated with this permit, reasonable measures must be taken to maintain downstream flows and to minimize flooding to the maximum extent practicable when temporary structures, work, and discharges are necessary for construction activities, access fills, or dewatering. USACE adds special conditions to permits when necessary to minimize adverse effects. An Iowa sovereign lands construction permit would also be required to construct on public lands (the WMAs and WPAs).

The Build Alternative would impact approximately 134 acres (46.8 acres of which are within existing ROW), and a National Pollutant Discharge Elimination System (NPDES) permit would be required. The contractor would be required to implement Iowa DOT construction manual provisions to minimize temporary impacts on water quality during construction. Iowa DNR administers the Federal NPDES program and issues general permits for stormwater discharges from construction activities. The purpose of the program is to improve water quality by reducing or eliminating contaminants in stormwater. The NPDES program requires preparation of a Stormwater Pollution Prevention Plan (SWPPP) for construction sites of more than 1 acre.

The specific sediment, erosion control, and spill prevention measures would be developed during the detailed design phase and would be included in the plans and specifications. The

[5] The water table is the level below which the ground is completely saturated with water.

SWPPP would address requirements in Iowa DOT construction manuals. Although it is not possible to speculate on specific details of the SWPPP at this stage in the design process, the SWPPP is likely to include installation of silt fences, buffer strips, or other features for use in various combinations as well as the stipulation that drums of petroleum products used on site be placed in secondary containment to prevent leakage onto ground surfaces. A standard construction Best Management Practice (BMP) is revegetation and stabilization of roadside ditches to provide opportunities for the runoff from the impermeable area to infiltrate, reduce the runoff velocities, and minimize increases in sedimentation. The State of Iowa would require the contractor to comply with measures specified in the SWPPP.

Prior to construction of the Project, a stormwater discharge permit for construction activities would be obtained from Iowa DNR and a Section 404 authorization would be acquired from USACE. A Section 404 permit would include Section 401 water quality certification from Iowa DNR. Adverse impacts on water quality are not anticipated.

Surface water runoff would increase slightly after construction is completed because the surface area of the new roadway would be slightly larger than that of the existing roadway. Pollutants from highway runoff (oil, grease, salt, metals) would also slightly increase; however, because the increase in runoff would be negligible and the amount of traffic is projected to slowly increase (that is, gradually increase to double current levels within 25 years), the increase in pollutants would be negligible and would not impact water quality.

The only known water contamination in the Study Area is groundwater contamination attributed to a leaking underground storage tank (LUST) site at Vick's Corner on the northwest corner of IA 86 and IA 9 near the southern terminus of the Project. Impacts related to groundwater contamination from the LUST are discussed in Section 5.4.2, Contaminated and Regulated Materials Sites. No impacts on groundwater outside of the LUST site are anticipated. Long-term impacts on groundwater, after construction is completed, are not expected.

The private well listed by Iowa DNR as being approximately 1,300 feet south of 120th Street was not located during the field exam conducted by Iowa DOT in November 2009 and cannot be precisely located. If the well is encountered and affected by construction, the contractor would ensure that the well is properly plugged and abandoned. Up to six of the monitoring wells at Vick's Corner could be affected by construction. Iowa DOT requires proper capping and sealing of any wells on property to be acquired. A certified well contractor would be required to cap and seal all wells. Proper capping would eliminate the potential for introduction of contamination down the well into the groundwater.

As discussed in Section 5.3.1, Wetlands, Iowa DOT would minimize impacts on wetlands and surface waters to the extent practical during final design. Based on the preliminary design, it is likely that an individual permit would be the mechanism for Section 404 authorization, but USACE and Iowa DNR would make a final determination on the permit and certification, respectively, required for the Project. Iowa DNR Section 401 water quality certification for the Project would occur in conjunction with the Section 404 permitting process. In accordance with permit requirements, wetland and stream channel modification,

including bank stabilization, would be limited to the minimum necessary to reconstruct the highway. Impacts on surface waters from stormwater runoff would be minimized in accordance with the NPDES General Stormwater Discharge Permit for Construction and the SWPPP. Potential measures could include silt fences, detention basins, buffer strips, or other features used in various combinations. Reestablishment of vegetation after construction would limit the amount of pollutants from highway runoff entering the unnamed creek.

5.3.3 Wildlife and Habitat

Vegetation, as considered for this analysis, would include farmland (cropland and pasture) as well as restored prairies and maintained areas. A review of aerial photographs and a reconnaissance field survey of the Study Area were conducted to identify areas of vegetation, and the potential construction footprint of the Project was reviewed to identify vegetated areas that may be affected. Maps and aerial photography of the area, information from Iowa DNR and USFWS, and a site visit were used to characterize wildlife and habitat in and near the Study Area.

The Study Area is located in the prairie pothole region of the northern prairie, a landscape that is gently rolling and has abundant moraines[6], shallow wetland basins or potholes, and a few relatively deep natural lakes. Agriculture (primarily cultivation of corn and soybeans) and residential and commercial development have modified the native vegetation in most of the Study Area. Vegetation consists primarily of farmland (predominately cropland) and restored prairie in WMAs and WPAs. Wetlands and prairie vegetation (mostly recently seeded mixed prairie grasses and tame grasses, such as brome and alfalfa) are being restored in WMAs and WPAs adjacent to IA 86 within the Study Area. The Study Area also contains wetlands, maintained grassland in the ROW, and developed land (rural residences, commercial facilities, and utilities).

Although there are no areas of native prairies within the Study Area, a restored prairie area is within Diamond Lake WMA adjacent to IA 86 (see Figure 5-5). The upland prairie area slopes downward and westward towards a wetland. Based on a review of historical aerial photographs (Iowa State University, n.d.), the area was cultivated prior to the 1990s.

The Study Area supports a typical range of wildlife adapted to a mix of prairie pothole and cropland environments, such as deer, fox, squirrel, rabbit, fur-bearing animals (such as beaver, mink, otters, and muskrat), and migratory birds (such as ducks, geese, eagles, bitterns, herons, terns, and pelicans) protected under the Migratory Bird Treaty Act (MBTA). The Study Area is predominately cropland but includes parts of two WMAs (Welch Lake and Diamond Lake, owned by the State of Iowa) and one WPA (Welch Lake, owned by the United States of America) (see Figure 1-1). Iowa DNR directly manages the WMAs and also manages the WPAs through a memorandum of understanding with USFWS. The WMAs and WPAs are managed to provide habitat for Iowa's native wildlife species and those species

6 A moraine is an accumulation of boulders, stones, or other debris carried and deposited by a glacier.

that migrate through Iowa (Iowa DNR, n.d., Wildlife Management Areas). The primary management objective is to develop and restore wildlife habitat to ensure that wildlife species have a safe place to breed, rest, and feed. The wetland habitat in the WMAs and WPAs provides important cover for breeding waterfowl and other migratory species. Wetlands are further discussed in Section 5.3.1.

The Welch Lake and Diamond Lake WMAs and Welch Lake WPA are considered to be Section 4(f) resources within the Study Area. Diamond Lake WPA is also a Section 4(f) resource but is outside the Study Area.

Section 6(f) of the Land and Water Conservation Fund Act of 1965 (LAWCON) (16 USC 460l-4 through 460l-11) states that public-use lands developed with LAWCON funds cannot be converted to anything other than outdoor public recreation lands without approval from the Secretary of the Department of the Interior (DOI). To convert a Section 6(f) resource, coordination is required with DOI, the respective state agencies, and the local agency with jurisdiction over the park or recreation area. Replacement land must be identified, if possible, to obtain a conversion in kind for the affected land. A review of funding sources for the WMAs and WPAs adjacent to IA 86 revealed no LAWCON funds used for acquisition of property, improvements, or maintenance. No parks or recreation areas that used LAWCON funding are within the Study Area. Consequently, no Section 6(f) resources occur within the Study Area.

No Build Alternative

The No Build Alternative would not affect the farmland, natural areas, maintained grass areas, or woodlands within the Study Area. No impacts on Section 4(f) and 6(f) properties would occur.

Build Alternative

The Build Alternative would result in the clearing of up to 40 acres of farmland (primarily cropland) and 0.25 acre of restored prairie in Diamond Lake WMA. Of the aforementioned acres, up to 22 acres of farmland and no restored prairie would be permanently converted to ROW. Approximately 2.3 acres of wetlands would be affected. Disturbance of vegetation by construction equipment could result in temporary impacts during grading and establishment of drainage. To minimize erosion, vegetation disturbed by construction activities would be restored with types of vegetation specified in construction design plans.

Wildlife such as deer, fox, squirrel, rabbit, and fur-bearing animals in the area would seek shelter in adjacent areas. These animals are well adapted to the area, and any disturbance would be temporary and minimal. There is a potential for bird species protected under the MBTA to be adversely affected by the removal of habitat; mitigation to prevent an adverse impact is discussed below.

Clearing of vegetation would be kept to a minimum, and provisions of the MBTA would be adhered to as applicable. The provisions of the MBTA are applicable to construction activities (such as clearing, grubbing, and tree removal) that may result in the taking of

migratory birds, eggs, or young, including active nests. The MBTA is applicable year round, but most migratory bird nesting activities occur during the period of April 1 to July 31. Some raptors (owls) will begin nesting as early as February, however, and some songbirds may complete nesting as late as mid-September, allowing the MBTA to apply from February to September. To the extent possible, therefore, vegetation-clearing activities along the riparian corridor would be completed during the period from October through January (outside of the nesting period) to avoid or minimize adverse impacts on nesting migratory birds. If clearing activities were required during the nesting period, a survey of the affected habitats would be conducted prior to clearing to determine if nesting migratory birds are present. This survey would be coordinated with USFWS, and the results would be submitted to USFWS to determine if any migratory birds would be affected.

The Project would cause an unavoidable impact on Welch Lake WMA, Welch Lake WPA, and Diamond Lake WMA. Welch Lake WMA and Welch Lake WPA exist on either side of IA 86 and could not be avoided; however, the alignment was able to be shifted to the east to minimize impacts on Diamond Lake WMA along IA 86. The anticipated ROW acquisition for Diamond Lake WMA is up to 0.08 acre but might be avoided during final design. To match the profile of the new IA 86 alignment, the access road along the southern edge of Diamond Lake WMA would be reconstructed; up to 4.5 acres of the WMA could be temporarily affected. To meet the purpose of and need for the proposed action, acquisition of WMA and WPA property is required and would result in a direct use of these Section 4(f) properties (HDR, March 15, 2010). The access road to Diamond Lake WMA would need to be closed for a few days.

Minimization measures evaluated for incorporation into the design for Welch Lake WMA and WPA included using 4:1 foreslopes wherever WMA and WPA land is adjacent to the highway, minimizing the westward shift from the existing centerline between the former Iowa Northwestern Railroad and a point approximately 1,300 feet south of 130th Street to 35 feet instead of 70 feet (to minimize the use of Welch Lake WPA to the west of IA 86), and adjusting the alignment of the proposed roadway and drainage ditches where feasible. The design was also refined to provide temporary access along existing access points to the Welch Lake WMA and WPA and to Diamond Lake WMA during construction.

The potential impact area developed during refinement of the design for Alternative 3 resulted in reduced use (that is, permanent acquisition) of Section 4(f) properties (Welch Lake WMA and WPA) from an estimated 10.8 acres to 8.7 acres (1.9 acres of Welch WMA, 6.7 acres of Welch WPA, and less than 0.1 acre of Diamond Lake WMA). Temporary easements to allow construction of the Project could affect up to an additional 1.4 acres of Welch Lake WMA, 9.7 acres of Welch Lake WPA, and 4.5 acres of Diamond Lake WMA. Additional minimization of impacts on Section 4(f) properties would be considered during final design.

The planned improvements would have a minor impact on Diamond Lake WMA and Welch Lake WMA and WPA, and would not adversely impact the activities, features, attributes, and functions that qualify the properties for protection under Section 4(f). Appendix B contains the Iowa DOT letters sent on August 30, 2010 to USFWS and Iowa DNR, indicating

FHWA's determination that the impacts are minor and qualify for a *de minimis* finding. Iowa DOT is developing a memorandum of agreement (MOA) between Iowa DOT, FHWA, Iowa DNR, and USFWS to mitigate for impacts on the Section 4(f) property. A parcel of land approximately 29 acres in size would be acquired to mitigate for conversion of Section 4(f) land to ROW and to use for Clean Water Act Section 404 and Iowa Code Section 314.23 mitigation for Project impacts on waters of the U.S. Iowa DOT would be responsible for constructing wetlands to satisfy the requirements of both the Section 4(f) mitigation and the Clean Water Act mitigation. The land parcel would be provided to USFWS, and Iowa DNR would accept natural resource management responsibilities for the parcel.

5.3.4 Threatened and Endangered Species

Threatened and endangered (T&E) species are protected under the Endangered Species Act of 1973 (ESA), as amended (16 USC 1531 et seq.). The ESA provides for the protection of animal and plant species that are determined to have a declining population and are in jeopardy of becoming extinct. USFWS has the authority of the Federal government to administer the protection of such species. Four species (two listed as threatened and two listed as candidate) are Federally listed in Dickinson County; these are discussed below. On June 24, 2008, a 500-foot-wide corridor centered on the existing centerline of IA 86 was surveyed for the presence of these Federally listed species in the existing ROW as well as on public lands and commercial property.

Four Federally listed species occur in Dickinson County (two flowering plants, one mussel, and one butterfly); these are listed in Table 5-2. None of these species were identified within the Study Area during the field survey. No suitable habitat for the western prairie fringed orchid or the sheepnose mussel was identified within the Study Area. An area of restored prairie west of IA 86 in Diamond Lake WMA was determined to be unsuitable habitat for the prairie bush clover or Dakota skipper because of prior cultivation (both of these species require native prairie), lack of suitable soil types, wetness in most of the area (which is adjacent to a large wetland), and the limited size and fragmentation of the restored prairie area (HDR, January 16, 2009). There is no other suitable habitat for these species in the Study Area. Critical habitat has not been designated for any of these four Federally listed species (USFWS, April 16, 2007; USFWS, April 14, 2008; USFWS, n.d., Western Prairie Fringed Orchid.; USFWS, n.d., Prairie Bush Clover).

Table 5-2
Federally Listed Species in Dickinson County

Common Name	Scientific Name	Status	Habitat
Western prairie fringed orchid	*Platanthera praeclara*	Federally listed as threatened	Wet prairies and sedge meadows
Sheepnose mussel	*Plethobasus cyphyus*	Federally listed as candidate	Rivers
Prairie bush clover	*Lespedeza leptostachya*	Federally listed as threatened	Dry to mesic[1] prairies with gravelly soil
Dakota skipper	*Hesperia dacotae*	Federally listed as candidate	Native, virgin prairies

Sources: USFWS, September 2007, Iowa County Distribution of Federally Threatened, Endangered, Proposed, and Candidate Species; USFWS, n.d., Western Prairie Fringed Orchid; USFWS, April 16, 2007, Sheepnose Mussel; USFWS, n.d., Prairie Bush Clover; USFWS, April 14, 2008, Hesperia dacotae; Nature Serve Explorer, October 2008a, Lespedeza leptostachya; Nature Serve Explorer, October 2008b, Hesperia dacotae.
Note:
1 Mesic means characterized by, related to, or requiring a moderate amount of moisture.

Iowa DNR lists 70 state-protected species (50 plants, 11 insects, 5 birds, 4 fish, and 1 mussel) in Dickinson County (Iowa DNR, n.d., Natural Areas Inventory). A review of the Iowa DNR Natural Areas Inventory database identified one occurrence of a state-listed species, clustered broomrape (*Orobanche fasciculate*), within a 1-mile radius of the project. Iowa DOT reviewed the Study Area and concluded that the probability of encountering threatened, endangered, or species of special concern is low. The area has been cultivated and disturbed and would not likely harbor state-protected species (Iowa DOT letter dated March 14, 2011 in Appendix B).

No Build Alternative

The No Build Alternative would not involve construction of the Project and thus would not affect potential threatened and endangered species within the Study Area.

Build Alternative

The Build Alternative would have no effect on any of the Federally listed species, as no potential habitat was found within the Study Area. No direct impacts or take (which could be a direct or indirect impact) would occur under the Build Alternative.

Based on literature and data reviews for the Project, field surveys, review of historic aerial photography, and discussions with Iowa DNR, Iowa DOT has determined that the proposed Project is not likely to adversely affect state-listed species or result in the destruction or adverse modification of designated critical habitat (Iowa letter dated March 14, 2011 in Appendix B).

To minimize potential impacts on state-listed species, Iowa DOT would minimize impacts on habitat favorable to these species to the extent practical during final design. Clearing of potential habitat (at the edge of wetlands, in shallow wetlands, or in moist prairies) favorable

to state-protected species would be kept to a minimum, and provisions of laws regarding state-protected species would be adhered to as applicable.

5.3.5 Woodlands

Woodlands are defined as areas consisting of 3 acres or greater of forested land having at least 200 trees (3-inch diameter at breast height or greater) per acre, or an area of 0.5 acre but less than 3 acres of at least 200 trees (3-inch diameter at breast height or greater) per acre that is connected to a larger tract of forested land of a total of more than three acres (not including treed fencerows and trees along property lines). In the Study Area, areas with relatively dense trees are limited to locations just north of IA 9 approximately 250 feet east of IA 86, a small riparian area (approximately 3 acres) near the former Iowa Northwestern Railroad crossing associated with an intermittent stream about 300 feet east of IA 86, and approximately 7.5 acres near a farmstead north of 130th Street. The first two areas include less than 3 acres of trees and are not part of a larger tract of trees and consequently are not considered woodlands.

No Build Alternative

The No Build Alternative would not require acquisition of ROW and thus would not affect woodlands.

Build Alternative

Approximately 0.5 acre of trees near a farmstead north of 130th Street along IA 86 would need to be cleared. The Iowa DOT standard for woodland impacts is 1 acre or more; although trees would be impacted at the farmstead, this is not considered to be a woodland impact..

Clearing of woodland vegetation would be kept to a minimum, and provisions of the MBTA would be adhered to as applicable (as discussed above in Section 5.3.3). In accordance with Iowa DOT policy, woodland removed would be replaced by plantings as close as possible to the initial site; or by acquisition of an equal amount of woodland in the general vicinity for public ownership and preservation; or by other mitigation deemed to be comparable to the woodland removed, including, but not limited to, the improvement, development, or preservation of woodland under public ownership.

5.3.6 Farmlands

The Farmland Protection Policy Act (FPPA) of 1981 (7 CFR 658) requires that Federal projects minimize the conversion of farmland to nonagricultural uses. To the extent practicable, state and local farmland policies are to be considered. Specially classified farmlands are scrutinized under the FPPA and are addressed below.

The Study Area is primarily agricultural land (mainly cropland with corn and soybeans) and publicly owned land for wildlife and waterfowl conservation. There are approximately 324 acres of farmland (including prime farmland and farmland of statewide importance)

within the Study Area. Several acres of commercial land are located at the southern end of the Study Area, and there are several rural residences throughout the Study Area.

No Build Alternative

The No Build Alternative would not require acquisition of ROW and thus would not affect farmland.

Build Alternative

The initial evaluation of the potential impacts of the Build Alternative on farmland was based on a cross section developed during conceptual design. This scenario consisted of a generalized corridor using the maximum width of impact from grading (for cuts and fills) for each segment of the roadway as well as the existing or proposed centerline for each alternative. The corridor analyzed included approximately 21 acres of farmland of which approximately 14 acres are prime farmland and 7 acres are farmland of statewide importance. The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Farmland Conversion Impact Rating for Corridor Type Projects Form (NRCS-CPA-106) was completed for the generalized corridor to assess the effects of this conversion on farming and farm-related services in the area. This assessment considers the effects of the conversion of farmland as a result of a project on existing and future land use, the amount of existing farmable land in a county, the creation of economically non-farmable parcels, impacts on other on-farm investments, and effects on local farm services. The assessment assigns points to each criterion, for a total possible score of 260 points. Sites receiving a total score of less than 160 need not be given further consideration for protection. The Project received a score of 134 out of the possible 260 points (see Appendix C). Based on this score, the Project does not warrant an in-depth site review, and the Project is cleared from significant concerns in conjunction with the Farmland Protection Policy Act.

Subsequent to the determination of the potential impact area, the total amount of farmland proposed for conversion to ROW for the Project was estimated at 22 acres. Because the impact score was less than 160 points and required no further consideration for mitigation, revision of the NRCS-CPA-106 form was deemed unnecessary to address the change in farmland impacts. The score is based on many different factors and is minimally dependent on the total amount of farmland impacted.

The Build Alternative would not create any areas of non-farmable land as a result of diagonal severance; all of the areas of ROW acquisition would be adjacent to existing ROW. Changes in access to properties may occur, but access to all of the parcels would be maintained from public roads.

5.4 Physical Impacts

This section characterizes physical resources in the Study Area and addresses potential impacts as a result of the No Build Alternative and the Build Alternative. The resources discussed are noise, contaminated and regulated materials sites, and utilities.

5.4.1 Noise

Sound levels are measured in units called decibels (dB). Because the human ear does not respond equally to all frequencies (or pitches) measured, sound levels are often adjusted or weighted to correspond to the frequency response of human hearing and the human perception of loudness. The weighted sound level is expressed in units called A-weighted decibels (dBA) and is measured with a calibrated sound level meter. Sound levels that correlate with the human perception are also expressed with the descriptor L_{eq}, which is defined as energy-equivalent sound level.

Typical rural environments away from traffic sources have a background noise level of about 45 dBA, which is comparable to a noise level in a quiet room. The dominant noise source in the Study Area is vehicular traffic on roads. Traffic noise consists of vehicular engine noise, exhaust noise, and tire noise from contact with the roadway surface. Other noise sources include agricultural equipment and aircraft overflights. Land uses in the Study Area that would likely be sensitive to noise include residential developments, WMAs, and WPAs. Commercial land uses are generally less sensitive to noise. FHWA has developed Noise Abatement Criteria (NAC) based on land use activity. The NAC is 67 dBA for residential areas and 72 dBA for businesses. The Iowa DOT noise policy defines a noise impact as occurring when levels approach or exceed the NAC. Iowa DOT defines "approach" as coming within 1 dBA of the NAC, which is 66 dBA for residential areas and 71 dBA for businesses.

The Study Area is primarily agricultural, with farmland, WMAs and WPAs, and rural residences. There are two commercial establishments at the IA 86/IA 9 intersection (Vick's Corner gas station is northwest of the intersection, and Northland Inn southeast of the intersection). Cohrs Construction Inc. and Alliant Energy's Montgomery substation are located southwest of the intersection of IA 86 and the former Iowa Northwestern Railroad track (approximately 0.5 miles north of the IA 86/IA 9 intersection). There are no medical facilities, churches, schools, parks, or recreation land in the Study Area. The noise-sensitive receptors in the vicinity of the Project are Welch Lake WMA and WPA, Diamond Lake WMA, and 11 residences. One of the residences would potentially be acquired if requested by the owner. The distance from the existing centerline of IA 86 to houses in the Study Area varies between 75 and 250 feet.

No Build Alternative

Traffic along the two-lane IA 86 north of IA 9 is projected to increase from approximately 1,820 AADT in 2007 to 3,800 AADT by 2032. The No Build Alternative would be expected to increase noise levels along the highway by a few dBA from existing levels due to projected traffic growth by 2032.

Build Alternative

In addition to the businesses mentioned in Section 5.4.1, there are 11 residences within or near the Study Area corridor between the southern and northern termini for the Project. IA 86 is proposed to be reconstructed along or adjacent to its existing alignment. Of the

11 residences, five would be approximately the same distance (less than 10 foot variance) from the centerline, five would be closer to the centerline (the maximum decrease in distance from a residence would be approximately 50 feet from a residence 140 feet away from the existing centerline), and one would be farther from the centerline. Improvements to the vertical alignment would cause the road elevation to change as much as a 15-foot increase and up to an 11-foot decrease. Given the minor changes in horizontal or vertical alignment without adding lanes, the change in the noise environment is expected to be a few dBA higher for some of the residences than would occur under the No Build Alternative. The anticipated increase would result in a noise level less than the residential NAC and the 10 dBA criteria that Iowa DOT recognizes as substantially exceeding the existing noise levels (Iowa DOT, May 17, 2007).

Businesses are in a location where the horizontal alignment of IA 86 does not change and are farther from the centerline of the road than most residences. Consequently, the Project would not cause an exceedance of the NAC for businesses.

Traffic noise levels in the vicinity of Welch Lake WMA would remain similar to conditions under the No-Build Alternative. Traffic noise levels in Welch Lake WPA would also essentially remain the same as conditions under the No-Build Alternative; most locations would experience little or no change in noise. Traffic noise levels within Diamond Lake WMA would decrease by a few dBA, as the roadway would be shifted approximately 35 feet to the east.

During the construction phase of the Project, noise from on-site construction equipment and construction activities would add to the noise in the Study Area. The driving and operation of construction equipment would also generate ground vibrations. The vibrations are not projected to be of a sufficient magnitude to affect the environment and normal activities of occupants in the Study Area.

Construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours. Noise would also be generated during the construction phase by increased truck traffic on area roadways associated with the transport of heavy materials and equipment. The noise increase and vibrations from construction activities would be of short duration.

Equipment operating at the Project site would conform to contractual specifications requiring the contractor to comply with all local noise control rules, regulations, and ordinances. Although construction noise impacts would be temporary, the following BMPs would be implemented to minimize such impacts:

- Whenever possible, limit operation of heavy equipment and other noisy procedures to non-sleeping hours.
- Install and maintain effective mufflers on equipment.
- Limit unnecessary idling of equipment.

5.4.2 Contaminated and Regulated Materials Sites

Properties in the Study Area where hazardous materials have been stored may present a future risk if spills or leaks have occurred. Contaminated or potentially contaminated properties are of concern for transportation projects because of the associated liability of acquiring the property through ROW purchase, the potential cleanup costs, and safety concerns related to exposure to contaminated soil, surface water, or groundwater.

A Phase I Environmental Site Assessment (ESA) was conducted to identify and describe regulated materials sites found within and near a 500-foot-wide corridor centered on the center line of IA 86 (the Study Area). This Phase I ESA involved a windshield survey to determine uses of properties and to observe any releases of regulated materials; it also involved an in-depth assessment conducted by reviewing agency records and/or interviewing property owners and/or operators, where necessary. For this Phase I ESA, all properties considered to be regulated materials sites were identified and evaluated as having recognized environmental conditions (RECs) (HDR, December 2008). The potential environmental risk (high, medium, low, or minimal) of each REC was assessed using high, moderate, low, and minimal risk criteria from Iowa DOT's Office of Location and Environment Procedures Manual (Iowa DOT, Office of Location and Environment, August 2009).

The records review and field reconnaissance of the Study Area resulted in the following risk classifications of sites within the Study Area (HDR, December 2008):

- Minimal risk – the agricultural land with residences, wildlife conservation areas, and rural residences (acreages)
- Low risk according to Iowa DOT criteria – Alliant Energy and two cellular towers
- Moderate risk – Cohrs Construction Inc.
- High risk – Vick's Corner

The following paragraphs provide details of conditions at the low-, moderate-, and high-risk sites and the rationale for the risk classification.

The State of Iowa owns a tract of land (about 0.13 acres) adjacent to IA 86 and the former Iowa Northwestern Railroad ROW (at the southwest corner of the intersection of the highway and railroad, see Figure 5-1). Alliant Energy operates Montgomery substation at this site under an easement (Alliant Energy, 2009a). The substation equipment (transformers and other electrical equipment) is located about 25 feet west of the existing ROW. Ground grid facilities, consisting primarily of a steel mesh barrier below the substation, extend 5 to 10 feet beyond the fence line (Alliant Energy, 2009b). A metal storage shed is located approximately 25 feet west of existing ROW (Dickinson County, n.d); this shed is used for storing maintenance equipment and materials for the substation (Alliant Energy, 2009b). Dielectric fluid, made of highly refined hydrocarbon oil, is used in transformers and other electrical equipment at the substation, and the substation has lead-acid batteries. Given the age of the substation, it is likely that there were polychlorinated biphenyls (PCBs) at this site in the past.

However, no PCB transformers[7] are currently registered with the U.S. Environmental Protection Agency (EPA) at this site (EPA, September 17, 2008). Non-PCB oil, containing about 3 parts per million (ppm) PCBs is used at the site (Alliant Energy, 2009a). There have been no reported spills or leaks of hazardous material at this site. Thus, the site was considered to be low risk based on the Iowa DOT criterion "commercial/industrial facilities where the potential for regulated materials to be present was observed during the site visits but no evidence of releases was observed or reported."

A cellular tower located approximately 800 feet north of IA 9 is situated about 70 feet east of the existing ROW (105 feet east of the IA 86 centerline) (see Figure 5-1). Another cellular tower, located approximately 2,000 feet north of 120th Street, is situated about 300 feet east of the existing ROW (see Figure 5-5). Cell sites typically have a backup power source (lead-acid batteries or backup generator) and a cooling system or coolants. There have been no reported spills or leaks of hazardous material at these sites. Thus, these sites were considered to be low risk based on the Iowa DOT criterion "commercial/industrial facilities where the potential for regulated materials to be present was observed during the site visits but no evidence of releases was observed or reported".

Cohrs Construction Inc. is located at 1447 IA 86, southwest of the intersection of IA 86 with the Iowa Northwestern Railroad track, approximately 0.5 mile north of the intersection of IA 86 and IA 9 (see Figure 5-1). The property contains a large aboveground storage tank (AST) on the far west side of the property (about 320 feet west of the existing IA 86 ROW). The content of the AST is unknown but is likely propane. A smaller AST, which also likely contains propane, is located north of two storage buildings on site. A total of three storage buildings are located at the site: two are approximately 100 feet west of the existing IA 86 ROW boundary, and one is approximately 215 feet from the ROW (see Appendix B for site photographs). Another small AST, likely containing either gasoline or diesel, is located adjacent to one of the two storage buildings, about 100 feet from the ROW.

Iowa DNR filed a lawsuit in 2008 against Cohrs Construction Inc. based on complaints of solid household and industrial waste being burned in a gravel pit approximately 150 feet west of the existing IA 86 ROW (Iowa DNR, December 18, 2008). However, the exact nature of the waste burned and whether accelerants (such as gasoline) were used is unknown. On October 13, 2008, a Dickinson County District Court Judge entered an order requiring the company to pay $10,000 in civil penalties (Iowa Attorney General's Office, 2008). The site of Cohrs Construction Inc. was formerly occupied by Superior Co-op, which was a Resource Conservation and Recovery Act (RCRA) hazardous waste generator until July 2000 (EPA, December 10, 2008). There are no records of contamination associated with the Superior Co-op site (Iowa DNR, n.d., Iowa DNR Contaminated Sites Database). The property is classified as an Iowa DOT moderate-risk site due to improper waste management practices.

Vick's Corner is located at 2044 IA 9, northwest of the IA 86/IA 9 intersection (see Figure 5-1). The gas station was originally located in 1932 on the southwest corner of the

[7] PCB transformers contain PCBs at a concentration exceeding 500 ppm.

intersection and moved to the northwest corner in 1962. A trap shooting range was in operation at the current site until 1970 (Tallgrass Historians, December 2009). Ammunition with lead would have been used during the 1960s. However, the range was located north of the gas station area and was oriented south to north. Shooters shot primarily to the north and northwest over a distance of several hundred feet. It is unlikely that expended ammunition would be encountered near IA 86, as shots would not have been fired close to the highway. Consequently, it is unlikely that lead-contaminated soils would be encountered near IA 86.

The property at 2044 IA 9 is listed in Iowa DNR's LUST database due to a release of gasoline. Leaked fuel was discovered during removal of 4,000-gallon and 10,000-gallon underground storage tanks (USTs) in March 1992; the area where the tanks were buried is east of the Vick's Corner gas station building (about 60 feet south of two existing 12,000-gallon ASTs and only 15 feet from existing IA 86 ROW). The LUST database notes that the leak stopped when the tanks were removed and that no free product was observed (IA DNR and Public Safety State Fire Marshal Office, n.d.).

An investigation of the Vick's Corner site was conducted between March and August 2002 (Geotek Engineering and Testing Services, Inc. [GEOTEK], April 30, 2003). The resulting report documented plumes of soil and groundwater contamination (the direction of groundwater movement is to the south-southwest) and recommended a monitoring program. Benzene exceeded site-specific target levels (SSTLs) by approximately 100 times the standard for soil (49 ppm versus a standard of 0.54 ppm) and 2,000 times the standard for groundwater (11,700 parts per billion [ppb] versus the maximum contaminant level [MCL] standard of 5 ppb for drinking water). Toluene and ethylbenzene also exceeded the standards for soil and for groundwater, and xylenes and total extractable hydrocarbons in groundwater exceeded drinking water standards.

Sampling indicated that the benzene plume in soil (areas above the soil standards) was about 140 feet west of the IA 86 centerline, primarily to the south and southwest of the former LUSTs. Benzene was the closest chemical plume in groundwater and was about 120 feet west of the IA 86 centerline. Based on the direction of groundwater flow, contamination was expected to move primarily to the southwest but to diffuse eastward as well (GEOTEK, April 30, 2003).

An updated Tier 2 investigation and site monitoring report was completed in November 2010 showing movement primarily to the south toward IA 9 but also to the west and east (MPS Engineers, November 8, 2010). Iowa DNR classifies the site as "High Risk," and Iowa DOT also ranks the site as "High Risk" because of documented contamination.

The site is under a community remediation plan approved for further investigation and remediation of the site and funded by the American Recovery and Reinvestment Act (ARRA) (Iowa DNR, December 15, 2010). A consultant removed approximately 1,300 cubic yards of contaminated soil in May 2011; groundwater wells removed to facilitate the soil removal were reinstalled. Sampling results of the removed material and the underlying soil are pending and will be documented in a report to be completed by August when the ARRA

funds for the project are scheduled to expire. Groundwater monitoring is planned to occur in November 2011 and May 2012 (Iowa DNR, May 31, 2011).

Currently, two 12,000-gallon ASTs storing gasoline at Vick's Corner are located approximately 165 feet west of the IA 86 centerline (about 85 feet west of the existing ROW) and about 250 feet north of the IA 9 centerline. There are also two diesel ASTs at Vick's Corner: one is approximately 225 feet west of IA 86 and about 100 feet north of the IA 9 centerline; the other is approximately 190 feet west of the IA 86 centerline and about 415 feet north of the IA 9 centerline. A residential propane AST is located adjacent to a residence at Vick's Corner, approximately 260 feet west of the IA 86 centerline. No contamination is known to have been caused by AST use. Potential exists for contamination from previous operations on the southwestern corner of the IA 86 and IA 9 intersection, but Iowa DNR has no records of contamination at the site.

No Build Alternative

The No Build Alternative would not involve construction of the Project, and regulated materials sites would not be affected.

Build Alternative

Under the Build Alternative, the vertical alignment of IA 86 would require additional ROW to accommodate wider pavement and shoulders and realignment of vertical curves. The regulated materials sites within the Study Area would be affected as follows:

- Alliant Energy Montgomery substation – During conceptual design, it was initially assumed that a rural cross section would exist and require acquisition of up to 15 feet of additional ROW along the eastern edge of the substation. This would have affected some of the ground grid facilities at the substation, reducing the effectiveness of grounding and lightning protection. However, as the design was developed further, curbing is planned to be installed in this area to avoid potential impacts on the substation grid by not cutting any existing ground in the vicinity of the fenced area of the substation.
- Cellular tower sites –. Although the reconstructed roadway would be closer to the towers (about 15 feet), ROW acquisition would not affect either site. The enclosed regulated materials at each site would not be affected.
- Cohrs Construction Inc. –Additional ROW would be acquired along the eastern boundary of this property. This would not directly impact the area affected by improper burning of solid household and industrial waste at the site. The area used for burning is slightly upgradient of IA 86, and the water table is likely to be shallow in this area. Consequently, contaminants may have migrated toward IA 86. From the existing Cohrs Construction entrance and south along the property, a shallow cut of 0.5 to 1 feet would occur. North of the entrance road, up to 4 feet of fill would be added. Based on the limited excavation and the fill placed north of the entrance road, it is not likely that contaminated soil would be encountered during construction.

- Vick's Corner – Under the current IA 86 reconstruction design, a narrow strip of property (approximately 35 feet wide) is required for ROW north of the entryway to Vick's Corner from IA 86. Because Iowa DOT currently owns a wider strip of land near the IA 9 intersection, it is possible that no ROW would be needed south of this point (near the intersection with IA 9). As part of the Project, an approximately 225-foot-long segment of the shoulder and drainage ditch on the north side of IA 9 west of IA 86 would be reconstructed to align elevations with the reconstructed IA 86. The foreslope of IA 9 would be cut approximately 1 foot deeper and the bottom of the drainage ditch would be cut approximately 0.5 foot lower than the existing elevation.

  Groundwater and soil sampling conducted in September 2010 documented groundwater contamination above SSTLs for benzene approximately 145 feet west of the IA 86 centerline (within the existing ROW) and soil contamination above SSTLs approximately 170 feet west of the IA 86 centerline (MPS Engineers, November 8, 2010). Based on the latest monitoring report, a portion of the area of groundwater and soil exceeding SSTLs for benzene is within the potential impact area (see Figure 5-9); however, in May 2011, an area of contaminated soil was excavated and removed, thus decreasing the potential that contaminated soil or groundwater would be encountered by the Project. Based on the current design, the depth of excavation for construction would remain approximately 2 feet above the depth of groundwater. Based on the depth of excavation, the predominant direction of groundwater flow to the south of the existing contaminant plume, and the extent of contaminants in soil and groundwater, it is unlikely that contaminated soil and groundwater (above SSTLs) would be encountered during IA 86 reconstruction.

  The potential impact area includes six monitoring wells: 2, 10, 11, 12, 13, and 15. Although up to six wells could be affected by the IA 86 Project, it is likely that fewer wells would be affected because this area includes a buffer, and refinements in the final design will attempt to minimize impacts on the monitoring well system. Iowa DOT will coordinate with Iowa DNR before construction to develop a plan for relocating all needed monitoring wells that would be impacted by construction. Approval by Iowa DNR would be required for eliminating groundwater monitoring wells from the active monitoring program at Vick's Corner. Iowa DOT requires proper capping and sealing of any wells that would be impacted by construction. A certified well contractor would be required to cap and seal all wells. Proper capping would eliminate the potential for introduction of contamination down the well into the groundwater.

  Though encountering substantial areas of contamination above SSTLs is unlikely, isolated pockets of contamination could be encountered. Consequently, the following would be warranted: informing the contractor of the potential for encountering contamination and requiring adequate worker protection, notifying the proper agencies of any contamination encountered, and proper handling and disposal of any contaminated soil and groundwater.

5.4.3 Utilities

The potential for the Project to affect utilities in the Study Area was considered by identifying these particular resources and their location and orientation in relation to IA 86. Potential effects were evaluated with respect to major utilities crossed by or located within the ROW for the Build Alternative.

The following utility companies and municipalities provide service to the Study Area:

- Interstate Power and Light Company (a subsidiary of Alliant Energy) and Black Hills Energy provide electric service to the southern 2 miles of the Study area. Iowa Lakes Electric Cooperative provides electric service to the entire Study Area.
- Osceola Rural Water Supply provides water service.
- Iowa Great Lakes Sanitary District provides sanitary sewer service to the southern 2 miles of the Study Area.
- Alliant Energy provides natural gas to the southern 2 miles of the Study Area.
- Qwest provides telecommunication services to the entire Study Area; MediaComm, Longlines, and McCloud provide telecommunication services to the southern 2 miles of the Study Area; and several companies provide Internet service.

Each of the above-listed utilities has buried lines within 150 feet of IA 86 in the Study Area. Both of the electric utilities have overhead wires along IA 86 within the Study Area; these are located along the eastern edge of the existing IA 86 ROW. An overhead high-voltage transmission line runs parallel to the former Iowa Northwestern Railroad and crosses over IA 86 just north of the railroad. One of the poles supporting this transmission line is located at the eastern edge of the existing IA 86 ROW.

Alliant Energy operates the Montgomery substation adjacent to IA 86 at the southwest corner of the intersection of IA 86 and the Iowa Northwestern Railroad ROW. Underground and overhead power lines crossing IA 86 connect this substation to the surrounding service area.

No Build Alternative

The No Build Alternative would not involve construction of improvements to IA 86 and thus would not affect utility lines. If future development occurs independently of the Project, utility line connections would be constructed as needed.

Build Alternative

The design in the area of the substation will utilize curbs to avoid impacts on the ground grid facilities along the eastern edge of the substation.

Overhead electric lines and buried utility lines would need to be moved in many locations. Although the high-voltage line crossing IA 86 near the former railroad would be mostly unaffected, one tower supporting this line about 40 feet east of IA 86 would likely need to be

moved. The extent of utility relocations would be determined based on more detailed design during a future engineering phase.

As detailed design plans are developed for the Build Alternative, construction activities would be coordinated with the public utilities to avoid potential conflicts and to minimize planned interruptions of service. When service interruptions are unavoidable, an effort would be made to limit their duration.

5.5 Cumulative

A cumulative impact is defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7). Cumulative impacts include the direct and indirect impacts of a project together with impacts from reasonably foreseeable future actions of others. For a project to be reasonably foreseeable, it must have advanced far enough in the planning process that its implementation is likely. The impacts of reasonably foreseeable future actions not associated with vertical improvements to Iowa Highway 86 include the impacts of other Federal, state, and private actions. Reasonably foreseeable actions are not speculative, are likely to occur based on reliable sources, and are typically characterized in planning documents.

The assessment of the cumulative impacts of Federal, state, and private actions is required by Council on Environmental Quality (CEQ) regulations developed for implementing NEPA. Cumulative impacts of the Project were assessed in accordance with CEQ guidance (CEQ, January 1997; CEQ, June 24, 2005) and other sources, including FHWA's "Interim Guidance: Questions and Answers Regarding Indirect and Cumulative Impact Considerations in the NEPA Process" (FHWA, January 31, 2003) and FHWA's "Position Paper: Secondary and Cumulative Impact Assessment in the Highway Project Development Process" (FHWA, April 1992).

The assessment focused on several resources susceptible to cumulative impacts. Additionally, the analysis compared the timelines of other reasonably foreseeable major projects likely to occur in the timeframe of the Project in order to assess the combined effects of these projects on the target resources. The cumulative impact assessment also considered the baseline conditions of the target resources and the region's resources, and determined whether any regionally significant cumulative impacts could occur.

A few other roadway projects, at various stages of study and/or implementation, are located in the general proximity of the proposed action addressed in this EA. Table 5-3 identifies these projects and provides the lead agency for, a description of, and the current status of the projects. These projects, especially the IA 86 curve realignment project, would affect traffic flow in the area of IA 86. Figure 5-10 identifies the location of the projects. Table 5-3 lists one county road project (Diamond Lake Road); this is the only county road project within 2 miles of IA 86. There are additional county road projects within several miles of IA 86;

however, these projects are of a smaller magnitude (in terms of area affected and length of time to complete) and are not included in Table 5-3.

The southern terminus of the IA 86 curve realignment project is connected to the northern terminus of the proposed action (see Figure 1-1); both projects are listed in the Transportation Improvement Program (Iowa DOT, June 2010) for ROW acquisition in 2012 and construction in 2013. The IA 9 project could occur during the same timeframe as the IA 86 projects, but the Diamond Lake Road project would likely occur after the IA 86 and IA 9 projects are completed. The Hill Avenue project is not near the Project limits and is south of the detour route for the Project; this project is not further evaluated for cumulative impacts. The IA 86 curve realignment, IA 9, and Diamond Lake Road projects are carried forward for evaluation of cumulative impacts because they are reasonably foreseeable transportation projects near a component of the Project.

Table 5-3
Roadway Projects Near the Study Area

Project	Lead Agency	Project Description	Status
IA 86 curve realignment project	Iowa DOT	Realignment of two curves, from approximately 700 feet south of 110th Street in Iowa (at the northern terminus of the IA 86 vertical alignment project) to approximately 1,000 feet north of 100th Street (which forms the Iowa/Minnesota border)	Listed in the 2011-2014 Iowa Statewide Transportation Improvement Program for Fiscal Year 2011 (The timeframe for implementation has been extended.)
IA 9 widening and rehabilitation (Dickinson and Emmet counties)	Iowa DOT	Rehabilitation and widening of 6.2 miles of IA 9 from Junction of US 71 IA 9 east to west of Estherville, approximately 10 miles east of IA 86	Listed in the 2011-2014 Iowa Statewide Transportation Improvement Program for Fiscal Year 2013
Hill Avenue widening and rehabilitation	City of Spirit Lake	Rehabilitation and widening of Hill Avenue from the intersection of 30th Street to the south side of 175th Street, approximately 5 miles east of IA 86	Listed in the 2011-2014 Iowa Statewide Transportation Improvement Program for Fiscal Year 2013
Diamond Lake Road repaving	Dickinson County	Hot-mix asphalt paving of Diamond Lake Road (100th Street from IA 86 west to 190th Avenue, 190th Avenue from 100th to 110th Street, and 110th Street west to 135th Avenue) extending west from IA 86	Listed in the Fiscal 2011 Road Program, 5 Year Construction Program (Dickinson County) for 2015

The proposed conversion of the former Iowa Northwestern Railroad grade to a trail system was presented in Section 5.1.1, Parklands and Recreational Areas, and is also considered to be a reasonably foreseeable project to be evaluated for cumulative impacts.

Iowa DNR has committed to remediate the LUST at Vick's Corner and has been using ARRA funding. Soil removal and sampling occurred in May 2011, and groundwater monitoring is planned for November 2011 and May 2012. If the soil and groundwater sampling results indicate concentrations below action levels, the site may be closed with no further action. However, if the concentrations are above action levels, future action may be needed, but the timeframe and method of remediation are currently unknown. Because remediation has occurred and will either be completed or continued, the remediation activities are considered reasonably foreseeable and are evaluated for cumulative impacts.

Key Resources Affected

Of those resources carried forward for detailed analysis in this section of the EA, several are susceptible to cumulative impacts based on the potential impact by the other reasonably foreseeable roadway projects noted in Table 5-3 and the Iowa Northwestern Railroad trail conversion project. The Project would occur within a transportation corridor in a rural area, including conservation lands, and would involve a slight shift in the corridor. The Project would potentially affect socioeconomic resource elements (parklands and recreational areas, construction and emergency routes, and transportation), cultural resources (historical sites or districts, and archaeological sites), natural resources (including wetlands, surface waters and water quality, wildlife and habitat, threatened and endangered species, and farmland), and physical resources (contaminated and regulated material sites, and utilities). These resources may also be affected by other actions and consequently are addressed in this EA for cumulative impacts.

Parklands and Recreational Resources

The IA 9 project is distant from any parks and recreational resources near the Project and would not contribute to cumulative impacts. The IA 86 curve realignment and Diamond Lake Road projects are adjacent to Diamond Lake WPA (and the curve realignment project is also adjacent to Diamond Lake WMA), which host recreational activities. These projects are not expected to restrict access during construction; likewise, the Project is not anticipated to restrict access during construction. The proposed rail-trail project would introduce another recreational facility within the Study Area and would cross IA 86. The Project is being designed so as not to preclude the potential for a trail along the former Iowa Northwestern Railroad grade. No cumulative impacts on parklands and recreational resources, including those qualifying for protection under Section 4(f), are anticipated.

Construction and Emergency Routes

All the reasonably foreseeable projects would involve construction impacts, but the timing and separation of the projects should not cause cumulative impacts. Local projects not adjacent to the Project could affect traffic flow in the regional area during reconstruction of IA 86 north of IA 9. The IA 86 curve realignment project would likely be underway at the same time as the Project, but this would facilitate a more efficient system and quicker end to disruption along IA 86. The western terminus of the IA 9 project is at US 71, which is along

the detour for the Project. However, Iowa DOT is coordinating the IA 9 and the IA 86 projects and would plan the projects to ensure that the detour for IA 86 remains accessible.

Transportation

The IA 86 projects would occur during the same timeframe but, as noted above, would benefit the transportation network through a quicker end to disruption along IA 86. Local traffic would still continue along IA 86, with access to residences and the WMAs and WPAs. The IA 9 project would be planned to avoid conflict with the detour for the IA 86 projects. The timing and distance separation of the other reasonably foreseeable projects would not cause any cumulative impacts.

Historical Sites or Districts

A historic property survey for the Project and the IA 86 curve realignment project identified three sets of properties considered eligible for the NRHP along IA 86 between IA 9 and the Minnesota border. The Project would not adversely affect two of the properties, and the IA 86 curve realignment project would avoid impacting the third property. The two IA 86 projects would not impact the same properties, and no other reasonably foreseeable project would affect the properties. No historic district was identified in the Study Area for either project. Consequently, no cumulative impacts on historic sites or districts are projected to occur. Historic resources qualifying for protection under Section 4(f) are also not anticipated to experience cumulative impacts. The eligibility of Vick's Corner for listing on the NRHP would not be affected by the ongoing remediation because the work is subsurface and does not include the historic structure of the convenience store and gas station building.

Archaeological Sites

The only archaeological site of significance identified through several area surveys is 13DK124, the quartzite bridge along the former Iowa Northwestern Railroad grade. The Project would not adversely affect site 13DK124. Although the proposed rail-trail project would extend over site 13DK124, it is not anticipated to adversely affect the site. Federal funding (among other sources) is being sought for acquisition of the property and construction of the rail-trail project, which therefore must follow Section 106 requirements. Consequently, no cumulative impacts on archaeological resources protected under Section 106 and under Section 4(f) are anticipated.

Wetlands

The Project would cause unavoidable impacts on wetlands, and the IA 86 curve realignment project could also impact a wetland (but this wetland would not be affected by the Project). The IA 9 project would involve widening and is likely to impact wetlands, but these wetlands would be distant from the ones affected along IA 86. The Diamond Lake Road repaving project is not likely to impact wetlands. Improvement of the former Iowa Northwestern Railroad grade to support a trail has the potential for wetland impacts and could affect a wetland (southeast of the IA 86 and former Northwestern Iowa Railroad intersection) projected to be affected under the Project. Given that cumulative wetland impacts in the area

of IA 86 are expected to be minimal (one to two acres) and that the impacts would be addressed under Section 404 of the Clean Water Act, no adverse cumulative impacts on wetlands are anticipated.

Surface Waters and Water Quality

The Project, as well as other reasonably foreseeable projects where grading of more than one acre is involved, would require an NPDES construction permit with an SWPPP identifying measures for protecting surface water quality. The Project, and the IA 86 curve realignment and rail-trail projects, would occur in the same watershed, which is dominated by isolated surface waters with intermittent drainages. However, given the isolated nature of surface waters and protective measures to minimize runoff and erosion, cumulative impacts on surface waters and water quality are not anticipated. The groundwater quality associated with the Vick's Corner LUST site should improve after removal of contaminated soil. Consequently, cumulative impacts on water quality are not anticipated.

Wildlife and Habitat

The main habitat areas used for wildlife are within conservation land set aside in WMAs and WPAs. The Project would unavoidably impact conservation land of Welch Lake WMA and WPA and Diamond Lake WMA. The IA 86 curve realignment project is partly adjacent to conservation land (Diamond Lake WMA and WPA) but would avoid impacting the wildlife habitat. The IA 9 project would not affect any of the WMAs or WPAs near the Project, and no WMAs or WPAs are adjacent to the project route. The Diamond Lake Road project does not appear to require disturbance of Diamond Lake WMA or WMA. The rail-trail project would likely be conducted solely within the former rail ROW, which is surrounded by, but does not include, Welch Lake WPA. These other reasonably foreseeable projects would be completed within existing ROW or adjacent to ROW. Consequently, cumulative impacts on wildlife and their habitat (and conservation areas qualifying for protection under Section 4(f)) are not projected to occur.

Threatened and Endangered Species

Nearly all the land proposed to be disturbed for the IA 86 curve realignment project is farmland or existing ROW that is maintained. The IA 9 project would likely occur within existing ROW and adjacent land distant from the Project. The Diamond Lake Road and rail-trail projects would also occur within existing ROW. Consequently, cumulative impacts on threatened and endangered species and their habitat are not projected to occur.

Farmlands

With the exception of the IA 86 curve realignment project, the other reasonably foreseeable projects would be completed within existing ROW or be adjacent to existing ROW. The two IA 86 projects would cumulatively impact approximately 45 acres of farmland. Given the large amount of farmland in the Spirit Lake area, cumulative impacts on farmland are not projected to be adverse.

Contaminated and Regulated Material Sites

No regulated material or contamination issues were identified for the IA 86 curve realignment project. Although the potential of the IA 9 project to affect, or be affected by, contaminated and regulated material sites is unknown, the project would not impact the same area as the IA 86 projects. The Diamond Lake Road project would occur within existing ROW, so it is unlikely that any contamination or regulated material issues would be encountered. Contaminated soil has recently been removed from the Vick's Corner LUST site, which decreases the potential for migration of contamination off site. Consequently, no cumulative impacts from disturbing contamination or regulated material sites are anticipated.

Utilities

The Project, and the IA 86 curve realignment and IA 9 projects, would involve relocation of utilities; the Diamond Lake Road and rail-trail projects are not likely to cause any utility impacts. Coordination with utilities to reduce disruptions during relocations would occur during the roadway projects and would likely preclude extended or repeated disruptions. Consequently, cumulative impacts on utilities are not anticipated.

5.6 Streamlined Resource Summary

As noted at the beginning of this section, a streamlined process developed by Iowa DOT and FHWA was used to focus the analysis on those resources potentially affected by the Project and to eliminate or decrease the description and impact analysis of resources not affected by the Project. The back page of the front cover of this EA provides the checklist used to eliminate resources from detailed evaluation. Appendix A contains the Streamlined Resource Summary showing the process used to identify resources that are not within the Study Area or would not be affected by the Project. Appendix A also includes a brief summary of the rationale for performing only limited analysis of resources not described or analyzed in Section 5.

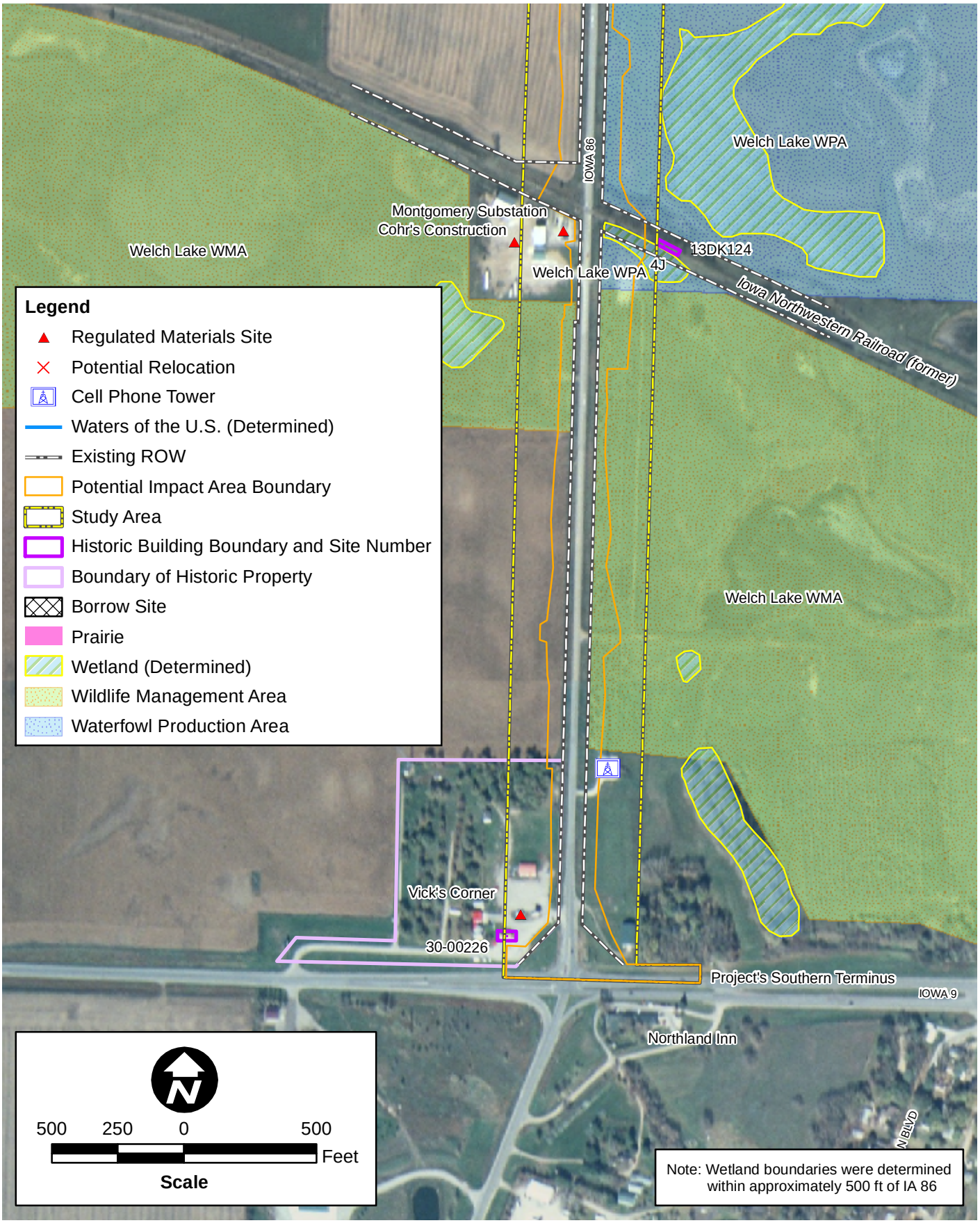
Table 5-4 summarizes the differences in impacts on resources which would result from the No-Build Alternative and the Build Alternative. Resources for which the anticipated impact would not substantially differ are not listed in the table.

Table 5-4
Summary of Impacts

Resource	No-Build Alternative	Build Alternative	Borrow Area
Parklands and Recreational Areas	No acquisition of or impacts on parks or recreational areas.	No acquisition of or impacts on parks or recreational areas. Project is compatible with future proposed trail.	No acquisition of or impacts on parks or recreational areas.
ROW	No acquisition.	Approximately 45.4 acres of permanent ROW would be acquired, and 41.3 acres of temporary easement would be acquired to facilitate construction.	Approximately 6.6 acres would be acquired.

Resource	No-Build Alternative	Build Alternative	Borrow Area
Relocations	No relocations.	No relocations required; one relocation could occur at owner request.	No relocations.
Construction and Emergency Routes	No impact.	Temporary detour of non-local traffic, with approximately 18.7 miles of associated out-of-distance travel; minor, temporary air quality and noise impacts would occur along the detour, construction, and emergency routes during construction. Impacts to emergency routes would be minor because the affected area is small and access could be accomplished via alternate routes.	No additional impacts on construction and emergency routes.
Transportation	IA 86 would remain a substandard road, with a greater than average potential for crashes.	Improved safety and more efficient traffic flow along IA 86; temporary impact on public and school transportation; no impact on aircraft operations.	No additional impacts on transportation.
Historical Sites or Districts	No effect on historic properties.	No adverse effect on historic properties caused by a minor acquisition of ROW from two historic properties.	No adverse effect on historic properties.
Archaeological Sites	No adverse effect on historic properties.	No adverse effect on archaeological sites.	No adverse effect on evaluated historic properties; Borrow Site 8 is currently under evaluation.
Wetlands	No impact.	Approximately 2.3 acres of impact on wetlands.	Approximately 0.5 acre of wetlands in borrow; but avoidance of this wetland is anticipated.
Surface Water and Water Quality	Runoff to ditches would continue and ditch configuration would be unchanged.	Approximately 134 acres of land disturbance (existing ROW, new ROW, and temporary easement) and up to 618 feet of stream impacts; impacts would be limited by Section 404 and NPDES permits. No known potable wells would be affected.	Approximately 6.6 acres of land disturbance, but impacts limited by Section 404 and NPDES permits. No known wells would be affected.
Wildlife and Habitat	No impact.	Temporary construction impacts to approximately 0.3 acres of restored prairie within Diamond Lake WMA ; no conversion of prairie to ROW; approximately 2.3 acres of wetland impacts; loss of some grass areas and trees in residential areas and a riparian area near the former Iowa Northwestern Railroad.	Loss of some grassland area and trees in a rural residential areas.

Resource	No-Build Alternative	Build Alternative	Borrow Area
		Project would result in permanent ROW acquisition of up to 8.7 acres of public lands from Welch Lake WMA and WPA and Diamond Lake WMA, and up to 15.5 acres of temporary easement needed for construction.	
T&E Species	No impact	No effect on Federally listed species and not likely to adversely affect state listed species.	No effect on Federally listed species and not likely to adversely affect state listed species.
Woodlands	No impact.	No woodlands would be impacted.	No impact.
Farmlands	No impact.	Approximately 40 acres of farmlands would be impacted by construction, of which approximately 22 acres would be converted to ROW.	No impact to farmland.
Noise	Traffic noise would continue along IA 86.	Traffic noise levels would increase slightly for some receivers and decrease slightly for others because of the shift in alignment.	Traffic noise would continue along IA 86.
Contaminated and Regulated Material Sites	Although some soil contamination was recently removed from Vick's Corner, groundwater contamination at the site is likely to continue to migrate.	Potential exists for encountering contaminated soils and groundwater near Vick's Corner; up to 6 groundwater wells could be impacted.	No impact.
Utilities	No impact.	Several utilities would be relocated; potential temporary disruptions in utility service would occur.	No impact.



Z:\Projects\IDOT\70888_NEPA_Iowa_86_Redesign\map_docs\mxd\EA\Environmental_Impacts_EA.mxd\june11\jcm

HDR

Iowa Highway 86 Environmental Constraints and Impacts

Iowa Department of Transportation

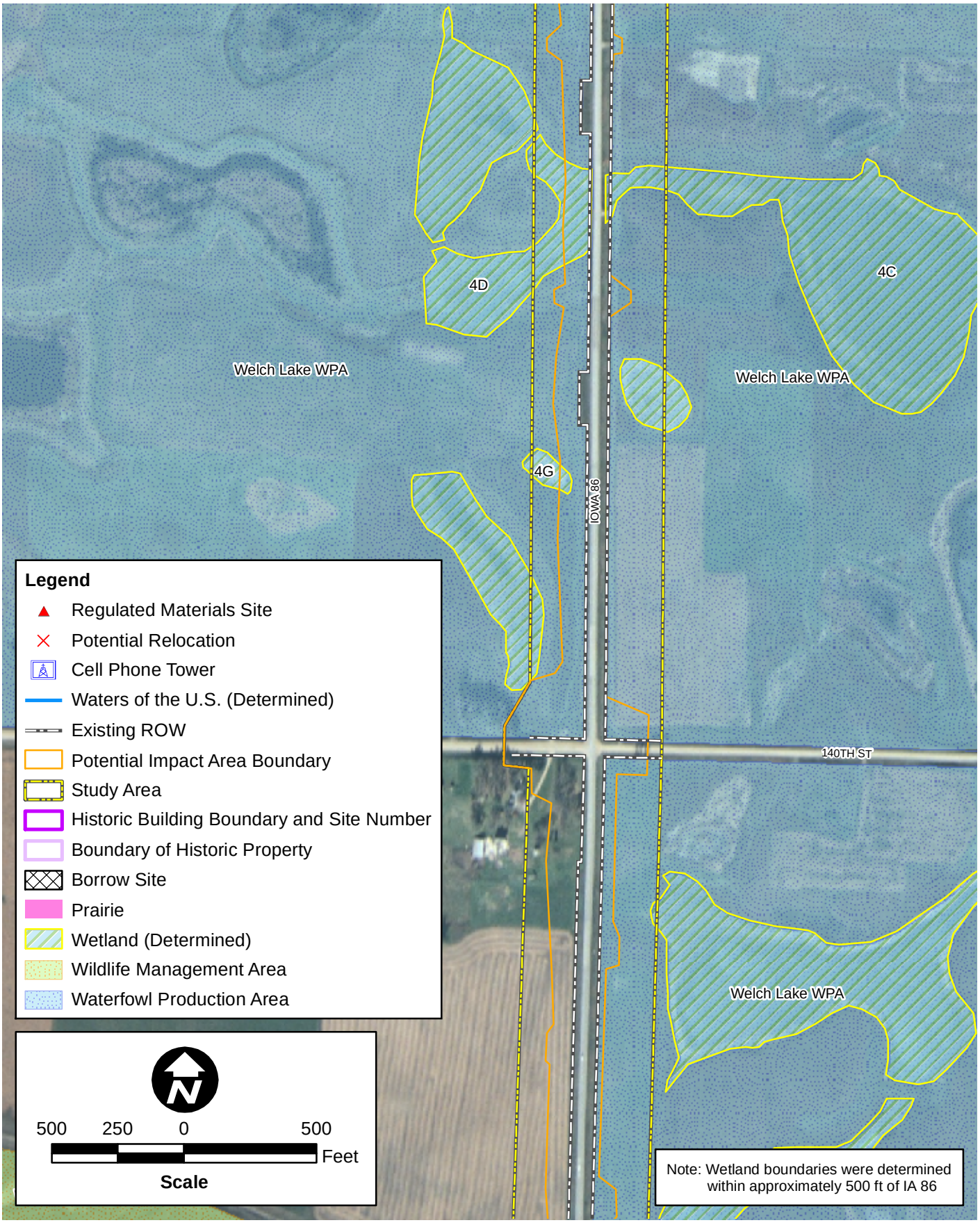
Iowa Highway 86 Environmental Assessment

DATE

June 2011

FIGURE

5-1



Z:\Projects\IDOT\70888_NEPA_Iowa_86_Redesign\map_docs\mxd\EA\Environmental_Impacts_EA.mxdjune11jcm

HDR

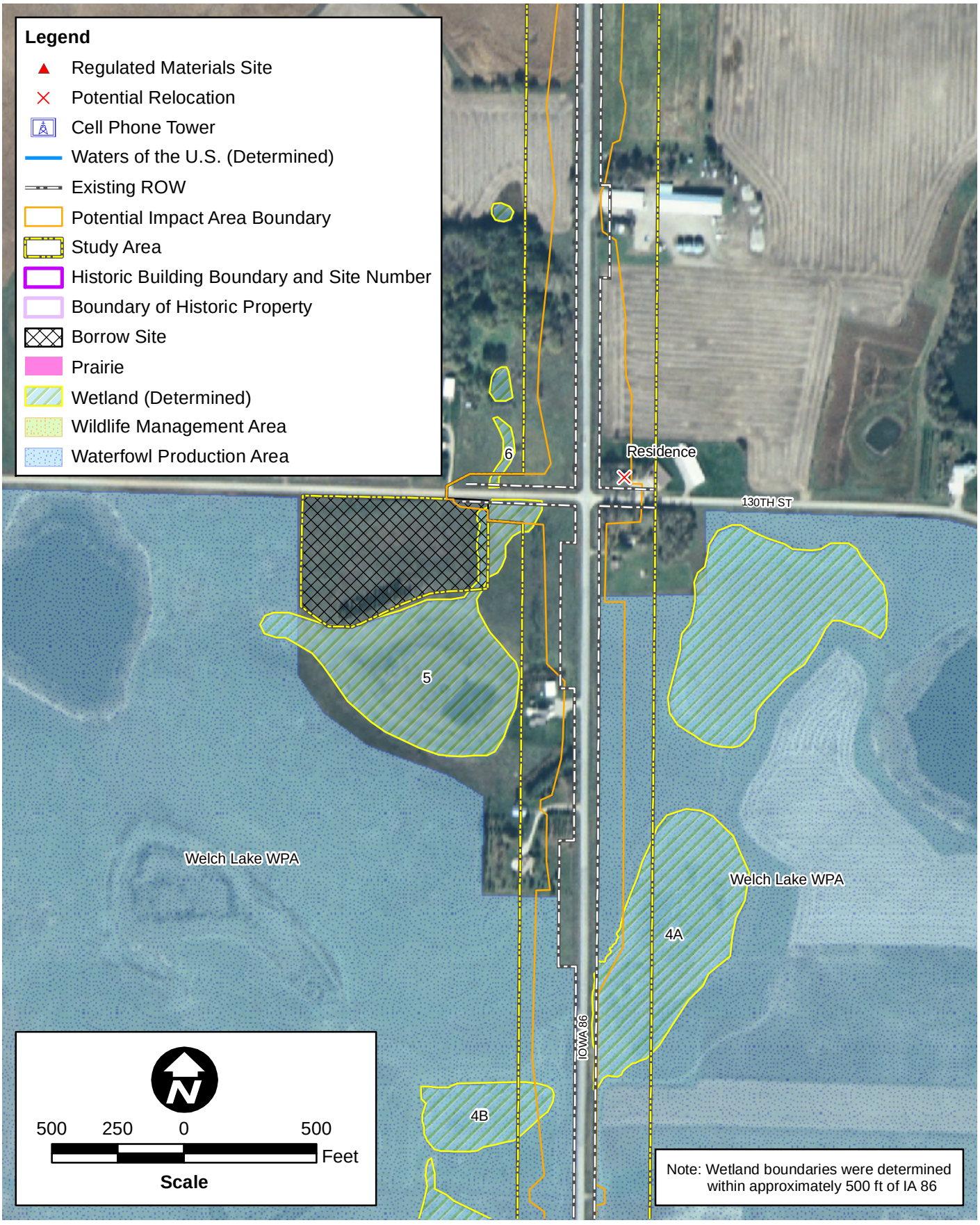
Iowa Highway 86 Environmental Constraints and Impacts

Iowa Department of Transportation

Iowa Highway 86 Environmental Assessment

DATE
June 2011

FIGURE
5-2



Z:\Projects\IDOT\70888_NEPA_Iowa_86_Redesign\map_docs\mxd\EA\Environmental_Impacts_EA.mxdjune11jcm

HDR

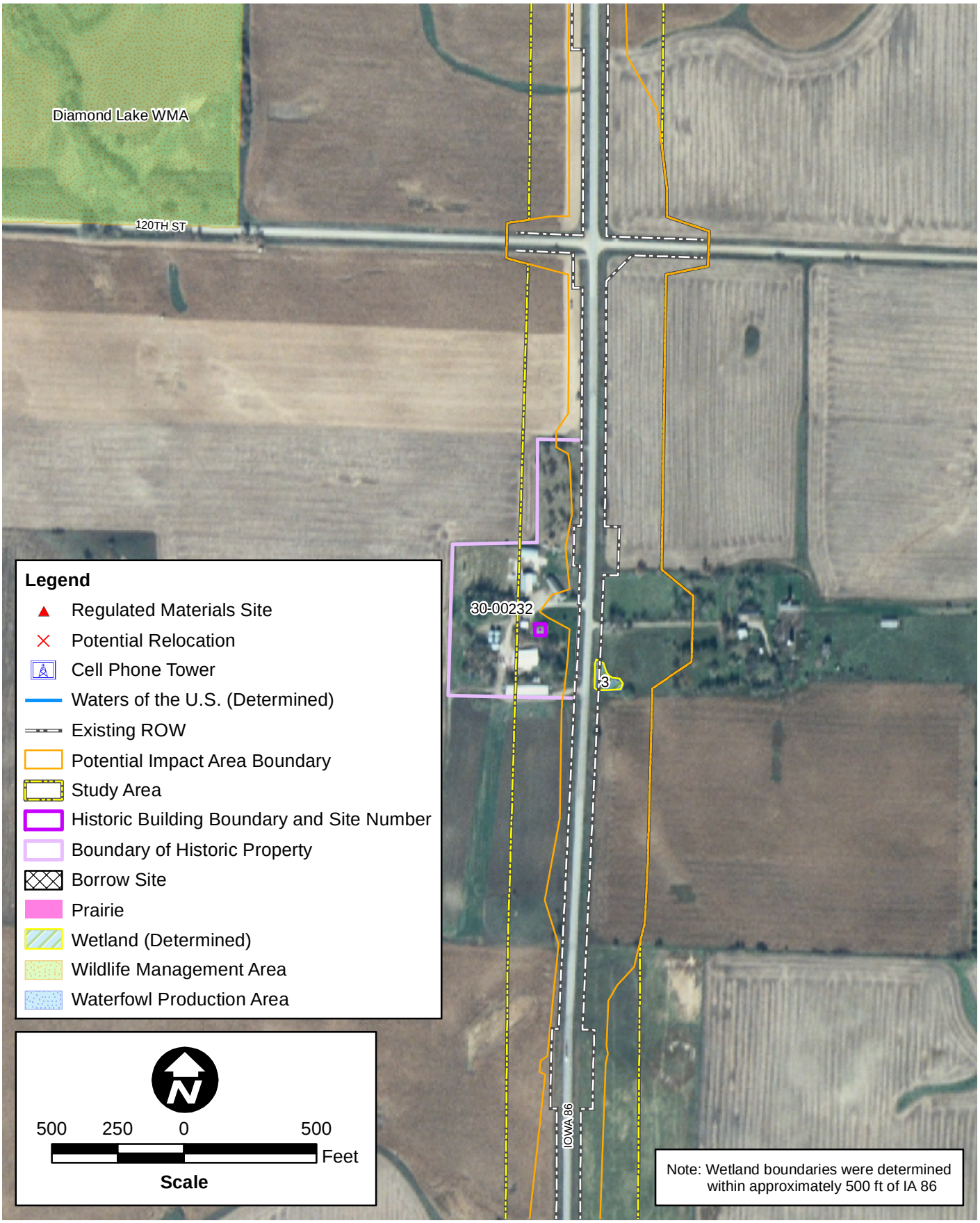
Iowa Highway 86 Environmental Constraints and Impacts

Iowa Department of Transportation

Iowa Highway 86 Environmental Assessment

DATE
June 2011

FIGURE
5-3



Z:\Projects\IDOT\70888_NEPA_Iowa_86_Redesign\map_docs\mxd\EA\Environmental_Impacts_EA.mxdjune11jcm

HDR

Iowa Highway 86 Environmental Constraints and Impacts

Iowa Department of Transportation

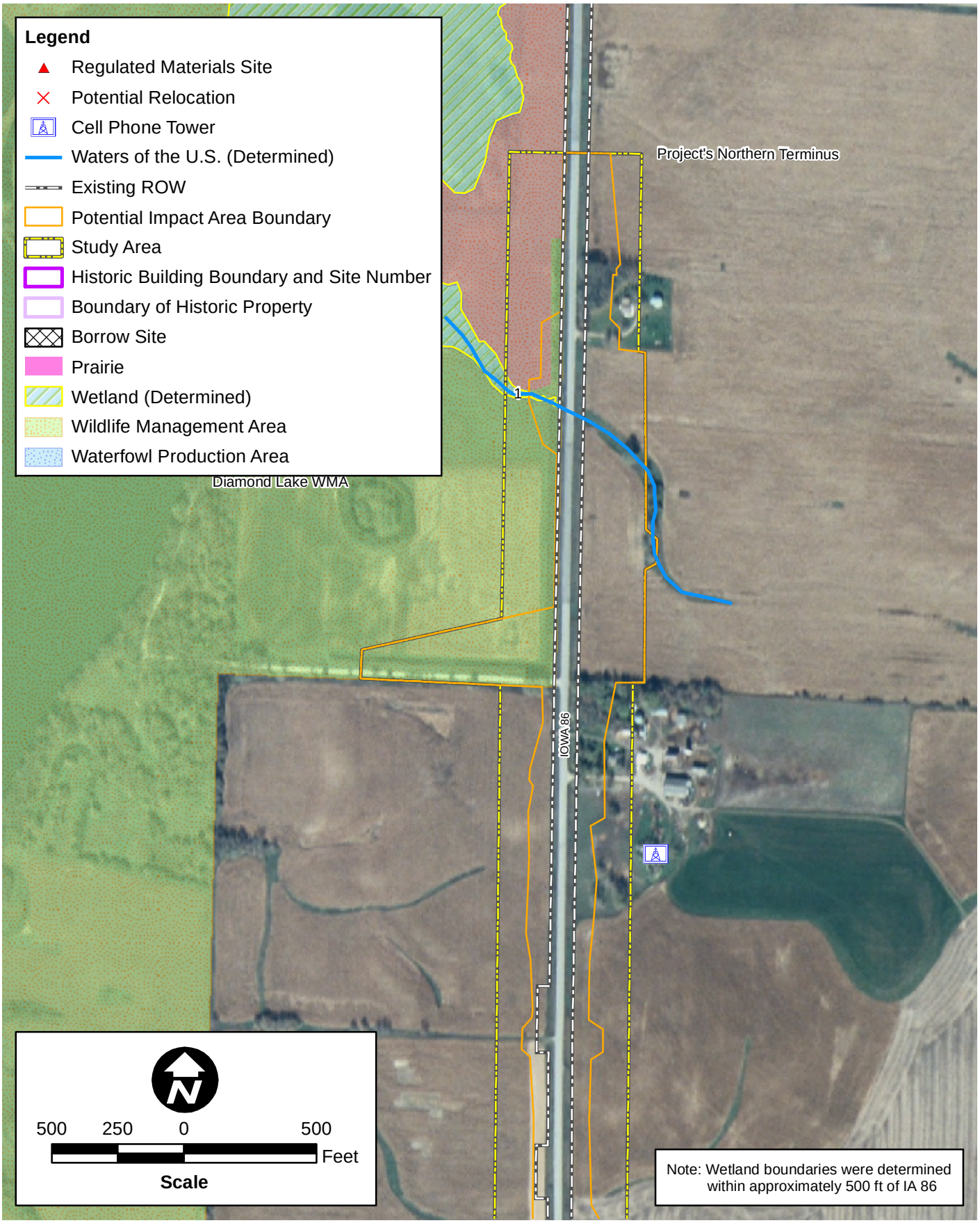
Iowa Highway 86 Environmental Assessment

DATE

June 2011

FIGURE

5-4



Z:\Projects\IDOT\70888_NEPA_Iowa_86_Redesign\map_docs\mxd\EA\Environmental_Impacts_EA.mxdjune11jcm

HDR

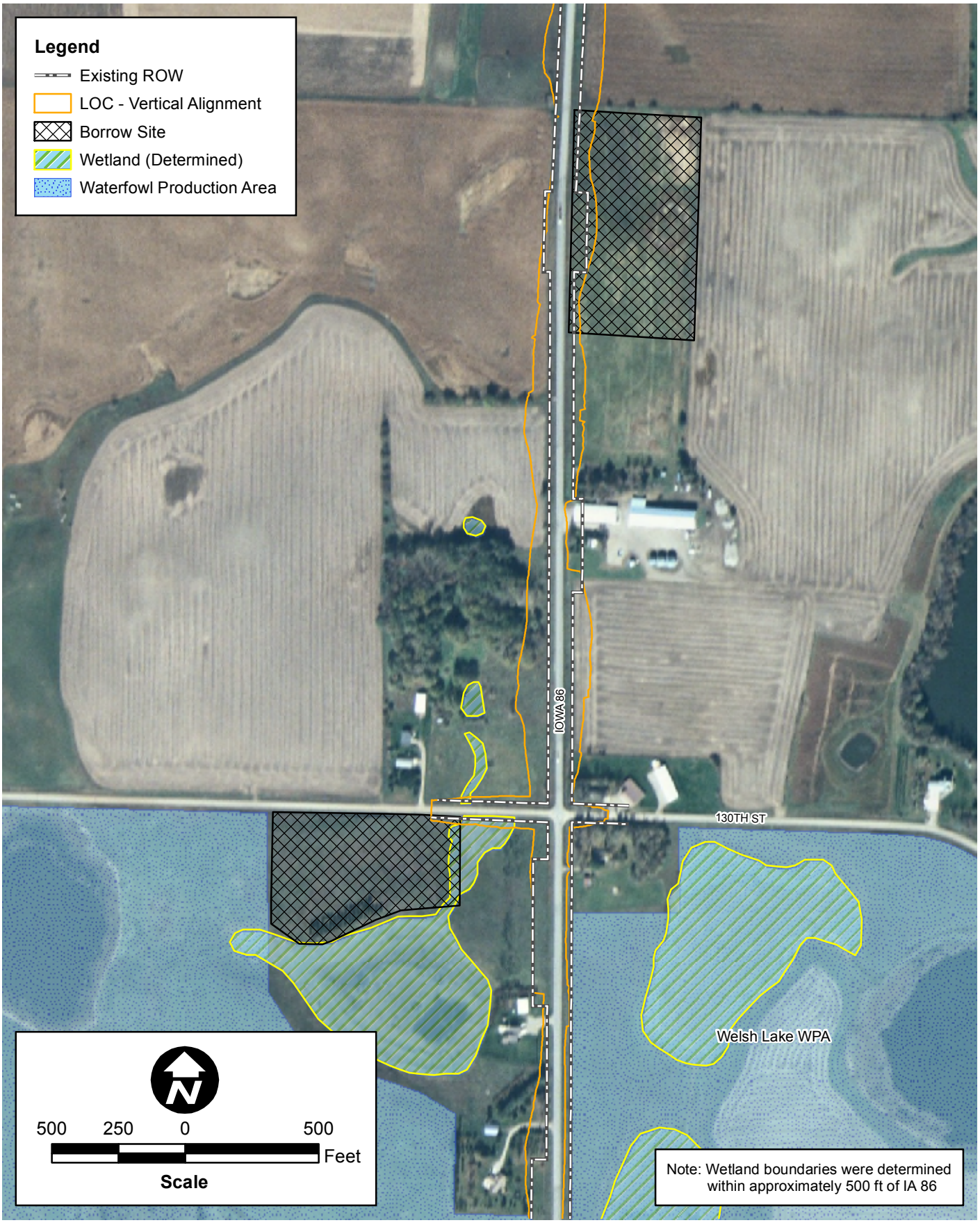
Iowa Highway 86 Environmental Constraints and Impacts

Iowa Department of Transportation

Iowa Highway 86 Environmental Assessment

DATE
June 2011

FIGURE
5-5



Z:\Projects\IDOT\70888_NEPA_Iowa_86_Redesign\map_docs\mxd\EA\Proposed_Borrow_Areas_EA.mxd\march11\jcm

HDR

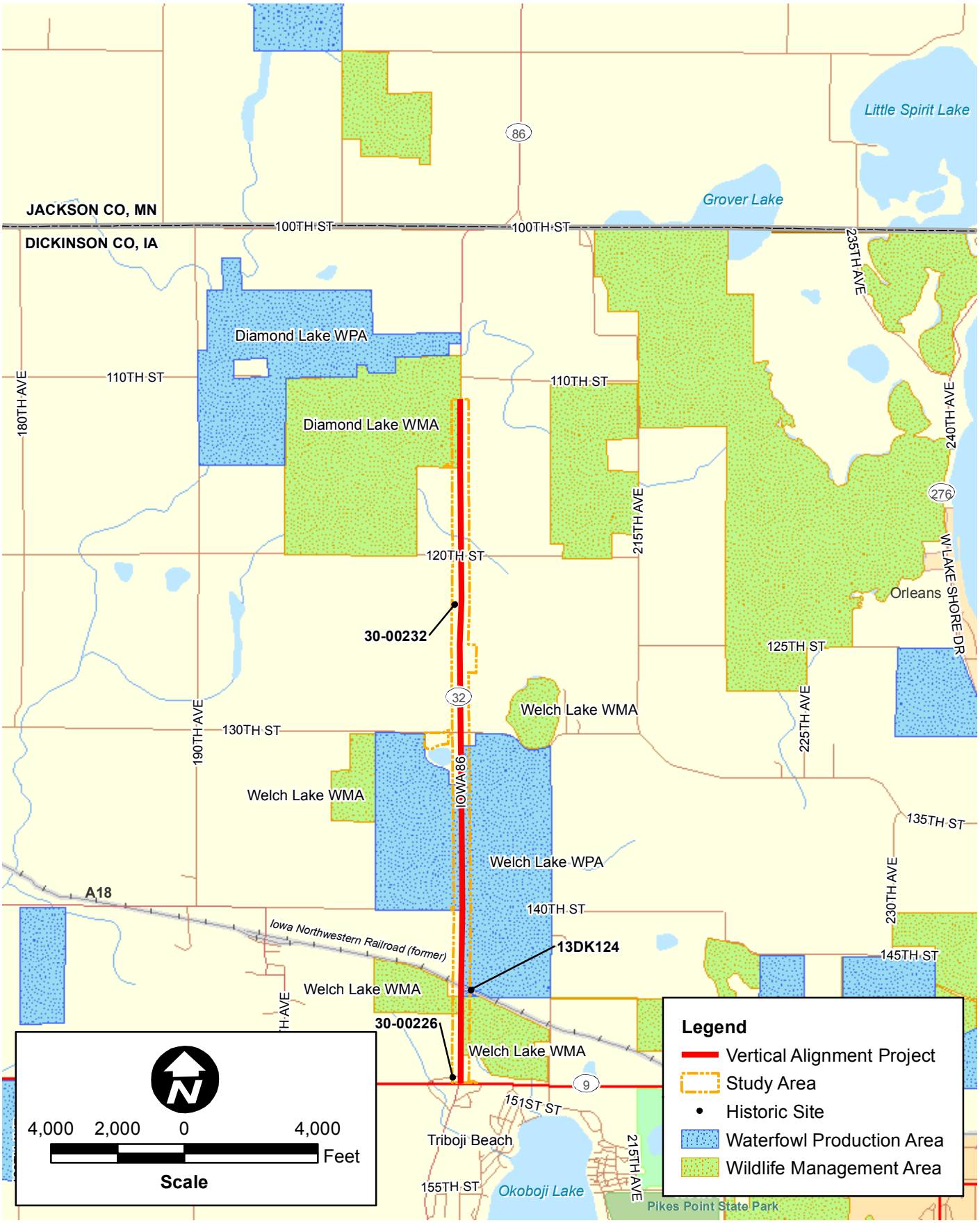
Iowa Highway 86 Proposed Borrow Areas

Iowa Department of Transportation

Iowa Highway 86 Environmental Assessment

DATE
March 2011

FIGURE
5-6



Z:\Projects\IDOT\70888_NEPA_Iowa_86_Redesign\map_docs\mxd\EA\Parks_Rec_Wildlife_Waterfowl_Areas_and_Historic_Sites_EA.mxd\march11\jcm

HDR

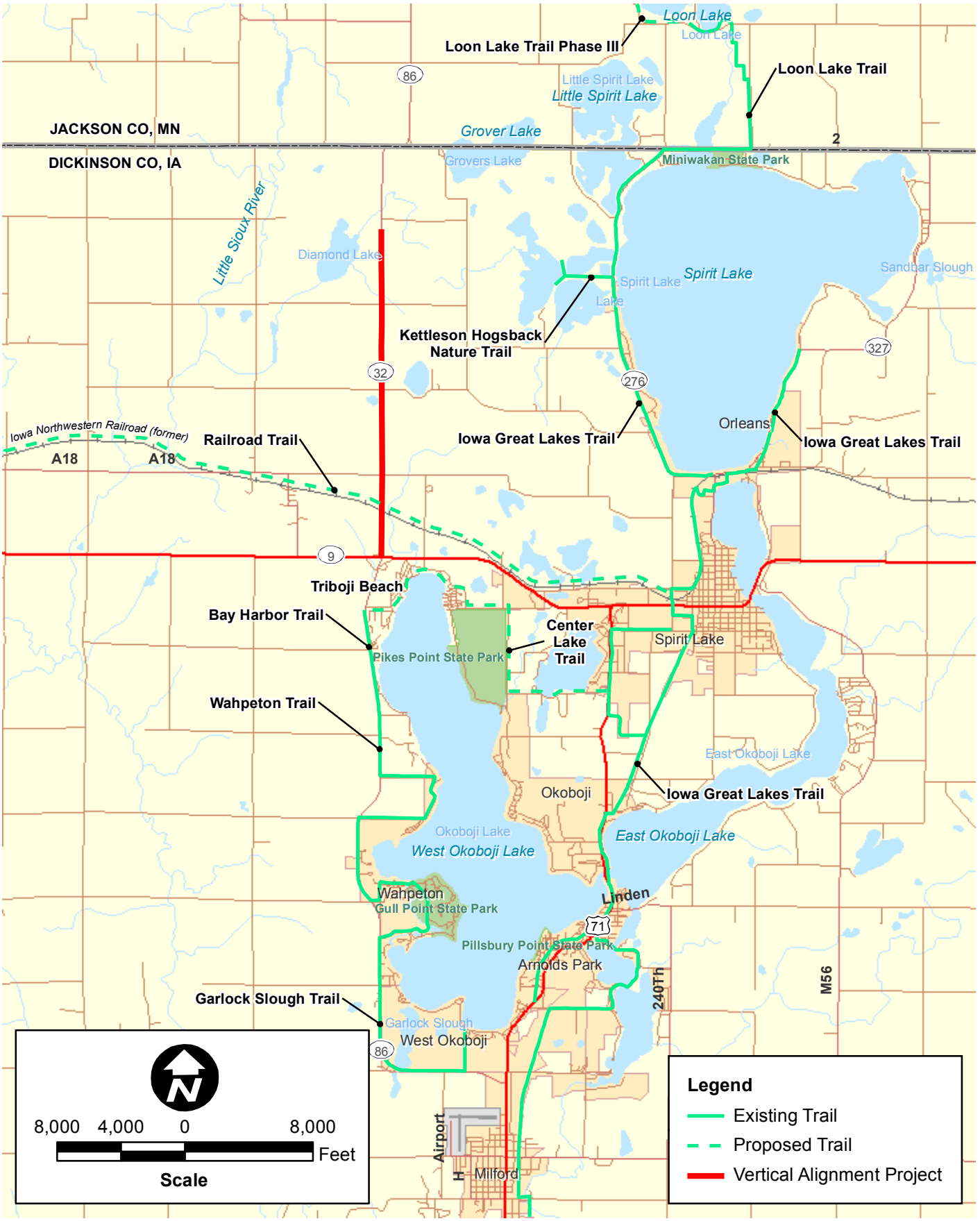
Parks, Recreation, Wildlife and Waterfowl Refuges, and Historic Sites

Iowa Department of Transportation

Iowa Highway 86 Environmental Assessment

DATE
March 2011

FIGURE
5-7



Z:\Projects\IDOT\70888_NEPA_Iowa_86_Redesign\map_docs\mxd\EA\Trails_EA.mxd\march11\jcm

HDR

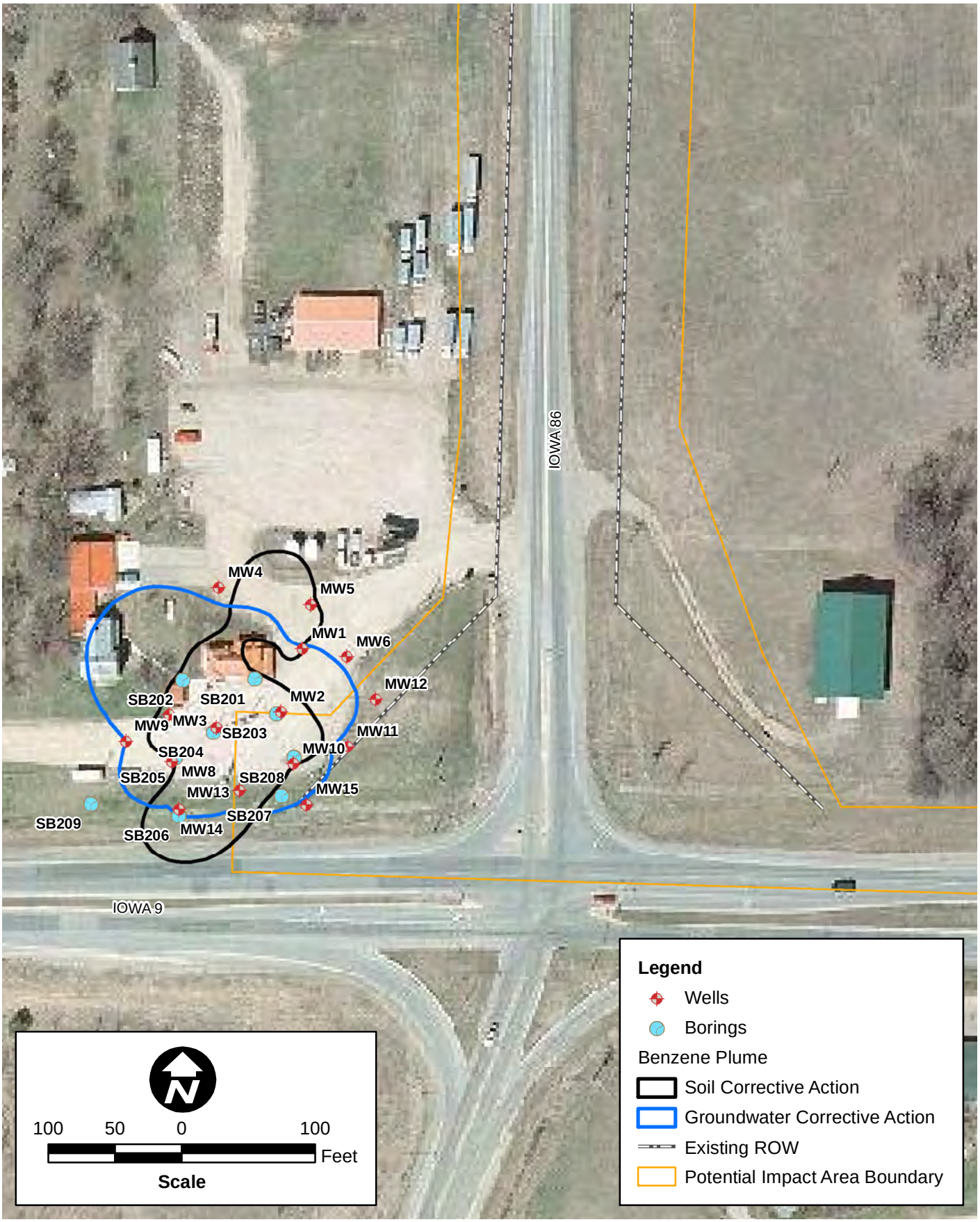
Existing and Proposed Trails

Iowa Department of Transportation

Iowa Highway 86 Environmental Assessment

DATE
March 2011

FIGURE
5-8



Z:\Projects\IDOT\70888_NEPA_Iowa_86_Redesign\map_docs\mxd\EA\Reg_Mat_Site_EA.mxd\may11\jcm

HDR

Soil and Groundwater Corrective Action Areas for Benzene at Vick's Corner

Iowa Department of Transportation

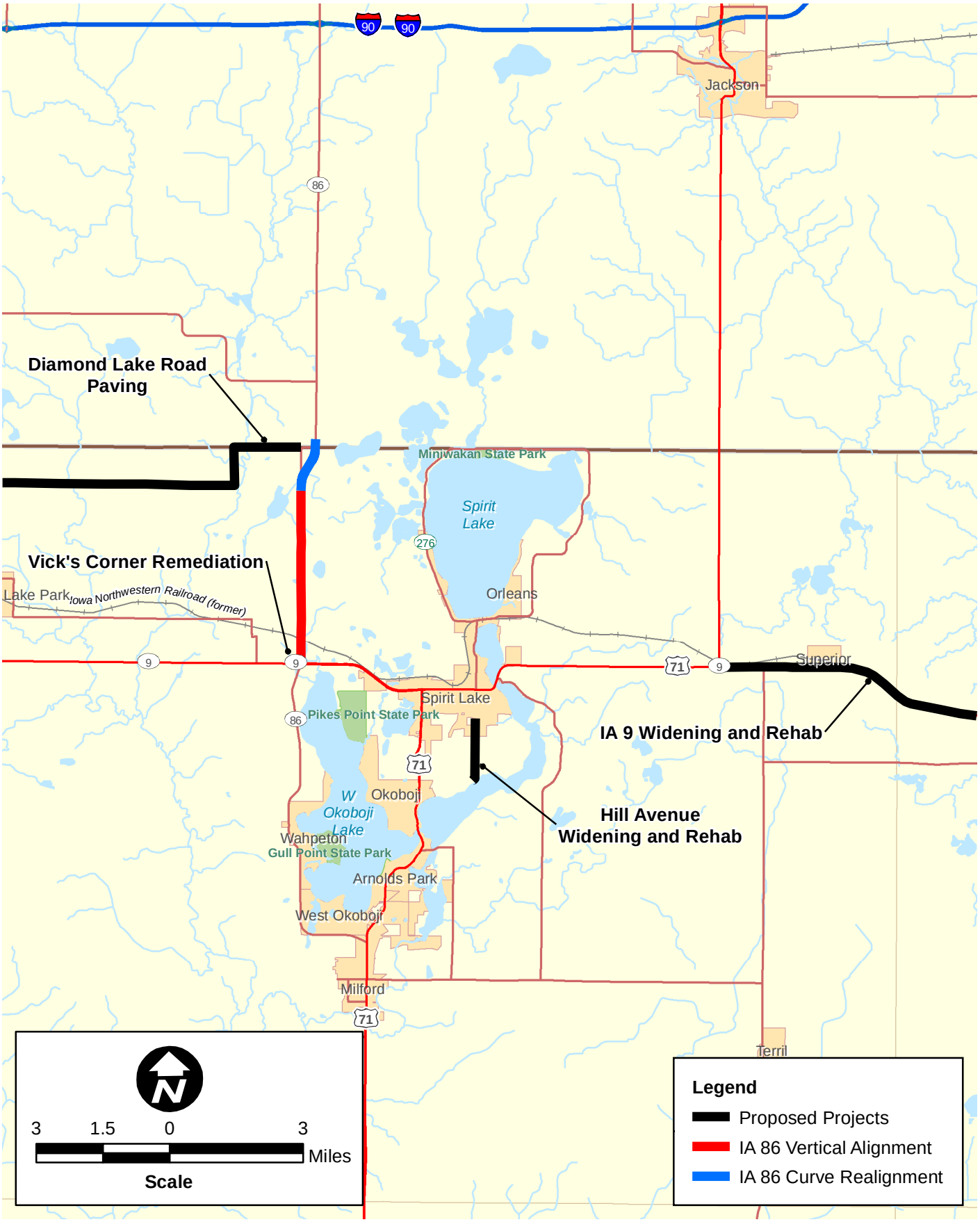
Iowa Highway 86 Environmental Assessment

DATE

May 2011

FIGURE

5-9



Z:\Projects\IDOT\70888_NEPA_Iowa_86_Redesign\map_docs\mxd\EA\Location_of_Proposed_Action_and_Other_Projects_EA.mxd\march11\jcm

HDR

Location of the Proposed Action and Other Projects

Iowa Department of Transportation

Iowa Highway 86 Environmental Assessment

DATE
June 2011

FIGURE
5-10

SECTION 6

DISPOSITION

SECTION 6
DISPOSITION

This streamlined EA concludes that the Project is necessary for safe and efficient travel within the Project corridor and that the Project meets the purpose and need. The Project would have no significant adverse social, economic, or environmental impacts of a level that would warrant an EIS. Alternative selection will occur following completion of the public review period and public hearing. Unless significant impacts are identified as a result of public review or at the public hearing, a FONSI will be prepared for this proposed action.

The Iowa Highway 86 Vertical Alignment Improvement Study EA is being distributed to the following agencies and organizations. Individuals receiving the EA are not listed for privacy reasons.

6.1 Federal Agencies

Federal Aviation Administration
Federal Emergency Management Agency
Federal Transit Administration
Small Business Administration
U.S. Army Corps of Engineers – Omaha District
U.S. Army Corps of Engineers – Rock Island District
U.S. Department of Agriculture – Natural Resources Conservation Service
U.S. Department of Housing and Urban Development
U.S. Department of the Interior – Office of Environmental Policy and Compliance
U.S. Environmental Protection Agency – Region 7
U.S. Fish & Wildlife Service – Rock Island Field Office
U.S. Fish & Wildlife Service – Union Slough National Wildlife Refuge
U.S. Fish & Wildlife Service – Fort Snelling Realty Office

6.2 State Agencies

Iowa Department of Natural Resources, Conservation and Recreation Division, and Environmental Services Division
Iowa Department of Natural Resources, Wildlife Bureau
Iowa Department of Transportation
State Historical Society of Iowa, Department of Cultural Affairs

6.3 Local/Regional Units of Government

Dickinson County Engineer
Dickinson County Board of Supervisors
Dickinson County Conservation Board

Dickinson County Zoning and Environmental Health
Natural Resource Conservation Service, Spirit Lake
Soil and Water Conservation District, Spirit Lake
Spirit Lake City Administrator
Spirit Lake City Council
Spirit Lake Public Works

6.4 Locations Where this Document Is Available for Public Review

Spirit Lake Public Library
702 16th Street
Spirit Lake, IA 51360

Federal Highway Administration
105 6th Street
Ames, IA 50010

Iowa Department of Transportation
800 Lincoln Way
Ames, IA 50010

Iowa Department of Transportation
3001 18th Street
Spirit Lake, IA 51360

6.5 Potential Permits Required for the Project

- Section 404 Permit with Section 401 Water Quality Certification
- Sovereign Lands Construction Permit
- National Pollutant Discharge Elimination System General Stormwater Discharge Permit for Construction Activities

6.6 Statewide Transportation Improvement Program and Transportation Improvement Program Status

The Iowa Transportation Improvement Program (TIP) 2011-2015 (June 2010) was approved and includes the Project Iowa 86: IA 9 to 0.5 Mile South of Minnesota" under the Surface Transportation Program (STP). The Project is identified as listed as "STP-086-1(10)—2C-30", sponsored by Iowa DOT, and approved by FHWA for incorporation in the Statewide Transportation Improvement Program (STIP) (December 6, 2010).

SECTION 7

COMMENTS AND COORDINATION

SECTION 7
COMMENTS AND COORDINATION

This section includes a summary of agency coordination, public involvement, and tribal coordination that has occurred during the development of this EA. Future public involvement efforts that are planned for the Project are also discussed. Appendix B contains agency coordination letters and comment letters received during the NEPA process for the Project.

7.1 Agency and Tribal Coordination

Early agency coordination commenced on December 21, 2007, through letters to the Federal, state, and local government agencies to announce the initiation of the Iowa Highway 86 Vertical Alignment Improvement Study and to solicit feedback from agencies on their relevant areas of expertise. The following entities were contacted as part of the early coordination efforts, and written responses to the early coordination request are provided in Appendix B:

Federal Agencies

- Federal Aviation Administration
- Federal Emergency Management Agency
- Federal Railroad Administration
- Federal Transit Administration
- U.S. Army Corps of Engineers – Omaha District
- U.S. Army Corps of Engineers – Rock Island District
- U.S. Department of Agriculture – Natural Resources Conservation Service
- U.S. Department of the Interior – National Park Service
- U.S. Department of the Interior – Office of Environmental Policy and Compliance
- U.S. Environmental Protection Agency – Region 7
- U.S. Fish & Wildlife Service – Rock Island, Illinois Field Office
- U.S. Fish & Wildlife Service – Union Slough National Wildlife Refuge

State Agencies

- Iowa Department of Natural Resources
- State Historical Society of Iowa

Local/Regional Units of Government

- Dickinson County Engineer
- Dickinson County Board of Supervisors
- Dickinson County Conservation Board
- Dickinson County Zoning and Environmental Health
- Natural Resource Conservation Service, Spirit Lake Service Center
- Soil and Water Conservation District, Spirit Lake

Tribes

- Iowa Tribe of Oklahoma
- Iowa Tribe of Kansas and Nebraska
- Otoe-Missouria Tribe

Letters from agencies are provided in Appendix B. No tribes commented on the Project. The comments received are summarized as follows:

- The Project should include a strong education program, considering the public support for the wetland areas that protect the West Okoboji Lake and Diamond Lake watersheds, within which most of this roadway is located. Perimeter erosion and sediment control practices should be installed prior to any construction work and should be maintained as required by the Clean Water Act. Iowa DOT should also follow Chapter 7, Erosion and Sediment Control, of the Iowa Statewide Urban Design and Specifications manual.
- There are no NRCS-administered programs adversely affected by this Project.
- It is necessary to consider whether the Project would require formal notice and review from an airspace standpoint.
- There are no site-specific records of rare species or significant natural communities, but numerous state- and Federally-listed threatened and endangered species are in the Project vicinity. Iowa DNR supports Iowa DOT's intention to survey the Study Area for threatened and endangered species, including flora and lepidopteron and avian fauna. If listed species or rare communities are found during the design or construction phases, additional studies and/or mitigation may be required.

- Any Project construction activity that disturbs more than 1 acre may require a stormwater discharge permit from Iowa DNR. Reasonable precautions should be taken to prevent the transport of visible emissions of fugitive dust into adjacent properties.
- Portions of the Diamond Lake WMA were purchased with Federal Sport Fish and Wildlife Restoration funding, and the WPAs that would be affected by the Project are Federally owned lands managed by Iowa DNR. USFWS needs to be involved in Project planning.
- Based on currently available information, the Project would require USACE authorization under Section 404 of the Clean Water Act. It appears likely that the Project would require an individual Section 404 permit. The application for authorization should include final wetland delineations and details of impacts on wetlands and other waters of the U.S. Should an individual permit be required, prior to completing the permit review process and in compliance with the Clean Water Act Section 404(b)(1) guidelines, USACE would require sequential mitigation involving an alternatives analysis, minimization of impacts, and compensatory mitigation for any unavoidable impacts. Avoidance considerations need to be included. The alternatives analysis must demonstrate how impacts on wetlands would be avoided by selection of the least environmentally damaging practicable alternative.
- Project planning should be coordinated with EPA, which is currently involved in a program to protect groundwater resources.

7.2 NEPA/404 Merge Coordination

FHWA and Iowa DOT coordinated with resource agencies using the Iowa DOT concurrence point process. The process incorporates planning, design, agency coordination, and public involvement elements, and it integrates compliance with NEPA and Section 404 of the Clean Water Act. The transportation agencies request agency concurrence regarding four points: Concurrence Point 1 Purpose and Need, Concurrence Point 2 Alternatives to be Analyzed, Concurrence Point 3 Alternatives to be Carried Forward, and Concurrence Point 4 Preferred Alternative. The intent of this concurrence point process is to encourage early participation by the regulatory agencies in an effort to validate decisions made by the transportation agency during the NEPA process and to avoid revisiting those decisions after significant effort has been expended performing detailed analyses and design.

Concurrence Points 1 and 2 were addressed at one meeting held on January 28, 2009. At this meeting, all attending resource agency participants (USACE – Rock Island District, USDA-NRCS, Iowa DNR, EPA, and USFWS) concurred on both points, noting that an adequate number of alternatives were considered. General comments from this meeting are summarized as follows:

- Attending agencies discussed potential impacts for each of the build alternatives.
- Agencies appreciated that ROW acquisition was being minimized with the improvements focused along the existing IA 86 and adjacent land.

- USACE and other agencies indicated that Alternative 4 might be excluded from further consideration.

Concurrence Points 3 and 4 were addressed at one meeting held on April 28, 2010. At this meeting, all attending resource agency participants (USACE – Rock Island District, EPA, and USFWS – Rock Island Field Office Iowa DNR) concurred on both points. Concurrence Point 3 was for carrying forward the No-Build Alternative and Build Alternative (Alternative 3 of Concurrence Point 2) for detailed evaluation, and Concurrence Point 4 was for identifying the Build Alternative as the Preferred Alternative. Comments from this meeting are summarized as follows:

- USFWS asked whether the land being maintained as Iowa DOT ROW along IA 86 through the WPAs was held via easement or fee title. Iowa DOT noted that this land is currently held under fee title.
- USFWS agreed with Iowa DOT and FHWA opinion that the WPA land was protected under Section 4(f) and that the use of land could be addressed under the Section 4(f) *de minimis* process. Loss of land through purchase would require the acquisition of replacement land to protect the quantity and quality of land and habitat. USFWS would need to address compatibility of the new land and conduct their own environmental process for acquisition and incorporation into the WPA program. USFWS would work with Iowa DOT and FHWA to determine suitable mitigation for the use of WPA land. Based on the amount of land needed, the minimum amount of replacement land would vary depending on whether the new land was adjacent to an existing WPA.
- Iowa DNR could accept funds for acquisition of WMA land qualifying for Section 4(f) protection without replacing the land.

7.3 Public Involvement

An extensive public involvement program was used during the development of the Project to effectively engage the general public and interested parties in the Project. The following sections outline the key components of this program.

7.3.1 Public Meetings

A kick-off public information meeting (PIM) was held from 5:00 to 7:00 p.m. on August 2, 2006, at the Dickinson County Community Building (Fairgrounds) to provide information on the IA 86 Vertical Alignment Improvement Project and IA 86 Curve Realignment Project to the public and to gather public feedback. Representatives from Iowa DOT were present to discuss the Project and show design alternatives to the public. Attendees were able to provide comments verbally and in writing at the meeting as well as by sending in their comments after the meeting.

Forty-two people attended the PIM. The meeting was generally well received, with several positive statements regarding the Project. The following is a summary of oral public

comments made at the public meeting. The comments are grouped by topic, and responses are provided in italics following the comment.

Existing Conditions

- A common theme of the comments was the need for improvements to IA 86. Many of the comments concerned the existing conditions of IA 86, which has narrow shoulders and poor geometry, and the need to complete improvements in a timely manner. *Response: The Project is planned to correct the narrow cross section and improve the vertical geometry of the roadway. The NEPA and design process are planned to be completed in an interactive and expeditious manner to keep the Project proceeding.*

Alternatives

- The majority of the comments centered on Alternatives 3 and 4. Many of the attendees without land ownership interests within the Project limits showed support for Alternative 3 (reconstructing IA 86 in the Study Area to improve the existing cross section and vertical alignment with horizontal shifts from its existing alignment and varying foreslopes), whereas landowners within the Project limits showed a preference for Alternative 4 (which would not shift the alignment or have different foreslopes, regardless of whether the WMAs and WPAs are adjacent to IA 86). Some of the support for Alternative 4 was due to the proposed access to the two homesteads located within the Project limits. *Response: Iowa DOT is considering access issues in the design process and will seek to minimize impacts to landowners while designing a roadway that improves the vertical profile and meets Iowa DOT standards.*

Property Impacts

- The owner of Vick's Corner (at the northwest corner of the intersection of IA 9 and IA 86) expressed support for the proposed improvement. Iowa DOT had purchased land from him in the past for an intersection project and may have to acquire additional ROW for the Project. *Response: No response necessary.*

7.3.2 Correspondence

During the course of the Project, correspondence was received from the public through a variety of means, including the PIM, telephone calls, letters, and email. All public correspondence was logged.

7.3.3 Future Public Involvement

A public hearing on the Signature EA is anticipated for July 2011.

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 8

REFERENCES

SECTION 8
REFERENCES

7 Code of Federal Regulations (CFR) 658. Farmland Protection Policy Act of 1981.

14 CFR 77. Objects Affecting Navigable Airspace.

23 CFR 774. Section 4(f) of the Department of Transportation Act of 1966.

40 CFR 1502.22(b). Incomplete or Unavailable Information. Council on Environmental Quality - Regulations for Implementing the National Environmental Policy Act.

40 CFR 1508.7. Cumulative Impact.

42 FR 26951. May 24, 1977. Executive Order 11988, Floodplain Management.

16 U.S. Code (USC) 1531 et seq. Endangered Species Act of 1973, as amended.

16 USC 460l-4 through 460l-11. Land and Water Conservation Fund Act of 1965.

23 USC 138. Preservation of Parklands.

33 USC 1251 et seq. Clean Water Act, as amended.

42 USC 4601 et seq. Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

49 USC 303. Policy on Lands, Wildlife and Waterfowl Refuges, and Historic Sites.

Alliant Energy. 2009a. Personal communication with Heather Dee regarding the Alliant Montgomery Energy Substation. January 6, 2009.

Alliant Energy. 2009b. Personal communications with Jason Hogan regarding the Alliant Montgomery Energy Substation. January 6 and 13, 2009.

CEQ. January 1997. Considering Cumulative Effects Under the National Environmental Policy Act. http://ceq.eh.doe.gov/nepa/ccenepa/ccenepa.htm. Retrieved on October 3, 2008.

CEQ. June 24, 2005. Guidance on the Consideration of Past Actions in Cumulative Effects Analysis. http://ceq.hss.doe.gov/nepa/regs/Guidance_on_CE.pdf. Retrieved on October 3, 2008.

Dickinson County. n.d. GIS Parcel Data Map. Dickinson County Assessor. http://dickinsonia.mygisonline.com/. Retrieved in November and December 2008, December 2010, and January 2011.

Dickinson County. 2006. 2006 Comprehensive Land Use Development Plan. Prepared with planning and technical assistance by Northwest Iowa Planning & Development Commission, Spencer, Iowa. http://www.co.dickinson.ia.us/departments/Zoning/pdf/2006%20Dickinson%20Co%20Comp%20Plan.pdf. Retrieved on September 22, 2008.

Dickinson County. December 10, 2008. Personal communication with David Kolhaase, Dickinson County Planner, regarding land use in the vicinity of Iowa 86.

Dickinson County. January 19, 2010. Personal communication with Steve Litts, Dickinson County Trails Board Director, regarding purchase of former Iowa Northwestern Railroad right-of-way for a proposed recreational trail.

Dickinson County. March 4, 2010. Personal communication with David Kolhaase, Dickinson County Planner, regarding land use in the vicinity of Iowa 86.

Dickinson County. December 13, 2010. Personal communication with Steve Litts, Dickinson County Trails Board Director, regarding purchase of former Iowa Northwestern Railroad right-of-way for a proposed recreational trail.

Dickinson County. January 14, 2011. Personal communication with Steve Litts, Dickinson County Trails Board Director, regarding purchase of former Iowa Northwestern Railroad right-of-way for a proposed recreational trail.

EPA. September 17, 2008. PCB Transformer Registration Database. http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/data.htm Retrieved on January 7, 2009.

EPA. December 10, 2008. Facility Registry System. Query Form. http://www.epa.gov/enviro/html/fii/fii_query_java.html. Retrieved on December 30, 2008.

EPA. December 23, 2008. Integrated Risk Information System database at http://www.epa.gov/iris. Retrieved on December 29, 2008.

FAA. January 14, 2011. "Notice Criteria Tool." https://oeaaa.faa.gov/oeaaa/external/gisTools/gi...=40&traverseway=NO&onAirport=false&submit=Submit [1/14/2011 1:42:06 PM]. Retrieved on January 14, 2011.

FHWA. n.d. A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives. Retrieved on December 29, 2008. www.fhwa.dot.gov/environment/airtoxic/msatcompare/msatemissions.htm.

FHWA. April 1992. Secondary and Cumulative Impact Assessment in the Highway Project Development Process.

FHWA. January 31, 2003. Questions and Answers Regarding Indirect and Cumulative Impact Considerations in the NEPA Process.

FHWA, Office of Planning, Environment, and Realty – Project Development and Environmental Review. March 1, 2005. Section 4(f) Policy Paper.

GEOTEK. April 30, 2003. Leaking Underground Storage Tank Tier 2 Site Cleanup Report for Leak Number 8LTT18, Vick's Corner.

HDR. December 2008. Regulated Materials Technical Memorandum Addendum Phase I Environmental Site Assessment for IA 86 and MN 86.

HDR. January 14, 2009. Section 4(f) Memorandum. Section 4(f) Decision Process Step 1: Is it 4(f)?

HDR. January 16, 2009. Site Visit Memorandum.

HDR. February 1, 2010. Section 4(f) Decision Process Step 1: Is it 4(f)? Addendum.

HDR. March 15, 2010. Section 4(f) Decision Process Step 1 through 5 Process for IA 86

Iowa Attorney General's Office. 2008. News Release: $10,000 Penalty for Open Burning and Solid Waste Violations Near Lake Okoboji. http://www.state.ia.us/government/ag/latest_news/releases/oct_2008/Cohrs_10000.html. Retrieved on October 13, 2008.

Iowa Code, Chapter 316. Iowa Relocation Assistance Law.

Iowa DNR. n.d. Iowa DNR Contaminated Sites Database. https://programs.iowadnr.gov/contaminatedsites/pages/search.aspx. Retrieved on December 31, 2008 and January 13, 2011.

Iowa DNR. n.d. Iowa DNR Interactive Mapping (Hydrogeologic Atlas). http://www.iowadnr.gov/mapping/maps/hydrogeologic_atlas.html. Retrieved on November 2008 and January 2009.

Iowa DNR. n.d. Iowa DNR Interactive Mapping (Natural Areas Inventory). Dickinson County. https://programs.iowadnr.gov/naturalareasinventory/pages/RepDistinctSpeciesByCounty.aspx?CountyID=30. Retrieved on January 19, 2009.

Iowa DNR. n.d. Iowa DNR Interactive Mapping (Watershed Atlas). http://www.iowadnr.gov/mapping/maps/watershed_atlas.htm. Retrieved on December 2008 and January 2009.

Iowa DNR. n.d. Iowa's Wildlife Management Areas. http://www.iowadnr.gov/wildlife/wmamaps/index.html. Retrieved January 17, 2011.

Iowa DNR. 1996. Welch Lake Waterfowl Production Area Management Plan: Rogers-Gunderson-Cohrs Tracts.

Iowa DNR. July 15, 2008. Category 5 of Iowa's Final-Approved 2006 Integrated Report: The Section 303(d) List of Impaired Waters, as approved by U.S. EPA on July 14, 2008. http://wqm.igsb.uiowa.edu/wqa/303d/2006/Iowa_06-final-approved-IR-Cat-5-303d.pdf. Retrieved on October 6, 2008.

Iowa DNR. December 9, 2008. Category 5 [303(d) list] of Iowa's DRAFT 2008 Integrated Report. http://wqm.igsb.uiowa.edu/WQA/303d/2008/Draft08IR_Cat-5_303d.pdf. Retrieved on January 15, 2009.

Iowa DNR. December 18, 2008. Personal communication with Brian Whiting regarding improper burning and disposal of wastes at Cohrs Construction.

Iowa DNR. December 15, 2010. Personal communication with Ruth Hummel regarding remediation at Vick's Corner, LUST 8LTT18.

Iowa DNR. May 31, 2010. Personal communication with Ruth Hummel regarding remediation at Vick's Corner, LUST 8LTT18.

Iowa DNR and Public Safety State Fire Marshal Office. n.d. Storage Tanks (Interactive Database of Leaking Underground Storage Tanks. https://programs.iowadnr.gov/tanks/pages/advanced.aspx. Retrieved in December 2008 and December 2010.

Iowa DNR, Geological Survey. n.d. Geologic Sample Database (Geosam), Dickinson County. http://www.igsb.uiowa.edu/webapps/geosam/scripts/frame1.asp?county=DICKINSON. Retrieved on _July 6, 2010.

Iowa DNR/IGS. n.d. Groundwater Provinces for the State of Iowa. http://www.igsb.uiowa.edu/gwbasics/Chapters/Iowa%20Groundwater%20Provinces.pdf. Retrieved on October 6, 2008.

Iowa DOT. n.d. Crash Rates and Crash Densities in Iowa by Road System 2002 – 2005. http://www.iowadot.gov/crashanalysis/pdfs/crash_rate-density_comparables_segments_20060627_full.pdf. Retrieved on _June 8, 2010.

Iowa DOT. March 14, 2011. Letter from Scott Marler, Iowa DOT, Office of Location and Environment, to Kelly Poole, Iowa Department of Natural Resources.

Iowa DOT. May 17, 2007. Iowa DOT Policies and Procedures Manual, Highway Traffic Noise Analysis and Abatement.

Iowa DOT. February 12, 2008. Final Concept Memo for the Vertical Realignment Improvement Study.

Iowa DOT. April 29, 2008. 2007 Traffic Flow Map for Dickinson County. http://www.iowadotmaps.com/msp/traffic/2007/counties/DICKINSON.pdf. Retrieved on January 19, 2009.

Iowa DOT. August 5, 2008. Letter from Matthew Donovan, Iowa DOT Office of Location and Environment, dated August 5, 2008, with concurrence from Douglas Jones, SHPO Archaeologist, Bureau of Historic Preservation, State Historical Society of Iowa, on August 8, 2008.

Iowa DOT. October 9, 2009. Letter from Matthew Donovan, Iowa DOT Office of Location and Environment, dated October 9, 2009, with concurrence from Douglas Jones, SHPO Archaeologist, Bureau of Historic Preservation, State Historical Society of Iowa, on October 14, 2009.

Iowa DOT. January 8, 2010. Letter from Matthew Donovan, Iowa DOT Office of Location and Environment, dated January 8, 2010, with concurrence from Douglas Jones, SHPO Archaeologist, Bureau of Historic Preservation, State Historical Society of Iowa, on January 12, 2010.

Iowa DOT. January 21, 2010. Personal Communication with Matt Donovan, Office of Location and Environment, Regarding the Potential NRHP Eligibility of an Iowa Northwestern Railroad Bridge Located near Iowa 86.

Iowa DOT. February 24, 2010. Letter from Matthew Donovan, Iowa DOT Office of Location and Environment, dated February 24, 2010, with concurrence from Ralph Christian, SHPO Historian, Bureau of Historic Preservation, State Historical Society of Iowa, on March 5, 2010.

Iowa DOT. June 2010. 2011-2015 Iowa Transportation Improvement Plan. http://www.iowadot.gov/program_management/five_year.htm. Retrieved on June 17, 2010.

Iowa DOT. December 6, 2010. 2011-2014 Iowa Statewide Transportation Improvement Plan. http://www.iowadot.gov/program_management/stip.html. Retrieved on December 14, 2010.

Iowa DOT. December 28, 2010. Letter from Iowa DOT to Bureau of Historic Preservation, State Historical Society of Iowa Regarding Road Improvements to Iowa Highway 86 in Dickinson County, Iowa, and Jackson County, Minnesota. Section 11, T100N-R37W I Section 32, T101N-R36W, De Minimis Finding /NEPA Documentation.

Iowa DOT, Highway Division. November 5, 2009. Field Exam Plans, IA 86 from IA 9 N to Just N. of Minnesota State Line.

Iowa DOT, Highway Division. December 22, 2010. Preliminary Plans D3 Revision, IA 86 from IA 9 to Just North of Relocated Curves South of Minnesota Line.

Iowa DOT, Office of Design. February 12, 2008. 2011-3R Project Concept (Final). Dickinson County, STPN-086-1(10)--2J-30. IA 86, from IA 9 north to the curves south of the Minnesota border.

Iowa DOT, Office of Location and Environment. August 2009. Office of Location and Environment Manual.

Iowa DOT, Office of Traffic and Safety. n.d. Crash data for IA 86, obtained from Geographic Information System (GIS) SAVER on the Iowa Crash Analysis website – Iowa Office of Traffic and Safety at http://www.iowadot.gov/crashanalysis/index.htm. Retrieved on June 8, 2010.

Iowa DOT, Office of Traffic and Safety, Engineering Bureau, Highway Division in cooperation with Office of Driver Services, Motor Vehicle Division. June 21, 2006. Crash Rates and Crash Densities in Iowa by Road System 2002 – 2005. http://www.iowadot.gov/crashanalysis/pdfs/crash_rate-density_comparables_segments_20060627_full.pdf. Retrieved on December 2, 2008.

Iowa DOT, Office of Traffic and Safety. January 2, 2009. GIS SAVER on the Iowa Crash Analysis website. http://www.iowadot.gov/crashanalysis/index.htm. Retrieved on February 5, 2009.

Iowa State University. n.d. Iowa Geographic Map Server. http://ortho.gis.iastate.edu/. Retrieved in December 2008 and January 2009.

MPS Engineers. November 8, 2010. Tier 2/Site Monitoring Report for LUST 8LTT18, Vick's Corner.

Nature Serve Explorer. October 2008a. Lespedeza leptostachya. http://www.natureserve.org/explorer/servlet/NatureServe?searchName=Lespedeza+leptostachya. Retrieved on January 16, 2009.

Nature Serve Explorer. October 2008b. Hesperia dacotae. http://www.natureserve.org/explorer/servlet/NatureServe?searchName=Hesperia+dacotae. Retrieved on January 16, 2009.

Rides. January 18, 2011. Personal communication with Colleen Smith, Rides operations, regarding public transportation service on and in the vicinity of IA 86 north of IA 9.

Spirit Lake Community School District. January 19, 2011. Personal communication with Jim Tirevold, Director of Operations, regarding school bus service on and in the vicinity of IA 86 north of IA 9.

Tallgrass Historians. December 2009. Iowa 86: Architectural/Historical Intensive Level Survey, Dickinson County, Iowa.

USFWS. n.d. Prairie Bush Clover (*Lespedeza leptostachya*). http://ecos.fws.gov/speciesProfile/SpeciesReport.do?spcode=Q2CB. Retrieved on January 12, 2009.

USFWS. n.d. Western Prairie Fringed Orchid (*Platanthera praeclara*). http://ecos.fws.gov/speciesProfile/SpeciesReport.do?spcode=Q2YD. Retrieved on January 12, 2009.

USFWS. April 16, 2007. U.S. Fish and Wildlife Service Species Assessment and Listing Priority Assignment Form. Sheepnose Mussel (*Plethobasus cyphyus*). http://ecos.fws.gov/docs/candforms_pdf/r3/F046_I01.pdf. Retrieved on January 12, 2009.

USFWS. September 2007. Iowa County Distribution of Federally Threatened, Endangered, Proposed, and Candidate Species. http://www.fws.gov/midwest/Endangered/lists/iowa_cty.html. Retrieved on November 20, 2008.

USFWS. April 14, 2008. U.S. Fish and Wildlife Service Species Assessment and Listing Priority Assignment Form. Dakota Skipper (Hesperia dacotae). http://ecos.fws.gov/docs/candforms_pdf/r3/I011_I01.pdf. Retrieved on January 12, 2009.

Wapsi Valley Archaeology. August 2008. Phase I Intensive Archaeological Survey of Iowa Highway 86, Projects STP-086-1(10)—2C-30 and STP-086-1(8)—2C-30, Dickinson County, Iowa, and Jackson County, Minnesota.

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX A

STREAMLINED RESOURCE SUMMARY

SOCIOECONOMIC IMPACTS SECTION:

Land Use	
Evaluation:	Resource is in the study area but will not be impacted
Method of Evaluation:	Report
Completed by and Date:	Resource Agency, 10/3/2008
Community Cohesion	
Evaluation:	Resource is in the study area but will not be impacted
Method of Evaluation:	Field Review/Field Study
Completed by and Date:	Consultant, 10/3/2008
Churches and Schools	
Evaluation:	Resource is not in the study area
Method of Evaluation:	Database
Completed by and Date:	Consultant, 9/16/2008
Environmental Justice	
Evaluation:	Resource is not in the study area
Method of Evaluation:	Database
Completed by and Date:	Consultant, 12/16/2008
Economic	
Evaluation:	Resource is in the study area but will not be impacted
Method of Evaluation:	Database
Completed by and Date:	Consultant, 12/16/2008
Joint Development	
Evaluation:	Resource is not in the study area
Method of Evaluation:	Database
Completed by and Date:	Consultant, 12/16/2008
Parklands and Recreational Areas	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Database
Completed by and Date:	Consultant, 12/16/2008
Bicycle and Pedestrian Facilities	
Evaluation:	Resource is not in the study area
Method of Evaluation:	Database
Completed by and Date:	Consultant, 12/16/2008
Right-of-Way	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Database
Completed by and Date:	Consultant, 12/16/2008
Relocation Potential	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Field Review/Field Study
Completed by and Date:	IA DOT NEPA Manager, 12/15/2010

SOCIOECONOMIC IMPACTS SECTION Continued:

Construction and Emergency Routes	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Field Review/Field Study
Completed by and Date:	Consultant, 12/16/2008
Transportation	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Database
Completed by and Date:	Consultant, 12/16/2008

CULTURAL IMPACTS SECTION:

Historic Sites or Districts	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Report
Completed by and Date:	Subconsultant, 2/24/2010
Archaeological Sites	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Report
Completed by and Date:	Subconsultant, 8/5/2008
Cemeteries	
Evaluation:	Resource is not in the study area
Method of Evaluation:	Other
Completed by and Date:	Consultant, 12/12/2008

NATURAL ENVIRONMENT IMPACTS SECTION:

Wetlands	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Field Review/Field Study
Completed by and Date:	Consultant, 12/15/2008
Surface Waters and Water Quality	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Field Review/Field Study
Completed by and Date:	Consultant, 12/15/2008
Wild and Scenic Rivers	
Evaluation:	Resource is not in the study area
Method of Evaluation:	Database
Completed by and Date:	Consultant, 12/15/2008
Floodplains	
Evaluation:	Resource is not in the study area
Method of Evaluation:	Database
Completed by and Date:	Consultant, 12/15/2008
Wildlife and Habitat	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Field Review/Field Study
Completed by and Date:	Consultant, 12/15/2008
Threatened and Endangered Species	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Field Review/Field Study
Completed by and Date:	Consultant, 12/15/2008
Woodlands	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Field Review/Field Study
Completed by and Date:	Consultant, 12/15/2010
Farmlands	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Database
Completed by and Date:	Consultant, 12/15/2008

PHYSICAL IMPACTS SECTION:

Noise	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Other
Completed by and Date:	Consultant, 12/15/2008
Air Quality	
Evaluation:	Resource is in the study area but will not be impacted
Method of Evaluation:	Database
Completed by and Date:	Consultant, 12/15/2008
MSATs	
Evaluation:	This project will not result in any meaningful changes in traffic volumes, vehicle mix, location of the existing facility, or any other factor that would cause an increase in emissions impacts relative to the no-build alternative. As such, FHWA has determined that this project will generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special MSAT concerns. Consequently, this effort is exempt from analysis for MSATs. Moreover, EPA regulations for vehicle engines and fuels will cause overall MSATs to decline significantly over the next 20 years. Even after accounting for a 64 percent increase in VMT, FHWA predicts MSATs will decline in the range of 57 percent to 87 percent, from 2000 to 2020, based on regulations now in effect. This will both reduce the background level of MSATs as well as the possibility of even minor MSAT emissions from this project.
Method of Evaluation:	FHWA Interim Guidance on Air Toxic Analysis in NEPA Documents, February 3, 2006
Completed by and Date:	IA DOT NEPA Manager, 6/28/2010
Energy	
Evaluation:	Resource is in the study area but will not be impacted
Method of Evaluation:	Other
Completed by and Date:	Consultant, 10/3/2008
Contaminated and Regulated Materials Sites	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Report
Completed by and Date:	Resource Agency, 12/15/2010
Visual	
Evaluation:	Resource is in the study area but will not be impacted
Method of Evaluation:	Field Review/Field Study
Completed by and Date:	Consultant, 12/15/2008
Utilities	
Evaluation:	Resource is discussed in Section 5 of the Resource Analysis
Method of Evaluation:	Other
Completed by and Date:	Consultant, 12/15/2010

APPENDIX B

AGENCY AND TRIBAL COORDINATION

Iowa Department of Transportation

800 Lincoln Way, Ames, Iowa 50010

515-239-1510
FAX: 515-239-1726

March 14, 2011

Ref: Dickinson County
STP-086-1(10)--2C-30
PIN: 08-30-086-010
HSIPX-086-1(8)--3L-30
PIN: 07-30-086-010

Kelly Poole
Iowa Department of Natural Resources
502 East 9th Street
Des Moines, Iowa 50319

Dear Ms. Poole:

The Iowa Department of Transportation (DOT) is proposing improvements in Dickinson County to Iowa Highway 86 from Iowa Highway 9 north to near the Minnesota border (Sections 11, 14, 23, and 26 of Township 100 North, Range 37 West). The project includes approximately 5 miles of vertical alignment improvements and 0.5 mile of curve realignment (see Figure 1, enclosed).

A review of the Iowa Department of Natural Resources (DNR) Natural Areas Inventory (NAI) database shows one occurrence of a state listed species, Clustered broomrape (*Orobanche fasciculate*), within a 1-mile radius of the project (see Figure 2, enclosed).

Early coordination letters were sent out by the Iowa DOT on December 21, 2007 requesting agency input and comments (enclosed). The Iowa DNR responded by letter dated January 17, 2008 (enclosed) stating that while there are no site-specific records of rare species or significant natural communities from within the proposed project right-of-way, numerous state and federally-listed threatened and endangered species are in the vicinity of the project.

On June 24, 2008 HDR Engineering, Inc. (HDR) conducted a field survey of the project area to identify potential wildlife habitat, including threatened or endangered species habitat. HDR documented that the project area consists of rolling agricultural lands, sporadic glacial pothole wetlands, and a restored prairie. HDR determined that the project area does not contain suitable habitat for the western prairie fringed orchid, Dakota skipper, Prairie bush clover or sheepnose mussel (Determination of Effect forms enclosed).

The Iowa DOT held a meeting with regulatory agencies regarding the project on April 28, 2010. An email from Christine Schwake dated April 26, 2010 (enclosed) summarizing pre-meeting concerns states that John Pearson had no plant issues and Daryl Howell said Iowa DOT will need butterfly surveys of the prairie areas including the reconstructed areas.

Daryl Howell returned a phone call to Mike Carlson on May 10, 2010 to discuss DNR's request for butterfly surveys. Mike stated that none of the identified prairie areas would be directly impacted by road construction as Diamond Lake Wildlife Management Area is being completely avoided. Daryl concluded that since no prairie areas were being taken for construction, butterfly surveys were unnecessary (documentation enclosed).

A review by Bill Pusateri, Iowa DOT staff botanist, concluded that the probability to encounter threatened, endangered or special concern species along the proposed Iowa Highway 86 corridor is low. The corridor has been cultivated and disturbed and would not likely harbor species of concern or state listed species for Dickinson County.

The Iowa DOT reviewed aerial photography from the 1930s, 1950, 1960s and 1970s and determined that the entire project area, with the exception of farmsteads, building sites and roadways, has been cultivated under row crop agriculture at one time or another. In fact, most of the project area appears to be consistently cropped in the past, showing tillage marks on both the 1930s and 1950s aerial photography.

Based on literature, data reviews for the project, field surveys, review of historic aerial photography and discussions with DNR, the DOT has determined that the proposed project is not likely to adversely affect state listed species or result in the destruction or adverse modification of designated critical habitat. *We request the Iowa DNR's review and response in regard to this project.*

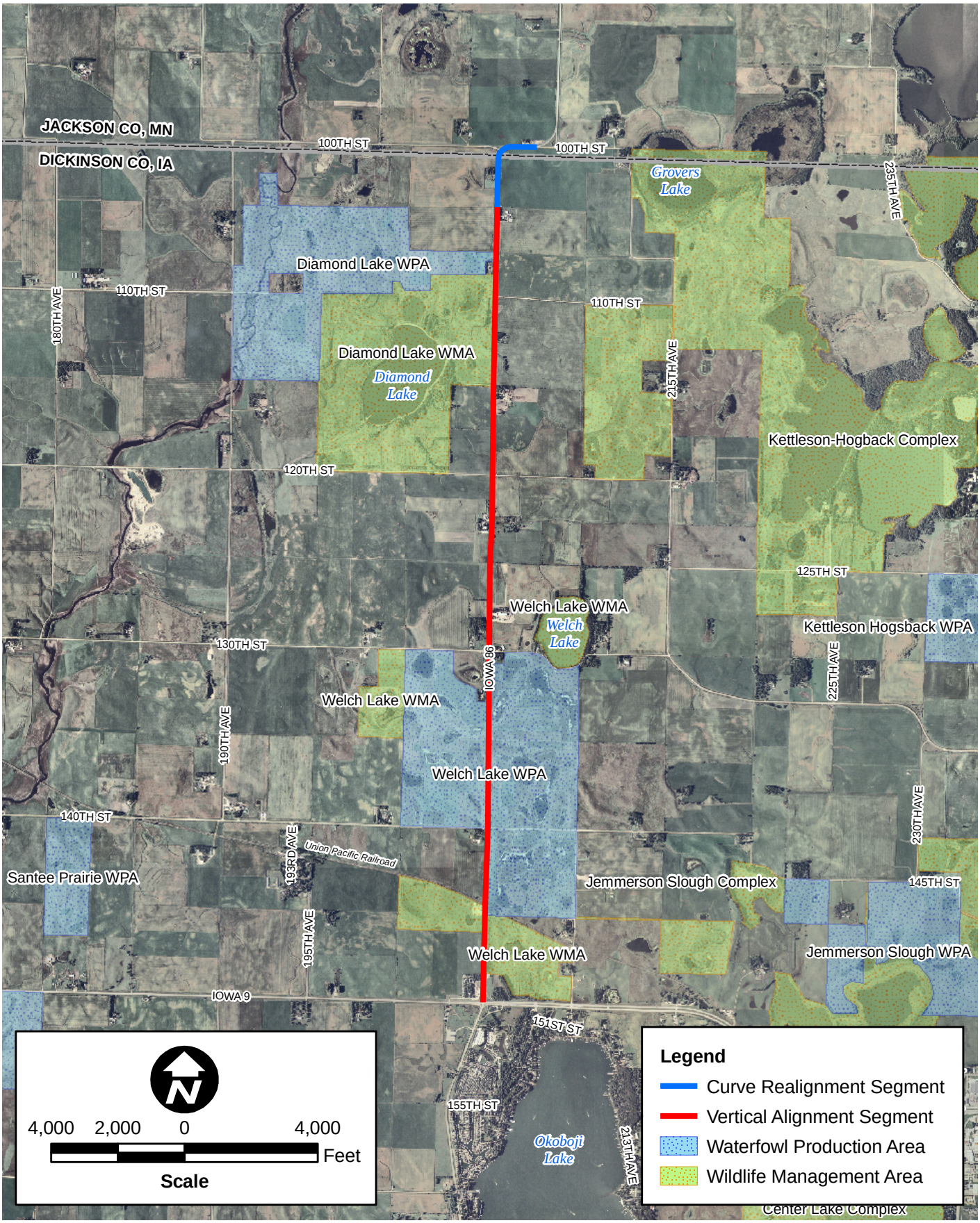
A Determination of Effect form has been completed and is enclosed. The letting date for the project is December 18, 2012. This project is a federally-aided project. If you have questions or need additional information, please contact me at 515.239.1510 or Jill Rudloff at 515.239.1698.

Sincerely,

Scott Marler
Environmental Resources Manager
Office of Location and Environment

Enclosures

cc: Daryl Howell, Department of Natural Resources
J. Rudloff, Location & Environment (file)
M. Carlson, Location & Environment
D. Newell, Location & Environment



Z:\Projects\IDOT\70888_NEPA_Iowa_86_Redesign\map_docs\mxd\Project_Location_Map.mxd\dec07\jcm

HDR

Iowa 86 Curve Realignment and Vertical Alignment Projects

Iowa Department of Transportation

Iowa 86 Categorical Exclusion and Environmental Assessment

DATE

December 2007

FIGURE

1

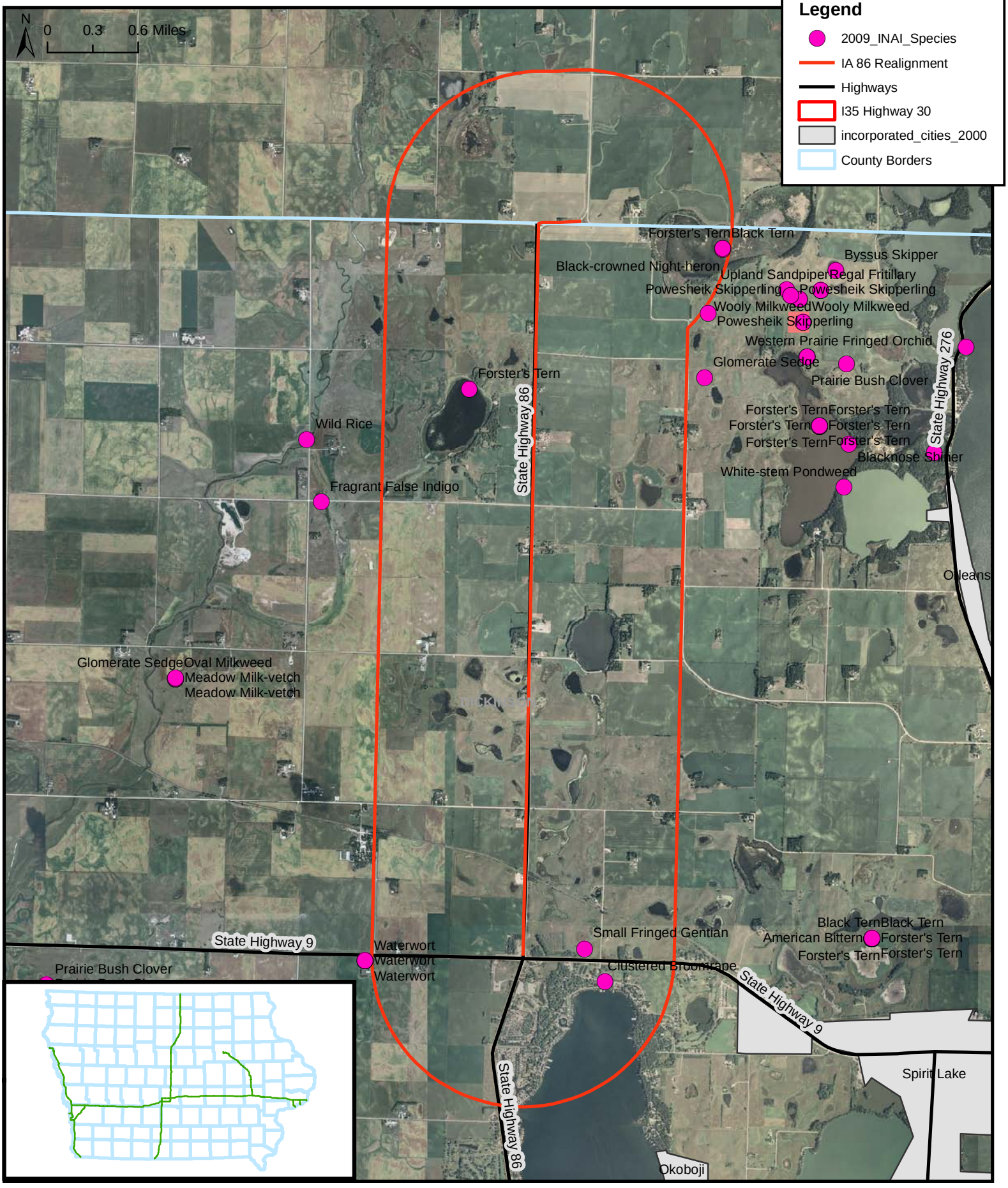


Figure 2
Iowa Highway 86
From Iowa Highway 9 north to the Minnesota Border
STP-086-1(10)--2C-30
HSIPX-086-1(8)--3L-30

Iowa Department of Transportation

Assessed 3-9-2011
by J.Rudloff

Iowa Department of Transportation

800 Lincoln Way, Ames, Iowa 50010

515.239.1364
Fax: 515.817.6635

December 21, 2007

Mr. Jeff Joens
Executive Officer
Iowa Department of Natural Resources
Wildlife Bureau
502 East Ninth Street
Des Moines, IA 50321-0034

Subject: Iowa Highway 86 (Iowa 86) Redesign
Dickinson County, Iowa
STPN-086-1(10)—2J-30
STP-86-1(8)—2C-30

Dear Mr. Joens:

The Iowa Department of Transportation (Iowa DOT), in coordination with the Federal Highway Administration (FHWA), is initiating the NEPA process for two Iowa Highway 86 projects. FHWA and Iowa DOT have determined that the following NEPA evaluations will be performed:

- A Categorical Exclusion (CE) will be prepared for the curve realignment project
- An Environmental Assessment (EA) will be prepared for the vertical alignment improvement project

As part of our early coordination efforts for the NEPA documents, we are alerting you to the initiation of this study and enclosing an early coordination package for your agency's input and comments in your area of expertise and/or jurisdiction by law. Your agency's input and comments during this scoping process will help prioritize the specific resources studies on the roadway. The attached information provides a description of the projects, the environmental process for each project, and a figure showing the location of the projects. Please submit any comments your agency has on the projects to me.

Please feel free to call me at (515) 239-1364 if you have any questions or concerns about this project.

Sincerely,

DeeAnn L. Newell
NEPA Compliance
IOWA DEPARTMENT OF TRANSPORTATION

Enclosure (Project Description and Figure)

cc: Dakin Schultz – Iowa DOT – District 3
Mike LaPietra - FHWA

PROJECT DESCRIPTION

The Iowa Department of Transportation (Iowa DOT) and the Federal Highway Administration (FHWA) are proposing improvements in Dickinson County to Iowa Highway 86 (Iowa 86) from Iowa Highway 9 (Iowa 9) north to near the Minnesota border. These improvements along Iowa 86 include approximately 5 miles of vertical alignment improvement and 0.5 miles of curve realignment on the Iowa/Minnesota border (See Figure 1, Project Location Map).

The vertical alignment project and the curve realignment project will be supported with two separate NEPA documents. Iowa FHWA has determined that the vertical alignment project would be supported with an Environmental Assessment (EA) and the curve realignment project would be supported with a documented Categorical Exclusion (CE).

- The vertical alignment project is proposed to be a modern two-lane section with paved shoulders. Some areas of the current roadway will be elevated and some lowered to allow a smoother elevation transition from Iowa 9 to approximately 0.5 miles of the state line (where the curve realignment project starts). The EA will follow the merged NEPA/404 process utilizing concurrence point meetings in that process. Concurrence point meetings will involve four concurrence points: 1) Purpose and Need, 2) Alternatives to be Analyzed, 3) Alternatives to be Carried Forward, and 4) Preferred Alternative. The vertical alignment project will evaluate one main build alternative, but could involve some slight variations that would be considered in the EA. An EA will be distributed for agency and public review. Following public review of the EA, a Finding of No Significant Impact (FONSI) will be distributed or a Notice of Intent to Prepare an Environmental Impact Statement (EIS) will be prepared.
- The curve realignment project is being advanced to reduce the curvature of the existing roadway. The CE will evaluate the environmental impacts of the selected alternative. Although there are no public and agency circulation requirements for a CE, coordination and consultation with resource agencies will occur as warranted.

ANTICIPATED IMPACTS

There are known Federal- and State-owned lands on both sides of Iowa 86 for the vertical alignment project, and some of the lands were reportedly improved with Land and Water Conservation (LAWCON) funds. For example, Iowa 86 abuts Diamond Lake State Game Management Area and several waterfowl production areas. Consequently, impacts to these publicly-owned lands may be subject to Section 4(f) and 6(f) requirements. Environmental studies will be performed to assess potential impacts to: land use, farmland, right-of-way (ROW), noise environment, air quality, cultural resources, threatened or endangered species, Section 6(f) and/or Section 4(f) lands, floodplains, wildlife habitat, regulated materials, and wetlands and other waters of the U.S. Cumulative impacts will also be addressed. Given the natural resources adjacent to Iowa 86 and the need to expand into new ROW, the project would likely impact wetlands, wildlife habitat, public lands, and farmland. Impacts to cultural resources are unknown, but archaeological and historic property surveys would occur under separate efforts, and the results will be used to determine the potential impacts of this project. Impacts to potentially affected resources will be assessed during the NEPA process and documented in the EA.

The curve realignment project would require ROW acquisition, but no displacements. Other likely impacts would occur to residential access, wetlands, and farmland. Impacts to other potentially affected resources will also be addressed in the CE.

DEVELOPMENT PROCEDURES

Federal, state, and local funding will be used to design and construct the Iowa 86 improvements. Consequently, NEPA evaluations are required because of the Federal component of funding. When completed, separate NEPA documents will be produced for the vertical alignment project and the curve realignment project and circulated to appropriate federal, tribal, state, and local resource/regulatory agencies for their review and comment.

Current regulations covering the development of federally funded highway projects require early coordination with units of government who may have interest in the project. Early notification precedes publication of the environmental document, but does not preclude subsequent review and comment on the document after publication. Other formal opportunities to comment on the projects will follow at a later date when public information meetings and public hearings are held. Several federal, tribal, state, and local agencies will also be contacted directly to request their early input into the impact identification process. Subsequent to the NEPA documents, ROW will be acquired, a final design will be developed, and construction will commence.

RECEIVED
JAN 3 0 2008
OFFICE OF LOCATION & ENVIRONMENT

Fields of Opportunities

STATE OF IOWA

CHESTER J. CULVER, GOVERNOR
PATTY JUDGE, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
RICHARD A. LEOPOLD, DIRECTOR

January 17, 2008

DeeAnn Newell
Iowa Department of Transportation
800 Lincoln Way
Ames, IA 50010

RE: Environmental Review for Natural Resources
Iowa Highway 86 (Iowa 86) Redesign
STPN-086-1(10)—2J-30
STP-86-1(8)—2C-30
Dickinson County
S11, 14, 23, 26, 35/T100N/R37W

Dear Ms. Newell:

Thank you for inviting our comments on the impact of the above referenced project.

Please note that the project, as described in your letter of December 21, 2007, will impact public-owned lands. As some of the work proposed is on Sovereign Lands, the Iowa Department of Natural Resources (Department) encourages IDOT to submit a Joint Application Form for the work described. An interactive Joint Application Form is available on the Department website at http://www.iowadnr.com/other/files/jointpermit.pdf.

While there are no site-specific records of rare species or significant natural communities from within the proposed project right-of-way, numerous state- and federally-listed threatened and endangered species are in the vicinity of the project. The Department supports IDOT intention to survey the project area for threatened and endangered species. This survey should include flora and lepidopteron and avian fauna.

Department data for threatened and endangered species are not the result of thorough field surveys. If listed species or rare communities are found during the planning or construction phases, additional studies and/or mitigation may be required.

This letter is a record of review for protected species, rare natural communities, state lands and waters in the project area, including review by personnel representing state parks, preserves, recreation areas, fisheries and wildlife but does not include any potential comment from the Environmental Services Division of this Department. This letter does not constitute a permit and before proceeding with this project, permits may be needed from this Department or from other state or federal agencies.

Any construction activity that bares the soil of an area greater than or equal to 1 acre including clearing, grading or excavation may require a storm water discharge permit from the Department. Construction activities may include the temporary or permanent storage of dredge material. For more information regarding this matter, please contact Ruth Rosdail at (515) 281-6782.

The Department administers regulations that pertain to fugitive dust IAW Iowa Administrative Code 567-23.3(2)"c". All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of property during construction, alteration, repairing or demolishing of buildings, bridges or other vertical structures or haul roads. All questions regarding fugitive dust regulations should be addressed to Jim McGraw at (515) 242-5167.

If you have any questions about this letter or require further information, please contact me at (515) 281-6341.

Sincerely,

Diane Ford-Shivvers
Deputy Division Administrator
Conservation and Recreation Division

FILE COPY: Inga Foster
Tracking Number: 2044

Determination of Effect for Threatened & Endangered Species

Project Name: Iowa Highway 86		Highway No.: IA 86
Project No.: STPN-086-1(10)—2J-30 (vertical alignment)		Station No.:
County: Dickinson (IA)	Letting Date:	PLSS/UTM:

Project Description:

Correct the narrow cross section and poor vertical alignment of a 4.1-mile segment of Iowa Highway 86 (IA 86) from the IA 86/Iowa Highway 9 intersection northward to a point slightly north of 110th Street near the Iowa/Minnesota border.

Are there documented occurrences of T&E species within 1 mile of the project? ☐ Yes ☒ No

If yes, list species:

Are there documented occurrences of T&E species within the limits of construction? ☐ Yes ☒ No

If yes, list species:

Is there likely to be habitat for T&E species within the project's limits of construction? ☐ Yes ☒ No

If yes, list species:

On June 24, 2008, a site visit of the potential limits of construction for all potential Build Alternatives was conducted from current right-of-way, public lands, and commercial property. Potential habitat was surveyed for the four Federally-listed species for Dickinson County, Iowa: western prairie fringed orchid, sheepnose mussel, prairie bush clover, and Dakota skipper. None of these species were identified during the field survey and no suitable habitat was identified for any of the four Federally-listed species.

Describe current geographic setting *(native habitats, adjacent land use, etc.)* and potential project impacts:

The general geographic setting of the 500-foot-wide corridor centered on the centerline of IA 86 (the Study Area) includes gently to moderately rolling agricultural lands and natural lands within Wildlife Management Areas (WMAs) and Waterfowl Production Areas (WPAs); sporadic glacial pothole wetlands are present in both land types. The only potential for T&E habitat occurs within two areas of restored prairie west of IA 86 in the Diamond Lake WMA. These areas were determined not to be suitable habitat for the prairie bush clover or Dakota skipper due to prior cultivation (both of these species require native prairie), lack of suitable soil types, wetness in part of one of the areas (it is adjacent to a large wetland), and the limited size and fragmentation of the restored prairie areas. Of the Build Alternatives evaluated, the restored prairie is outside the limits of construction for the Preferred Alternative (Alternative 3) and for Alternative 2; but one area is included in the limits of construction for Alternative 4. No designated critical habitat for T&E species exists within the Study Area. Consequently, the vertical alignment project would not result in the destruction or adverse modification of Federally designated critical habitat.

No T&E species were detected and no potential habitat was detected for western prairie fringed orchid or sheepnose mussel. Therefore, the project would have "No Effect" on the aforementioned species.

Will the project likely require borrow? ☒ Yes ☐ No

DETERMINATION OF EFFECT – ACTION

☒ No Effect ☐ No Effect *(by following recommendations)* ☐ Needs Further Study
☐ May Affect – Not Likely to Adversely Affect ☐ May Affect – Likely to Adversely Affect

Further Study – *Consisting of the Following*	Iowa DOT Recommendations
Iowa DOT does not feel that any further study is warranted.	Iowa DOT recommends that the project proceed as designed while implementing applicable avoidance and minimization criteria to ensure that construction does not adversely affect threatened and endangered species.

References:

☒ Natural Heritage Database ☐ T&E Species Range Maps ☒ Aerial Photos ☐ Soils of Concern Data
☒ Other: T&E Species Survey

Prepared By: *Date:*

Determination of Effect for Threatened & Endangered Species

Project Name: Iowa Highway 86		Highway No.: IA 86
Project No.: STP-86-1(8)—2C-30 (curve realignment)		Station No.:
County: Dickinson (IA); Jackson (MN)	Letting Date:	PLSS/UTM:

Project Description:

For curve realignment, improve or replace approximately 1.2 miles of Iowa Highway 86 (IA 86) from a point just north of 110th Street (in Iowa) to a point just beyond the Iowa/Minnesota border.

Are there documented occurrences of T&E species within 1 mile of the project? ☐ Yes ☒ No

If yes, list species:

Are there documented occurrences of T&E species within the limits of construction? ☐ Yes ☒ No

If yes, list species:

Is there likely to be habitat for T&E species within the project's limits of construction? ☐ Yes ☒ No

If yes, list species:

On June 24, 2008, a site visit of the potential limits of construction was conducted from current right-of-way, public lands, and commercial property. Potential habitat was surveyed for the four Federally-listed species for Dickinson County, Iowa: western prairie fringed orchid, sheepnose mussel, prairie bush clover, and Dakota skipper. The prairie bush clover is the only Federally listed species for Jackson County, Minnesota. None of the above-listed species were identified during the field survey. Additionally, no suitable habitat was identified for any of the four Federally-listed species.

Describe current geographic setting *(native habitats, adjacent land use, etc.)* and potential project impacts:

Gently rolling agricultural lands dominate the general geographic setting of the 500-foot-wide corridor centered on the centerline of IA 86 and including the proposed realignment (the Study Area). The southern portion of the Study Area is adjacent to natural lands associated with the Diamond Lake Wildlife Management Area (WMA) and Diamond Lake Waterfowl Production Area (WPA). Sporadic glacial pothole wetlands are present in both land types. A restored prairie within the WMA is adjacent to IA 86. The prairie area was determined not to be suitable habitat for the prairie bush clover or Dakota skipper due to prior cultivation (both of these species require native prairie), lack of suitable soil types, wetness in most of the area (it is adjacent to a large wetland), and the fragmented nature of the prairie area. No designated critical habitat for T&E species exists within the Study Area. Consequently, the curve realignment project would not result in the destruction or adverse modification of Federally designated critical habitat.

No T&E species were detected, and no potential habitat was detected for any of the four Federally-listed species; therefore, the project would have "No Effect" on these species.

Will the project likely require borrow? ☒ Yes ☐ No

DETERMINATION OF EFFECT – ACTION

☒ No Effect ☐ No Effect *(by following recommendations)* ☐ Needs Further Study
☐ May Affect – Not Likely to Adversely Affect ☐ May Affect – Likely to Adversely Affect

Further Study – *Consisting of the Following*	**Iowa DOT Recommendations**
Iowa DOT does not feel that any further study is warranted.	Iowa DOT recommends that the project proceed as designed.

References:

☒ Natural Heritage Database ☐ T&E Species Range Maps ☒ Aerial Photos ☐ Soils of Concern Data
☒ Other: T&E Species Survey

Prepared By: *Date:*

Carlson, Michael [DOT]

From: Schwake, Christine [DNR]
Sent: Monday, April 26, 2010 8:16 AM
To: Carlson, Michael [DOT]
Subject: Iowa 86 comments

Hi Mike,

I thought that I'd give you a heads up on the comments I've received for your project before our meeting on Wednesday. This way if you don't know what we want, I can try to clear up any confusion.

John Pearson had no plant issues.

Daryl Howell said that you will need butterfly surveys of the prairie areas including the reconstructed areas.

Martin Konrad said that DOT & DNR staff will have to meet to discuss how the Iowa Hwy 86 alignment will affect Jemmerson Slough.

Jeff Joens said that the Iowa 86 project involves both state and federal land. DOT will also need to coordinate with USFWS (George Maze @ Union Slough).

Greg Jones said that the Iowa 86 project could involve the acquisition of additional R-O-W easement from DNR, by DOT. That will require Natural Resource Commission approval in addition to obtaining a Sovereign Lands permit. DOT will need to provide DNR with a legal description of the additional R-O-W and an appraisal of its value.

See you Wednesday!

Chris

Rudloff, Jill [DOT]

From: Carlson, Michael [DOT]
Sent: Monday, May 10, 2010 9:21 AM
To: Newell, Deeann [DOT]; Rudloff, Jill [DOT]
Cc: Marler, Scott [DOT]
Subject: IA 86 Reconstruction in Dickinson Co. - STP-086-1(10)--2J-30 - Butterfly survey comment from IDNR

This morning about 8:30 Daryl Howell returned my call from last week regarding the IA 86 reconstruction project. We discussed his comment to Chris Schwake regarding the need to conduct a butterfly survey of "prairie areas including reconstructed ones" for this project. I told Daryl that NONE of the identified prairie areas would be directly impacted by road construction as Diamond Lake WMA is being avoided completely. I asked Daryl if the survey request was because he was concerned about the Poweshiek Skipper crossing the construction site or something. His response was "no" and that it was more of a "general request" to find out if any protected species might be in the prairie areas. I clarified for Daryl that the project will not be directly impacting any prairie areas including the existing roadside ditch and Daryl concluded that since no prairie areas were being taken for construction, butterfly surveys were unnecessary.

I will include a reference to this coordination with IDNR in the eventual 404 permit application.

Mike

Mike Carlson, Wetland Ecologist
Iowa Dept. of Transportation
Office of Location and Environment
Water Resources Section - Wetlands Unit
800 Lincoln Way
Ames, IA 50010
515.233.7742 (phone)
515.233.7966 (fax)

Goss, Brian

From: Newell, Deeann [DOT] [DeeAnn.Newell@dot.iowa.gov]
Sent: Monday, August 30, 2010 1:26 PM
To: Joens, Jeff [DNR]
Cc: LaRue, Chris [DNR]; Gulick, Mark [DNR]; 'Lisa.Rold@dot.gov'; Richard Nelson (richard_c_nelson@fws.gov); 'erich_gilbert@fws.gov'; Schultz, Dakin [DOT]; Marler, Scott [DOT]; Carlson, Michael [DOT]; Lazarowicz, Tony [DOT]
Subject: Notice of Intent to make a De Minimis Impact Finding – Welch Lake WMA
Attachments: Section 4(f) Letter for IADNR.pdf

Transmittal:

Notice of Intent to make a De Minimis Impact Finding – Welch Lake WMA
IA 86 Reconstruction from IA 9 to curve realignment
STP-086-1(10)--2C-30

See attached letter.

DeeAnn L. Newell
NEPA Section Leader
Iowa Department of Transportation
515-239-1364
deeann.newell@dot.iowa.gov

Iowa Department of Transportation
800 Lincoln Way, Ames, Iowa 50010
515-239-1364
Fax: 515-239-1726

Jeff Joens
Wildlife Bureau
Iowa DNR
502 E 9th Street
Des Moines, IA 50319

RE: Notice of Intent to make a De Minimis Impact Finding – Welch Lake WMA
IA 86 Reconstruction from IA 9 to curve realignment
STP-086-1(10)--2C-30

Dear Mr. Jeff Joens,

The Iowa Department of Transportation (Iowa DOT) in coordination with the Iowa Division FHWA, is notifying the Iowa Department of Natural Resources (IA DNR) of its intent to make a de minimis impact finding according to 23 CFR 774, also commonly referred to as Section 4(f) of the DOT Act of 1966.

> *The Administration may not approve the use, as defined in §774.17, of Section 4(f) property unless a determination is made that:*
>
> *There is no feasible and prudent avoidance alternative, as defined in §774.17, to the use of land from the property; and*
>
> *The action includes all possible planning, as defined in §774.17, to minimize harm to the property resulting from such use; or*
>
> *The Administration determines that the use of the property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by the applicant, will have a de minimis impact, as defined in §774.17, on the property.*

The Iowa DOT is coordinating with Chris LaRue, Big Sioux Wildlife Unit; concerning the use of the Welch Lake WMA for the IA 86 improvements. It has been determined that after final design an Agreement and a Mitigation Plan will be developed and signed by Iowa DNR and IA DOT. The attached figure shows the existing alignment of IA 86 and where the proposed project will impact the Welch Lake WMA property.

The public will be given the opportunity to review and comment on the Environmental Assessment (EA) and the intent to make a de minimis impact finding. The EA will

discuss the effects of the IA86 improvements on the protected activities, features, or attributes of Welch Lake WMA.

As the official having jurisdiction over the Section 4(f) resource, following the public hearing we will ask you to concur in writing that the IA 86 Improvements will not adversely affect the activities, features, or attributes that make the property eligible for Section 4(f) protection.

You may contact me at 515-239-1364 or deeann.newell@dot.iowa.gov if you have any questions or concerns.

Sincerely,

DeeAnn L. Newell
Iowa Department of Transportation
NEPA Section Leader

cc: Chris LaRue, IA DNR – Big Sioux Wildlife Unit
Mark Gulick, IA DNR – NW Regional Office
Lisa Rold, FHWA
Dakin Schultz, IA DOT
Scott Marler, IA DOT - OLE
Mike Carlson, IA DOT - OLE
Erich Gilbert, US FWS - Union Slough National Wildlife Refuge
Richard Nelson, US FWS

Goss, Brian

From: Newell, Deeann [DOT] [DeeAnn.Newell@dot.iowa.gov]
Sent: Monday, August 30, 2010 1:25 PM
To: Richard Nelson (richard_c_nelson@fws.gov)
Cc: 'unionslough@fws.gov'; 'Lisa.Rold@dot.gov'; Joens, Jeff [DNR]; LaRue, Chris [DNR]; Gulick, Mark [DNR]; Lazarowicz, Tony [DOT]; 'shirley_karman@fws.gov'; 'erich_gilbert@fws.gov'; Schultz, Dakin [DOT]; Marler, Scott [DOT]; Carlson, Michael [DOT]
Subject: Notice of Intent to make a De Minimis Impact Finding – Welch Lake WPA
Attachments: Section 4(f) Letter for USFWS.pdf

Importance: High

Transmittal:

Notice of Intent to make a De Minimis Impact Finding – Welch Lake WPA
IA 86 Reconstruction from IA 9 to curve realignment
STP-086-1(10)--2C-30

See attached letter.

DeeAnn L. Newell
NEPA Section Leader
Iowa Department of Transportation
515-239-1364
deeann.newell@dot.iowa.gov

Iowa Department of Transportation
800 Lincoln Way, Ames, Iowa 50010
515-239-1364
Fax: 515-239-1726

Richard C. Nelson
Field Supervisor
US Fish and Wildlife Service
1511 47th Avenue
Moline, Il 51265

RE: Notice of Intent to make a De Minimis Impact Finding – Welch Lake WPA
IA 86 Reconstruction from IA 9 to curve realignment
STP-086-1(10)--2C-30

Dear Mr. Richard C. Nelson,

The Iowa Department of Transportation (Iowa DOT) in coordination with the Iowa Division FHWA, is notifying the US Fish and Wildlife Service of its intent to make a *de minimis* impact finding according to 23 CFR 774, also commonly referred to as Section 4(f) of the DOT Act of 1966.

> *The Administration may not approve the use, as defined in §774.17, of Section 4(f) property unless a determination is made that:*
>
> *There is no feasible and prudent avoidance alternative, as defined in §774.17, to the use of land from the property; and*
>
> *The action includes all possible planning, as defined in §774.17, to minimize harm to the property resulting from such use; or*
>
> *The Administration determines that the use of the property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by the applicant, will have a de minimis impact, as defined in §774.17, on the property.*

The Iowa DOT is coordinating with Erich Gilbert, Union Slough National Wildlife Refuge and Shirley Karman, Realty; concerning the use of the Welch Lake WPA for the IA 86 improvements. It has been determined that after final design an Exchange Agreement and a Mitigation Plan will be developed and signed by US FWS and IA DOT. The attached figure shows the existing alignment of IA 86 and where the proposed project will impact the Welch Lake WPA property.

The public will be given the opportunity to review and comment on the Environmental Assessment (EA) and the intent to make a *de minimis* impact finding. The EA will discuss the effects of the IA86 improvements on the protected activities, features, or attributes of Welch Lake WPA.

As the official having jurisdiction over the Section 4(f) resource, following the public hearing we will ask you to concur in writing that the IA 86 Improvements will not adversely affect the activities, features, or attributes that make the property eligible for Section 4(f) protection.

You may contact me at 515-239-1364 or deeann.newell@dot.iowa.gov if you have any questions or concerns.

Sincerely,

DeeAnn L. Newell
Iowa Department of Transportation
NEPA Section Leader

Attachments

cc: Erich Gilbert, US FWS – Union Slough National Wildlife Refuge
Shirley Karman, US FWS – Realty
Lisa Rold, FHWA
Dakin Schultz, IA DOT – District 3
Scott Marler, IA DOT – OLE
Mike Carlson, IA DOT – OLE
Jeff Joens, IA DNR – Wildlife Bureau
Chris LaRue, IA DNR – Big Sioux Wildlife Unit
Mark Gulick, IA DNR – NW Regional Office

Iowa Department of Transportation

800 Lincoln Way, Ames, Iowa 50010

515-239-1097
FAX 515-239-1726

December 28, 2010

Ref. No: STP-CO86-1(10)- -2C-30
STP-CO86-1(8)- -2C-30
Dickinson Co. Iowa
Jackson Co. Minnesota
Primary

Doug Jones
Ralph Christian
Review and Compliance
Bureau of Historic Preservation
State Historical Society of Iowa
600 East Locust
Des Moines, IA 50319-0290

R&C: 011230076 & 071230077

Dear Doug and Ralph

RE: Road Improvements to Iowa Highway 86 in Dickinson County, Iowa, and Jackson County, Minnesota. Section 11, T100N-R37W / Section 32, T101N-R36W
De Minimis Finding /NEPA Documentation

The Iowa Department of Transportation plans to request a De Minimus Finding in regards NEPA documentation of the above-mentioned project. As mentioned in previous correspondence, this project proposes a series of road improvements along Iowa Highway 86 in Dickinson County, Iowa and Jackson County, Minnesota. These improvements are divided into two projects, Project STP-086-1(10)- -2C-30 which involves the reconstruction of 4.1 miles of Iowa along the existing alignment, while Project STP-086-1(8)- -2C-30 involves the realignment of approximately 1 mile of Iowa 86 where it enters Minnesota.

Approximately .10 miles of project STP-086-1(8)- -2C-30 is located within Minnesota. As noted previously in concurrence letters, the Minnesota DOT will allow the Iowa DOT to take the lead regarding the necessary consultation and concurrences regarding this project.

This De Minimus Finding is based on the cultural resources concurrence of *No Adverse Effect* for these two projects. If you have any questions, please feel free to contact me.

Sincerely

Matthew J.F. Donovan

Matthew J.F. Donovan, RPA
Office of Location and Environment
Matt.Donovan@dot.iowa.gov

CC:

Dee Ann Newell- OLE / NEPA
Shane Tymkowicz- District 3 Assistant Engineer
Teresa Martin- Archaeologist / MN DOT Cultural Resources
Dan Eckert- Dickinson County Engineer

FEB 26 2010
071230077

Iowa Department of Transportation

800 Lincoln Way, Ames, Iowa 50010

515-239-1097
FAX 515-239-1726

February 24, 2010

Ref. No: STP-CO86-1(10)- -2C-30
STP-CO86-1(8)- -2C-30
Dickinson Co. Iowa
Jackson Co. Minnesota
Primary

Ralph Christian
Review and Compliance
Bureau of Historic Preservation
State Historical Society of Iowa
600 East Locust
Des Moines, IA 50319-0290

R&C: 011230076 & 071230077

Dear Ralph:

RE: Architectural / Historical Intensive Level Survey-
Road Improvements to Iowa Highway 86 in Dickinson County, Iowa, and Jackson County, Minnesota. Section 11, T100N-R37W / Section 32, T101N-R36W
No Adverse Effect

Enclosed for your review are the Intensive Level Architectural / Historical Investigation and design plans for two road improvement projects along Iowa Highway 86 in Dickinson County, Iowa and Jackson County, Minnesota. Project STP-086-1(10)- -2C-30 involves the reconstruction of 4.1 miles of Iowa along the existing alignment, while Project STP-086-1(8)- -2C-30 involves the realignment of approximately 1 mile of Iowa 86 where it enters Minnesota.

Approximately .10 miles of project STP-086-1(8)- -2C-30 is located within Minnesota. After consulting with the Minnesota DOT, the Iowa DOT will take the lead regarding the necessary consultation and concurrences regarding this project.

The area of potential impact for Project STP-086-1(10)- -2C-30, the reconstruction project, encompasses a project corridor that was surveyed for up to 170ft of additional right of way on each side of the existing centerline, for 4.1 miles. A total area of 120.9 acres was surveyed

The area of potential impact for Project STP-086-1(8)- -2C-30, the realignment project, had a project width surveyed of 600 ft., for a length of 6100 ft. A total area of 75.8 acres was surveyed for the realignment project. A total area for both projects of 196.7 acres was investigated.

These architectural / historical investigations were conducted using an extensive archival / records search, along with field inspections of the properties. In additions to this work, photographic documentation of the properties was also conducted. Fourteen historic properties were examined by this survey. Twelve of these properties were determined not eligible for the National Register and no further work was required.

During the intensive –level survey, two properties were determined to be eligible for the National Register of Historic Places. They are listed as follows:

Vick's General Store, 2044 Hwy 9, Spirit Lake at the intersection with IA 86 (Property 30-00226)
Vick's is an intact and operating tourist-oriented roadside attraction, which has long served the motoring public at this intersection of two highways. This structure is considered eligible for the National Register of Historic Places under Criterion C.

The present project design requires a minimal amount of right of way to be taken Southeastern corner of the Vick's General Store property, which will not impact the structure. (Please note Design Sheet No.1)

Shultz Farmstead (aka Country Time Farm) 1060 Hwy 86, Spirit Lake (Property 30-00241)
This farmstead appears to contain a full complement of intact and historic mid-century domestic and agricultural buildings. The house (Property 30-00239) and barn (Property 30-00240) both appear to be intact structures that retain their structural integrity. Due to this, the farmstead property and its two contributing properties are considered potentially eligible for the National Register under Criterion C.

Based on the findings of this Phase I Intensive Level Architectural / Historical Survey, *with the understanding that the minimal amount of right of way required from the Vick Station property will not impact the structure and Shultz Farmstead will not be impacted by this project,* the determination for this project is ***No Adverse Effect.*** If you concur with this determination, please sign the concurrence line below and return this letter, if you have any questions regarding this project or this investigation, please feel free to contact me.

Sincerely

CC:

Matthew J.F. Donovan

Matthew J.F.Donovan, RPA
Office of Location and Environment
Matt.Donovan@dot.iowa.gov

Dee Ann Newell- OLE / NEPA
Tony Lazarowicz- Iowa DOT / District 3 Engineer
Teresa Martin- Archaeologist / MN DOT Cultural Resources
Dan Eckert- Dickinson County Engineer
Jan Nash- Principal Investigator / Tallgrass Historians

Concur: _____ Date: 3/6/12
SHPO Historian

Comments Our Concur is based on the Conditions Attached to the Document Concerning FAP #30-00232

STATE HISTORICAL SOCIETY of IOWA

A Division of the Iowa Department of Cultural Affairs

March 5, 2010

To: Matt Donovan

From: Ralph Christian

Subject: Swenson House, 1221 Highway 86, Spirit Lake (ISI# 30-00232)-No Adverse Effect with Conditions

We are unable to concur with your finding that the stone portion of the above referenced property is ineligible for the National Register of Historic Places based on the information provided. It is our opinion that the stone building merits a more intensive level historical and architectural investigation to make a final determination of eligibility or ineligibility. To date, there have been very few stone houses found in this part of the state, and we believe that its primary construction materials, the usage of square nails, and likely basement kitchen are indicators that this is an early settlement era residence.

Given the fact that the project as currently proposed would have no significant impacts on the Swenson Stone House, we would be willing to concur with a No Adverse Effect for the project with the condition that if the project is modified or redefined in such a way that the house would be affected that an intensive level survey as described above would be conducted and efforts made to avoid or minimize project effects if the house is determined National Register eligible.

JAN 11 2010

Iowa Department of Transportation

800 Lincoln Way, Ames, Iowa 50010

515-239-1097
FAX 515-239-1726

January 8, 2010

Ref. No: STP-CO86-1(10)- -2C-30
STP-CO86-1(8)- -2C-30
Dickinson Co. Iowa
Jackson Co. Minnesota
Primary

Doug Jones
Review and Compliance
Bureau of Historic Preservation
State Historical Society of Iowa
600 East Locust
Des Moines, IA 50319-0290

R&C: 011230076 & 071230077

Dear Doug:

RE: Borrows Areas 11 and 12 for the Road Improvements to Iowa Highway 86 in Dickinson County, Iowa, and Jackson County, Minnesota.
Section 11, T100N-R37W / Section 14, T100N-R37W / Section 35, T100N-R37W
Determination of *No Adverse Effect*

Enclosed for your review is the Phase I Intensive Archaeological Investigation for Borrow Areas 11 and 12for two road improvement projects along Iowa Highway 86 in Dickinson County, Iowa and Jackson County, Minnesota.

As previously reported, Project STP-086-1(10)- -2C-30 involves the reconstruction of 4.1 miles of Iowa along the existing alignment, while Project STP-086-1(8)- -2C-30 involves the realignment of approximately 1 mile of Iowa 86 where it enters Minnesota.

Borrow Areas 11 and 12 were denied access during the original borrow area survey, due to the concerns of the landowner regarding crop damage. Following the harvest, both borrows were examined. These borrow areas are described as follows:

Borrow Area 11- This borrow area is located in Section 23, T100N-R37W and consists of 12.3 acres. This borrow area was investigated using an extensive archival / records search, along with a pedestrian survey of the proposed borrow area. Subsurface testing was also conducted. No cultural resources were identified within the project area.

Borrow Area 12- This borrow area is located in Section 14, T100N-R37W and consists of 12. 9 acres. This borrow area was investigated using an extensive archival / records search, along with a pedestrian survey of the proposed borrow area. Subsurface testing was also conducted. No cultural resources were identified within the project area.

Based on the findings of these supplemental Phase I archaeological investigations, the determination for these borrow areas supports the original project determination of ***No Adverse Effect.***

If you concur with this determination, please sign the concurrence line below and return this letter, if you have any questions regarding this project or this investigation, please feel free to contact me.

Sincerely

CC:

Matthew J.F. Donovan

Matthew J.F.Donovan, RPA
Office of Location and Environment
Matt.Donovan@dot.iowa.gov

Dee Ann Newell- OLE / NEPA
Brian Catus- District 3 Local Systems Engineer
Teresa Martin- Archaeologist / MN DOT Cultural Resources
Dan Eckert- Dickinson County Engineer
Toby Morrow- Principal Investigator / Waspi Valley

Concur: Douglas W. Jones Date: 1/12/2010
SHPO Archaeologist

Comments

Iowa Department of Transportation

800 Lincoln Way, Ames, Iowa 50010
515-239-1097
FAX 515-239-1726

October 9, 2009

Ref. No: STP-CO86-1(10)- -2C-30
STP-CO86-1(8)- -2C-30
Dickinson Co., Iowa
Jackson Co., Minnesota
Primary

Doug Jones
Review and Compliance
Bureau of Historic Preservation
State Historical Society of Iowa
600 East Locust
Des Moines, IA 50319-0290

R&C: 011230076 & 071230077

Dear Doug:

RE: Seven Potential Borrows Areas for the Road Improvements to Iowa Highway 86 in Dickinson County, Iowa, and Jackson County, Minnesota.
Section 11, T100N-R37W / Section 14, T100N-R37W / Section 35, T100N-R37W
Determination of *No Adverse Effect*

Enclosed for your review is the Phase I Intensive Archaeological Investigation for seven potential borrow areas for two road improvement projects along Iowa Highway 86 in Dickinson County, Iowa and Jackson County, Minnesota.

As previously reported, Project STP-086-1(10)- -2C-30 involves the reconstruction of 4.1 miles of Iowa along the existing alignment, while Project STP-086-1(8)- -2C-30 involves the realignment of approximately 1 mile of Iowa 86 where it enters Minnesota.

Nine proposed borrow areas were designated, but two borrow areas were denied access due to the concerns of the landowner regarding crop damage. (Borrow Areas 11 and 12) If either of these areas are determined to be used for this project, then additional Phase I investigations will need to be conducted for each proposed borrow.

The remaining seven proposed borrow areas, Borrows 1, 2, 3, 10, 13, 15 and 16, which totaled 109.8 acres, were surveyed by this Phase I investigation.

This investigation was conducted using an extensive archival / records search, along with a pedestrian survey of both project areas. Subsurface testing was also conducted using auger testing. During the investigation, one previously recorded historic archaeological site, 13DK122, was reexamined. Along with the previously recorded site, two previously unrecorded historic sites were recorded, Sites 13DK132 and 13DK133.

The previously recorded historic archaeological site, 13DK122, was determined to be partially located in proposed Borrow Area 13. However, the reexamination of the site, determined that this historic site, the former location of a farmstead, has been heavily impacted by previous agricultural activities , along with its previous demolition. Due to this, Site 13DK122 was determined not eligible for the National Register and no further work was recommended for it.

Archaeological Sites 13DK132 and 13DK133, both represent historic debris scatters. Each site has been heavily impacted and no further work was recommended for them.

Based on the findings of this Phase I archaeological survey, with the understanding that if Borrow Areas 11 and 12 are selected, then a Phase I survey will need to be conducted for them, the determination for these borrows supports the original project determination of ***No Adverse Effect.***

If you concur with this determination, please sign the concurrence line below and return this letter, if you have any questions regarding this project or this investigation, please feel free to contact me.

Sincerely

CC:

Matthew J.F. Donovan

Matthew J.F. Donovan, RPA
Office of Location and Environment
Matt.Donovan@dot.iowa.gov

Dee Ann Newell- OLE / NEPA
Brian Catus- District 3 Local Systems Engineer
Teresa Martin- Archaeologist / MN DOT Cultural Resources
Dan Eckert- Dickinson County Engineer
Toby Morrow- Principal Investigator / Waspi Valley

Concur: Douglas W. Jones Date: 10/14/2009
SHPO Archaeologist

Comments

Minnesota Department of Transportation

Office of Environmental Services
Mail Stop 620
395 John Ireland Boulevard
St. Paul, MN 55155

Office Tel: (651) 366-3620
Fax: (651) 366-3603

March 2, 2009

Mathew Donovan
Cultural Resources Management Section
Office of Location and Environment
Iowa Dept of Transportation
800 Lincoln Way
Ames, Iowa 50010

Re: R&C 011230076 & 071230077, STP-CO86-1(10)-2C-30 and STP-CO86-1(8)-2C-30, Two Road Improvements to Iowa Hwy 86 in Dickinson County, Iowa and Jackson County, Minnesota
T100N R37W Section 11, T101N R36W Section 32

Dear Mr. Donovan:

We have reviewed the above-referenced undertaking pursuant to our FHWA-delegated responsibilities for compliance with Section 106 of the National Historic Preservation Act, as amended (36 CFR 800), and as per the terms of the Programmatic Agreement (PA) between the FHWA and the Minnesota State Historic Preservation Office (SHPO) (June 2005).

Your correspondence indicates IDOT is planning for 2 road improvement projects along Highway 86 in Dickinson County, Iowa and Jackson County, Minnesota. Project STP -086-1(10) -2C-30 will be contained entirely within the Iowa. The STP-086-1(8) -2C-30 reconstruction project will cross into Minnesota for approximately 0.10 miles. Our Office reviewed the effects of the undertaking to that 0.10 section of land in Minnesota. Thank you for providing a copy of the Phase I archaeological survey report documenting the study of the two project areas.

The APE for archaeology was determined to be the limits of construction. The APE for architectural history was determined to be the first tier of properties adjacent to the construction limits. There are no previously recorded cultural properties within the APE.

We have determined that there will be **no historic properties affected** by the project in Minnesota as currently proposed. As there are no historic properties within the project APE, our section 106 review of this project is now complete and no SHPO comment period and response are required under the terms of the new PA. If the project scope changes, please provide our office with the revised information and we will conduct an additional review.

Sincerely,

Teresa Martin

Teresa Martin, Archaeologist
Cultural Resources Unit (CRU)

cc: Joe Hudak, Mn/DOT CRU
Mn/DOT CO File

071230077

AUG 07 2008

Iowa Department of Transportation

800 Lincoln Way, Ames, Iowa 50010

515-239-1097
FAX 515-239-1726

August 5, 2008

Ref. No: STP-CO86-1(10)- -2C-30
STP-CO86-1(8)- -2C-30
Dickinson Co., Iowa
Jackson Co., Minnesota
Primary

Doug Jones
Review and Compliance
Bureau of Historic Preservation
State Historical Society of Iowa
600 East Locust
Des Moines, IA 50319-0290

R&C: 011230076 & 071230077

Dear Doug:

RE: Road Improvements to Iowa Highway 86 in Dickinson County, Iowa, and Jackson County, Minnesota. Section 11, T100N-R37W / Section 32, T101N-R36W
No Adverse Effect

Enclosed for your review is the Phase I Intensive Archaeological Investigation for two road improvement projects along Iowa Highway 86 in Dickinson County, Iowa and Jackson County, Minnesota. Project STP-086-1(10)- -2C-30 involves the reconstruction of 4.1 miles of Iowa along the existing alignment, while Project STP-086-1(8)- -2C-30 involves the realignment of approximately 1 mile of Iowa 86 where it enters Minnesota.

Approximately .10 miles of project STP-086-1(8)- -2C-30 is located within Minnesota. After consulting with the Minnesota DOT, the Iowa DOT will take the lead regarding the necessary consultation and concurrences regarding this project.

The area of potential impact for Project STP-086-1(10)- -2C-30, the reconstruction project, encompasses a project corridor that was surveyed for up to 170ft of additional right of way on each side of the existing centerline, for 4.1 miles. A total area of 120.9 acres was surveyed

The area of potential impact for Project STP-086-1(8)- -2C-30, the realignment project, had a project width surveyed of 600 ft., for a length of 6100 ft. A total area of 75.8 acres was surveyed for the realignment project. A total area for both projects of 196.7 acres was investigated.

These investigations were conducted using an extensive archival / records search, along with a pedestrian survey of both project areas. Subsurface testing was conducted using auger testing. During these investigations, three previously unrecorded historic archaeological sites were identified. (Sites 13DK122, 13DK123, and 13DK124.)

Site 13DK122 represents a historic scatter around an existing farmstead. This site has been heavily impacted by previous demolition activities, as well as agricultural activities. Due to this, Site 13DK122 was determined not eligible for the National Register and no further work was recommended for it.

Site 13DK123 represents the location of a former school house. This school house was probably used for educational activities in the late 19th and early 20th Century, and then was used as domestic residence in the 1930 and / or the 1940's. The site has been heavily impacted by previous demolition activities. Due to this, Site 13DK123 is not considered eligible for the National Register and no further work is recommended for it.

Site 13DK124 represents a segment of a historic railroad line. The line presently belongs to the Iowa Northwestern Railroad and is in the process of being dismantled. One feature of the railroad segment, which is located outside of project corridor, is an arched tunnel that exists approximately 300 ft. east of Iowa Highway 86. This arched tunnel-way will not be impacted by the project.

The segment of railroad grade within the project corridor is not considered significant and is not recommended as eligible for the National Register of Historic Places. No further work is recommended.

Based on the findings of this Phase I Archaeological Survey, the determination for this project is ***No Adverse Effect.*** If you concur with this determination, please sign the concurrence line below and return this letter, if you have any questions regarding this project or this investigation, please feel free to contact me.

Sincerely

CC:

Matthew J.F. Donovan

Matthew J.F. Donovan, RPA
Office of Location and Environment
Matt.Donovan@dot.iowa.gov

Dee Ann Newell- OLE / NEPA
Brian Catus- District 3 Local Systems Engineer
Teresa Martin- Archaeologist / MN DOT Cultural Resources
Dan Eckert- Dickinson County Engineer
Toby Morrow- Principal Investigator / Waspi

Concur: Douglas W. Jones Date: 8/18/08
SHPO Archaeologist

Comments
SEE ATTACHED LETTER

We disagree with the consultant's recommendation that site 13DK124 does not meet any of the eligibility criteria for listing on the National Register of Historic Places. In our opinion, 13DK124 appears to be potentially eligible under Criterion C for the distinctive characteristics of a type, period, or method of construction. However, we will concur with your **No Adverse Effect** determination for site 13DK124

We also noted that an Iowa site Inventory form was not completed for the arched tunnel We respectively request that an Iowa Site Inventory form be completed for this structure. Also, we recommend that Figure 26 should include the location of the arched tunnel within the site boundaries of 13DK124. We recommend that Figure 26 should be revised to clarify the location of the structure.

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
106 SOUTH 15TH STREET
OMAHA NE 68102-1618

REPLY TO
ATTENTION OF

January 30, 2008

RECEIVED
FEB - 4 2008
OFFICE OF LOCATION & ENVIRONMENT

Planning, Programs, and Project Management Division

Ms. DeeAnn Newell
Iowa Department of Transportation
800 Lincoln Way
Ames, Iowa 50010

Dear Ms. Newell:

The U.S. Army Corps of Engineers, Omaha District (Corps) has reviewed your letter dated January 18, 2008 regarding the Highway 86 Redesign Projects located in Dickinson County, Iowa. The Corps offers the following comments:

There are no flood plain comments regarding the above mentioned project, however your plans should be coordinated with the U.S. Environmental Protection Agency, which is currently involved in a program to protect ground water resources. If you have not already done so, it is recommended you consult with the U.S. Fish and Wildlife Service and the Iowa Department of Natural Resources regarding fish and wildlife resources. In addition, the Iowa State Historic Preservation Office should be contacted for information and recommendations on potential cultural resources in the project area.

If construction activities involve any work in waters of the United States, a Section 404 permit may be required. For a detailed review of permit requirements, preliminary and final project plans should be sent to:

U.S. Army Corps of Engineers
Rock Island District
Attention: Regulatory Branch
P.O. Box 2004
Clock Tower Building
Rock Island, Illinois 61204-2004

If you have any questions, please contact Mr. Dave Crane of my staff at (402) 221-4882.

Sincerely,

Larry D. Janis, Chief
Environmental, Economics, and
Cultural Resources Section
Planning Branch

A Quality Environment

January 22, 2008

DeeAnn L. Newell
NEPA Compliance
Iowa Department of Transportation
800 Lincoln Way
Ames, Iowa 50010

Re: Iowa Highway 86 Redesign, Dickinson County, STPN-086-1(10)—2J-30, STP-86-1(8)—2C-30

Dear Ms. Newell:

The Dickinson Soil and Water Conservation District (SWCD) is glad to see the possibility of improving this dangerous stretch of Highway 86 in Dickinson County. The majority of the roadway is found within the two watersheds of West Okoboji Lake and Diamond Lake. We know there will be much public concern over the wetland work completed over the years for the protection of both water bodies. This land is owned and managed by the Iowa Department of Natural Resources, but the purchase of land was made possible through many private donations, along with state and federal programs. The public has supported these wetland areas for the protection of our lakes, so we hope a strong education program will be included with this work.

The work of the Dickinson SWCD is for the protection of our county's soil and water resources. The prevention of soil erosion would be of primary importance. A recent project of the Iowa DOT in our county was Highway 9 through the City of Spirit Lake and west on Highway 9 to the intersection of Highway 86. Our staff and the SWCD Commissioners were not pleased with the minimal procedures provided for erosion prevention into the storm sewer system from the DOT's construction work. At times, dirt from the construction was piled on the highway next to the storm sewers. Silt fences are a form of sediment control that help prevent soil erosion, but proper silt fences were not installed until the project was nearly completed. Several phone calls from our staff did not produce any positive results and only after two phone calls from our State Senator, were proper silt fences installed.

The Dickinson SWCD is interested in working with the Iowa DOT on erosion and sediment control issues. It is our request that perimeter erosion and sediment control practices will be installed prior to any construction work starting and to be maintained as required by the Clean Water Act. It is also our request that the Iowa DOT follow Chapter 7 of the Iowa Statewide Urban Design and Specifications (SUDAS) manual for this project. People in our county are very aware of erosion issues from construction sites and look to the Dickinson SWCD staff to address these issues. We know that the Iowa DOT has done a great job of protecting our waterways in the past with the Highway 71 project through the Iowa Great Lakes. We hope you will meet and/or exceed the protection provided on the Highway 71 project to this project on Highway 86.

Thank you for this opportunity to give comments on this project. The proposed improvement to Highway 86 is a very important safety issue that needs to be addressed while protecting the water quality in the county as well. If you have any questions, please contact our staff.

Sincerely,

Mark Ingwersen

Mark Ingwersen
Commissioner Chair

Dickinson Soil & Water Conservation District

2412 17th Street
Spirit Lake, Iowa 51360

Phone: 712-336-3782 Ext. 3
Fax: 712-336-4278

Iowa Department of Transportation

800 Lincoln Way, Ames, IA 50010 515.239.1364
Fax: 515.817.6635

January 18, 2008

Kayla Eckert Uptmor
Planning Division
U.S. Army Corps of Engineers, Omaha
106 South 15th Street
Omaha, NE 68102

Subject: Iowa Highway 86 (Iowa 86) Redesign
Dickinson County, Iowa
STPN-086-1(10)—2J-30
STP-86-1(8)—2C-30

Dear Ms. Ekert Uptmor:

The Iowa Department of Transportation (Iowa DOT), in coordination with the Federal Highway Administration (FHWA), is initiating the NEPA process for two Iowa Highway 86 projects. FHWA and Iowa DOT have determined that the following NEPA evaluations will be performed:

- A Categorical Exclusion (CE) will be prepared for the curve realignment project
- An Environmental Assessment (EA) will be prepared for the vertical alignment improvement project

As part of our early coordination efforts for the NEPA documents, we are alerting you to the initiation of this study and enclosing an early coordination package for your agency's input and comments in your area of expertise and/or jurisdiction by law. Your agency's input and comments during this scoping process will help prioritize the specific resources studies on the roadway. The attached information provides a description of the projects, the environmental process for each project, and a figure showing the location of the projects. Please submit any comments your agency has on the projects to me.

Please feel free to call me at (515) 239-1364 if you have any questions or concerns about this project.

Sincerely,

DeeAnn L. Newell
NEPA Compliance
IOWA DEPARTMENT OF TRANSPORTATION

Enclosure (Project Description and Figure)

cc: Dakin Schultz – Iowa DOT – District 3
Mike LaPietra - FHWA

From: Newell, Deeann [DOT] [DeeAnn.Newell@dot.iowa.gov]
Sent: Friday, January 18, 2008 11:09 AM
To: candace.m.gorton@usace.army.mil
Cc: Schultz, Dakin [DOT]; Mike.LaPietra@fhwa.dot.gov; Carlson, Michael [DOT]; Goss, Brian
Subject: Iowa Highway 86 (IA 86) Redesign

Attachments: EC Project Description.pdf; EC Figure.pdf; EC Letters4.pdf
Dear Ms. Gorton,

On December 21, 2007 the Iowa Department of Transportation sent out early coordination letters for the IA 86 Redesign project. Mr. Neal Johnson, Rock Island District responded on January 16, 2008 requesting that you be included in our coordination efforts. The attached information provides a description of the projects, the environmental process for each project and a figure showing the location. Please submit any comments your agency has on the projects to me. The original hard copies will be placed in the mail today.

Sincerely,

DeeAnn Newell

DeeAnn L. Newell
Iowa Department of Transportation
Phone: 515.239.1364 Fax: 515.817.6635
deeann.newell@dot.iowa.gov

RECEIVED
JAN 3 0 2008
OFFICE OF LOCATION & ENVIRONMENT

Fields of Opportunities

STATE OF IOWA

CHESTER J. CULVER, GOVERNOR
PATTY JUDGE, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
RICHARD A. LEOPOLD, DIRECTOR

January 17, 2008

DeeAnn Newell
Iowa Department of Transportation
800 Lincoln Way
Ames, IA 50010

RE: Environmental Review for Natural Resources
Iowa Highway 86 (Iowa 86) Redesign
STPN-086-1(10)—2J-30
STP-86-1(8)—2C-30
Dickinson County
S11, 14, 23, 26, 35/T100N/R37W

Dear Ms. Newell:

Thank you for inviting our comments on the impact of the above referenced project.

Please note that the project, as described in your letter of December 21, 2007, will impact public-owned lands. As some of the work proposed is on Sovereign Lands, the Iowa Department of Natural Resources (Department) encourages IDOT to submit a Joint Application Form for the work described. An interactive Joint Application Form is available on the Department website at http://www.iowadnr.com/other/files/jointpermit.pdf.

While there are no site-specific records of rare species or significant natural communities from within the proposed project right-of-way, numerous state- and federally-listed threatened and endangered species are in the vicinity of the project. The Department supports IDOT intention to survey the project area for threatened and endangered species. This survey should include flora and lepidopteron and avian fauna.

Department data for threatened and endangered species are not the result of thorough field surveys. If listed species or rare communities are found during the planning or construction phases, additional studies and/or mitigation may be required.

This letter is a record of review for protected species, rare natural communities, state lands and waters in the project area, including review by personnel representing state parks, preserves, recreation areas, fisheries and wildlife but does not include any potential comment from the Environmental Services Division of this Department. This letter does not constitute a permit and before proceeding with this project, permits may be needed from this Department or from other state or federal agencies.

Any construction activity that bares the soil of an area greater than or equal to 1 acre including clearing, grading or excavation may require a storm water discharge permit from the Department. Construction activities may include the temporary or permanent storage of dredge material. For more information regarding this matter, please contact Ruth Rosdail at (515) 281-6782.

The Department administers regulations that pertain to fugitive dust IAW Iowa Administrative Code 567-23.3(2)"c". All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of property during construction, alteration, repairing or demolishing of buildings, bridges or other vertical structures or haul roads. All questions regarding fugitive dust regulations should be addressed to Jim McGraw at (515) 242-5167.

If you have any questions about this letter or require further information, please contact me at (515) 281-6341.

Sincerely,

Diane Ford-Shivvers
Deputy Division Administrator
Conservation and Recreation Division

FILE COPY: Inga Foster
Tracking Number: 2044

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING - P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

REPLY TO
ATTENTION OF

http://www.mvr.usace.army.mil

January 16, 2008

Operations Division

SUBJECT: Iowa Highway 86 Redesign, Dickinson County, Iowa

Ms. DeeAnn L. Newell
NEPA Compliance
Iowa Department of Transportation
800 Lincoln Way
Ames, Iowa 50010

Dear Ms. Newell:

The Rock Island District of the U.S. Army Corps of Engineers has reviewed your letter dated December 21, 2007, asking for comments on the subject project.

Based on available information, this project will require Department of the Army (DA) authorization under Section 404 of the Clean Water Act. More information is required before we can determine what form of Section 404 authorization is appropriate. However, it appears likely that this project will require an individual Section 404 permit. Please submit a complete application for DA authorization as early as possible. The application should include final wetland delineations and details of impacts to wetlands and other waters of the United States.

Should an individual permit be required for the project, prior to completing the permit review process and in compliance with the Clean Water Act Section 404(b)(1) guidelines, we will require sequential mitigation involving an alternatives analysis, minimization of impacts, and compensatory mitigation for any unavoidable impacts. The alternatives analysis must demonstrate how impacts to wetlands will be avoided by selection of the least environmentally damaging practicable alternative. If not already underway, avoidance considerations should be initiated immediately.

The proposed project is within Rock Island District's Regulatory boundaries but not our Civil Works boundaries. Omaha District is responsible for the Corps' Civil Works at the project location. If Omaha District hasn't already been given an opportunity to comment, please send project information to:

Ms. Candice Gordon
Planning Division
U.S. Army Corps of Engineers, Omaha
106 South 15th Street
Omaha, Nebraska 68102

Should you have any questions, please contact me by letter, or telephone me at 309/794-5379.

Sincerely,

Neal Johnson
Project Manager
Regulatory Branch

Copy Furnished:

Ms. Candice Gordon
Planning Division
U.S. Army Corps of Engineers, Omaha
106 South 15th Street
Omaha, Nebraska 68102

U.S. Department
Of Transportation

**Federal Aviation
Administration**

Central Region
Iowa, Kansas
Missouri, Nebraska

901 Locust
Kansas City, Missouri 64106-2325

January 8, 2008

Ms. DeeAnn L. Newell
NEPA Compliance
Iowa Department of Transportation
800 Lincoln Way
Ames, IA 50010

Dear Ms. Newell:

Re: Iowa Highway 86 (Iowa 86) Redesign
Dickinson County, Iowa
STPN-086-1(10)—2J-30
STPN-86-1(8)—2C-30

The Federal Aviation Administration (FAA) reviews other federal agency environmental from the perspective of the FAA's area of responsibility; that is, whether the proposal will have effects on aviation and other FAA responsibilities. We generally do not provide comments from an environmental standpoint. Therefore, we have reviewed the material furnished with the December 21, 2007, transmittal letter, regarding the Categorical Exclusion for the curve realignment project and an Environmental Assessment for the vertical alignment improvement project for Iowa Highway 86 in Dickinson County, Iowa, and we have no comments regarding environmental matters.

However, we remind you that you will need to consider whether or not the project will require formal notice and review from an airspace standpoint. The requirements for this notice may be found in Federal Aviation Regulations (FAR) Part 77, Objects Affecting Navigable Airspace. This regulation is contained under Subchapter E, Airspace of Title 14 of the Code of Federal Regulations. We would like to remind you that if any part of the project exceeds notification criteria under FAR Part 77, notice should be filed at least 30 days prior to the proposed construction date. For instructions on how to file and who to contact with any questions, please visit the following web site:
https://oeaaa.faa.gov/oeaaa/external/portal.jsp

Sincerely,

Todd M. Madison

Todd M. Madison, P.E.
Environmental Specialist

Fields of Opportunities

STATE OF IOWA

CHESTER J. CULVER, GOVERNOR
PATTY JUDGE, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
RICHARD A. LEOPOLD, DIRECTOR

January 4, 2008

Ms. DeeAnn L. Newell
NEAP Compliance
Iowa Department of Transportation
800 Lincoln Way
Ames, IA 50010

RE: Iowa 86 Redesign, Dickinson County

Dear Ms. Newell:

Thank you for letter notifying DNR of your plans to improve Iowa Highway 86 in Dickinson County from Iowa Highway 9 to the Minnesota border. As you proceed through the environmental assessment process for this project, please include DNR Supervisor Mark Gulick and DNR biologist Chris LaRue on your coordination list. Mr. LaRue manages the public lands that will be affected by this project. They can be reached at:

Mark Gulick
NW Regional Office
122 - 252nd Avenue
Spirit Lake, IA 51360
(712) 336-1840
Mark.Gulick@dnr.iowa.gov

Chris LaRue
Big Sioux Wildlife Unit
2408 - 17th Street
Spirit Lake, IA 51360
(712) 336-3524
Chris.LaRue@dnr.iowa.gov

I am not aware of any state lands that were cost-shared with federal LAWCON funds. However, portions of the Diamond Lake Wildlife Area were purchased with federal Sport Fish & Wildlife Restoration funding. The Waterfowl Production Areas that will be affected by this project are federally owned lands that are managed by the DNR. The U.S. Fish & Wildlife Service will also need to be involved in the planning of this road project.

Sincerely,

Jeff Joens
Wildlife Bureau

Cc: Mark Gulick
Chris LaRue

RECEIVED
JAN 0 8 2008
OFFICE OF LOCATION & ENVIRONMENT

RECEIVED
JAN - 9 2008
OFFICE OF LOCATION & ENVIRONMENT

United States Department of Agriculture

NRCS
Natural Resources Conservation Service
2412 17th Street
Spirit Lake, Iowa 51360

Phone: 712-336-3782 Ext. 3
Fax: 712-336-4278

DeeAnn Newell
IDOT
800 Lincoln Way
Ames, Iowa

1-4-08

Dear DeeAnn:

Thank you for your letter dated 12-21-07 pertaining to the hwy 86 project in Dickinson County.

There are no NRCS administered programs adversely affected by this project.

Please feel free to contact me if you have questions.

Thank you.

Sincerely,

Carroll Oskvig
District Conservationist

APPENDIX C

FARMLAND PROTECTION FORM

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request **2/10/09**	4. Sheet 1 of **5**
1. Name of Project **Iowa 86 Vertical Realignment**	5. Federal Agency Involved **Federal Highway Administration**	
2. Type of Project **Highway realignment**	6. County and State **Dickinson County, Iowa**	

PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS	2. Person Completing Form
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☐ NO ☐		4. Acres Irrigated / Average Farm Size
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction **Acres:** **%**	7. Amount of Farmland As Defined in FPPA **Acres:** **%**
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS

PART III *(To be completed by Federal Agency)*	Alternative Corridor For Segment ____ Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	23			
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor	23	0	0	0
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value				
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*				
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))* — Maximum Points				
1. Area in Nonurban Use — 15	15			
2. Perimeter in Nonurban Use — 10	10			
3. Percent Of Corridor Being Farmed — 20	11			
4. Protection Provided By State And Local Government — 20	20			
5. Size of Present Farm Unit Compared To Average — 10	0			
6. Creation Of Nonfarmable Farmland — 25	0			
7. Availablility Of Farm Support Services — 5	5			
8. On-Farm Investments — 20	10			
9. Effects Of Conversion On Farm Support Services — 25	0			
10. Compatibility With Existing Agricultural Use — 10	0			
TOTAL CORRIDOR ASSESSMENT POINTS — 160	71	0	0	0
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — 100				
Total Corridor Assessment (From Part VI above or a local site assessment) — 160	71	0	0	0
TOTAL POINTS *(Total of above 2 lines)* — 260	71	0	0	0

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
	23		YES ☐ NO ☑

5. Reason For Selection:

Signature of Person Completing this Part: | DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

Clear Form

HDR | ONE COMPANY *Many Solutions*℠

Memo

To:	DeeAnn Newell		
From:	Randy McCart	Project:	Iowa 86 Vertical Realignment
CC:	Brian Goss		
Date:	February 10, 2009	Job No:	70888

RE: FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS (NRCS-CPA-106) for Dickinson County, Iowa.

The purpose of this memo is to provide a documented record as to when and how the Farmland Conversion Impact Rating and associated NRCS-CPA-106 form for Dickinson County was completed for the Iowa 86 Vertical Realignment Environmental Assessment.

Project Description

The Iowa Department of Transportation (Iowa DOT) and the Federal Highway Administration (FHWA) are proposing improvements to Iowa Highway 86 (IA 86) in northern Dickinson County. These improvements include approximately 4.1 miles of vertical realignment on IA 86 (Project) (Figure 1, Project Location Map). The vertical realignment project is being advanced to improve the safety of the existing roadway and meet Iowa DOT's current design standards for a principal arterial highway. The pavement will be widened from the current 22 feet to 28 feet and the shoulders will be widened from 5 feet to 8 feet (4 feet paved and 4 feet granular material). IA 86 would be reconstructed on varying alignments and use varying foreslopes to minimize impacts to public lands. The Build Alternative (identified as Corridor A in the CA-106 Form) route is illustrated on Figure 2.

Impact Calculation

The project area is rural, agricultural land, outside of any urbanized area as depicted on the U.S. Census Bureau Boundary Reference Map (in American Factfinder). The proposed realignment of the highway would require acquisition of approximately 46 acres of land for right-of-way (ROW), including 23 acres of farmland and 23 acres of other land use (government, residential, and commercial).

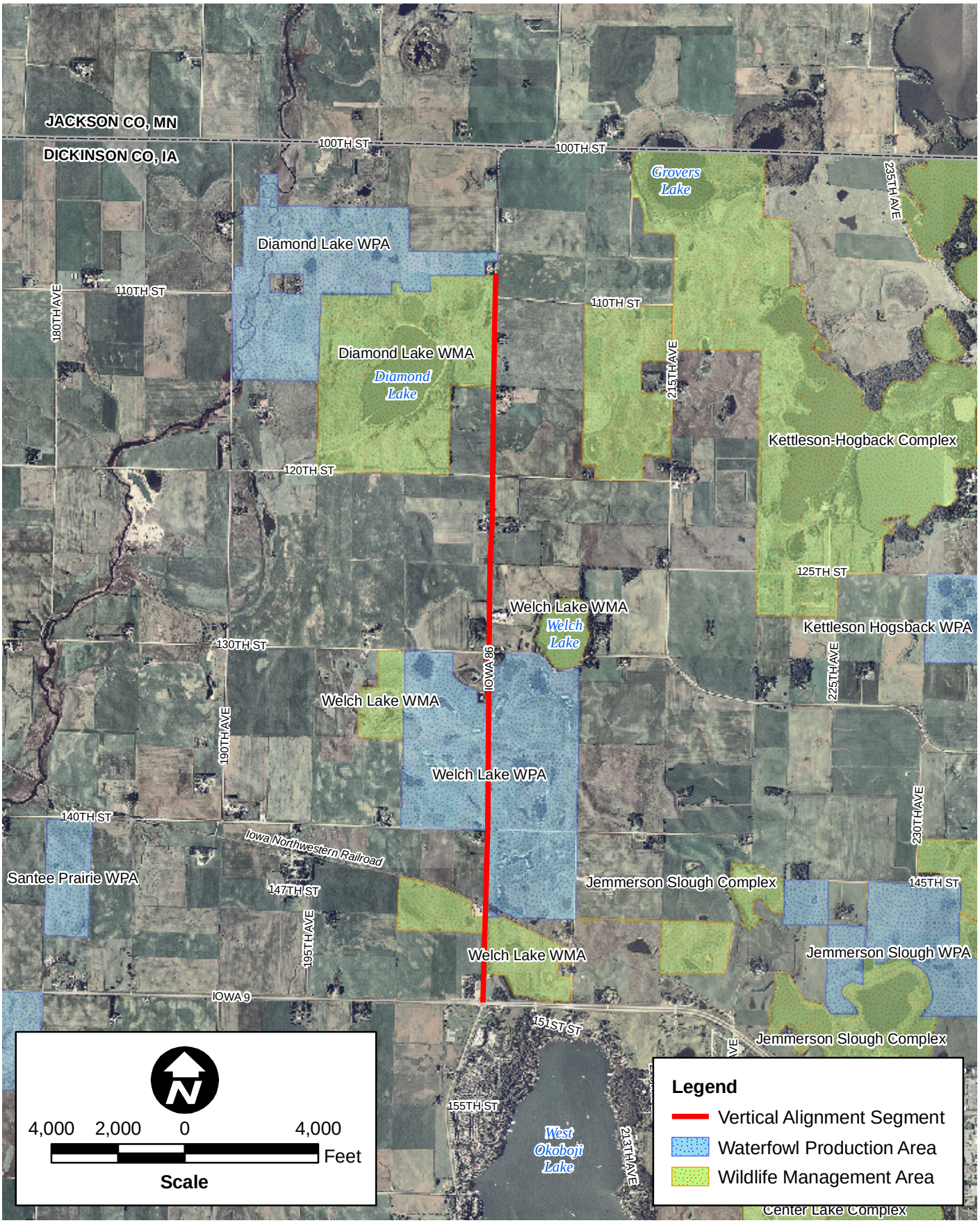
Below is an explanation as to how scores were calculated using *Part VI Corridor Assessment Criteria*.

1. Area in nonurban use. Scored 15 out of 15 points. More than 90 percent of the land within a one-mile radius is nonurban use.
2. Perimeter in nonurban use. Scored 10 out of 10 points. All of the land borders non-urban land.
3. Percent of Corridor Being Farmed. Scored 11 out of 20 points. Approximately 60 percent of the impacted corridor is and has been farmed.
4. Protection provided by state and local governments. Scored 20 out of 20 points. Most of the impact corridor land is zoned as agriculture. Three small areas within the impacted area are zoned as commercial and are not protected as farmland.
5. Size of Present Farm Unit Compared to Average. Scored 0 out of 10. The average farm size for Dickinson County, Iowa is 413 acres (2002 U.S. Census of Agriculture). The average size of the three farms being impacted is 141 acres. This is only 34% of the average farm size. Any farm less than 50% of the average farm size receives 0 points. Farm size in the impact corridor was calculated using parcel data for Dickinson County.
6. Creation of Non-Farmable Land. Scored 0 out of 25 points. The impacted area is adjacent to the existing highway and would not create any non-farmable land. All of the adjacent farmland would remain accessible from the highway or from county roads.

7. Availability of Farm Support Services. Scored 5 out of 5 points. The identified farmland is within reasonable proximity to adequate farm support services within Dickinson County.
8. On-Farm Investments. Scored 10 out of 20 points. The farmland within and adjacent to the impact area does have investment in barns and other outbuildings, as well as terraces and grassed waterways. The project would affect at least one outbuilding, but would not substantially affect other improvements, such as drainage.
9. Effects of Conversion on Farm Support Services. Scored 0 out of 25 points. It is not likely that the loss of 23 acres of farmland would adversely affect the demand for farm support services at the project site or within the general vicinity.
10. Compatibility with Existing Agricultural Use. Scored 0 out of 10 points. The proposed project is fully compatible to existing agricultural use of surrounding farmland and would not induce non-agricultural development in the area. The purpose of the vertical realignment is to increase safety and provide a roadway that meets Iowa DOT's current design standards for a principal arterial highway. The 2006 Dickinson County Comprehensive Plan denotes future commercial use expansion along IA 86 north of Iowa Highway 9, but does not refer to the improvement of IA 86. Therefore, development along IA 86 could occur without the proposed improvements.

The proposed IA 86 vertical realignment corridor scored 71 out of 160 points on the Farmland Conversion Impact Rating for Corridor Type Projects.

THIS PAGE INTENTIONALLY LEFT BLANK



Z:\Projects\IDOT\70888_NEPA_Iowa_86_Redesign\map_docs\mxd\Project_Location.mxd\dec08\jcm

HDR

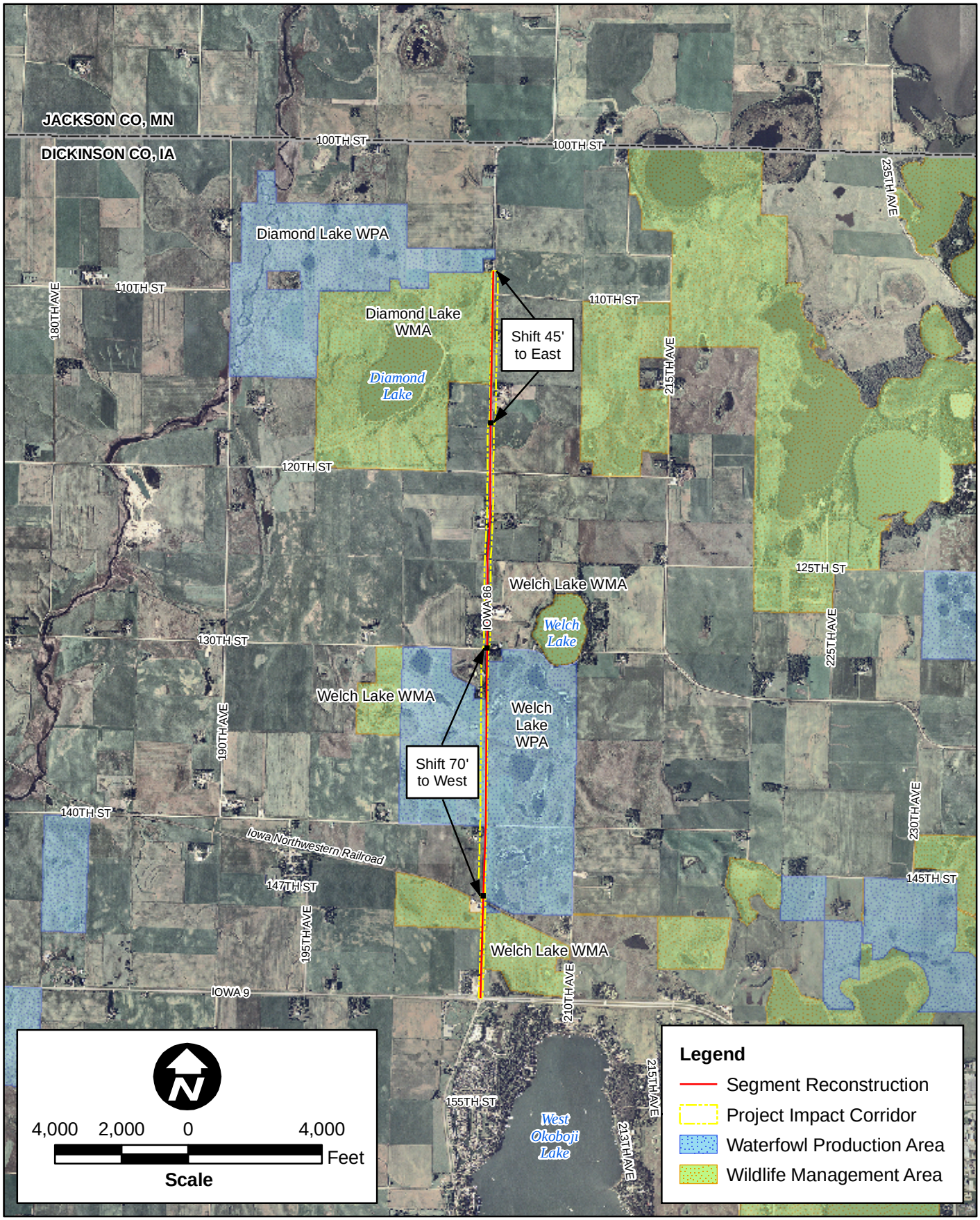
Iowa Highway 86 Vertical Alignment Project Location

Iowa Department of Transportation

Iowa Highway 86 Environmental Assessment

DATE
February 2009

FIGURE
1



Z:\Projects\IDOT\70888_NEPA_Iowa_86_Redesign\map_docs\mxd\Vertical_Alignment_Build_Alternative.mxdfeb09\jcm

HDR

Iowa Highway 86 Vertical Alignment Build Alternative

Iowa Department of Transportation

Iowa Highway 86 Environmental Assessment

DATE
February 2009

FIGURE
2

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request 2/10/09	4. Sheet 1 of 1
1. Name of Project Iowa 86 Vertical Realignment	5. Federal Agency Involved Federal Highway Administration	
2. Type of Project Highway Realignment	6. County and State Dickinson County, Iowa	

PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS 2/10/09	2. Person Completing Form J.Gertsma, RSS, USDA-NRCS
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☑ NO ☐	4. Acres Irrigated 0	Average Farm Size 413
5. Major Crop(s) Corn, Soybeans	6. Farmable Land in Government Jurisdiction Acres: 237,877 % 92	7. Amount of Farmland As Defined in FPPA Acres: 238,107 % 92
8. Name Of Land Evaluation System Used Dickinson County, Iowa	9. Name of Local Site Assessment System None-FPPA	10. Date Land Evaluation Returned by NRCS 3/5/09

PART III *(To be completed by Federal Agency)*	Alternative Corridor For Segment			
	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	23			
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor	23	0	0	0
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland	14			
B. Total Acres Statewide And Local Important Farmland	7			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	67			
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*				
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))* — Maximum Points				
1. Area in Nonurban Use — 15				
2. Perimeter in Nonurban Use — 10				
3. Percent Of Corridor Being Farmed — 20				
4. Protection Provided By State And Local Government — 20				
5. Size of Present Farm Unit Compared To Average — 10				
6. Creation Of Nonfarmable Farmland — 25				
7. Availablility Of Farm Support Services — 5				
8. On-Farm Investments — 20				
9. Effects Of Conversion On Farm Support Services — 25				
10. Compatibility With Existing Agricultural Use — 10				
TOTAL CORRIDOR ASSESSMENT POINTS — 160	0	0	0	0
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — 100				
Total Corridor Assessment (From Part VI above or a local site assessment) — 160	0	0	0	0
TOTAL POINTS *(Total of above 2 lines)* — 260	0	0	0	0

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES ☐ NO ☐

5. Reason For Selection:

Part 5, Relative Value is 62.85

Signature of Person Completing this Part: | DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?
More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?
More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?
More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?
Site is protected - 20 points
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with $1,000 or more in sales.)
As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?
All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?
Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

APPENDIX D

SECTION 4(F) MEMORANDUM OF AGREEMENT

MEMORANDUM OF UNDERSTANDING

Among the

IOWA DEPARTMENT OF TRANSPORTATION
IOWA DEPARTMENT OF NATURAL RESOURCES
US FISH AND WILDLIFE SERVICE AND
FEDERAL HIGHWAY ADMINISTRATION

for

IOWA HIGHWAY 86 RECONSTRUCTION PROJECT

in

Dickinson County, Iowa

Iowa DOT Project Number
STP-086-1(10)--2C-30

MAY 2011

WHEREAS, The Federal Highway Administration, Iowa Division Office (FHWA), in cooperation with the Iowa Department of Transportation (IDOT) is proposing to reconstruct and provide safety improvements to Iowa Highway 86 from its intersection with Iowa Highway 9 north to the relocated curves just south of the Minnesota State Line (PROJECT):

WHEREAS, construction of the PROJECT will require approximately 11.6 acres of additional highway right-of-way (ROW) as well as other temporary ROW areas from certain lands, including wetland areas, owned by the US Fish and Wildlife Service (USFWS) as part of the Welch Lake Waterfowl Production Area (WPA) and managed under agreement by the Iowa Department of Natural Resources (IDNR):

WHEREAS, construction of the PROJECT will also require approximately 3.9 acres of additional of ROW as well as other temporary ROW areas from certain lands owned by IDNR as part of the Welch Lake Wildlife Management Area (WMA) and the Diamond Lake WMA:

WHEREAS, FHWA anticipates making *De Minimus Impact Finding*s under Section 4(f) of the DOT Act of 1966 for both the WPA and WMA areas of additional ROW areas required for the PROJECT:

WHEREAS, mitigation of the 4(f) area will be required for the WPA ROW area and, in accordance with federal laws and regulations, said WPA 4(f) mitigation must be on both a "dollar for dollar" economic basis as well as a "function for function" ecological basis:

WHEREAS, USFWS has determined that any transfer of lands to satisfy the 4(f) mitigation requirement must be conducted as a land exchange in accordance with federal laws and regulations:

WHEREAS, mitigation of the 4(f) area will also be required for the WMA ROW area and, in accordance with Iowa laws and regulations:

WHEREAS, IDOT will purchase the approximate 29 acre tract of land shown in **Attachment 1** (the PARCEL):

WHEREAS, the IDNR is willing to accept natural resource management responsibilities on the PARCEL in perpetuity for the public's benefit and in consultation with USFWS as necessary:

WHEREAS, FHWA and IDOT have consulted with the USFWS Rock Island Ecological Services, the USFWS Union Slough National Wildlife Refuge, the USFWS Region 3 Division of Realty, the IDNR Wildlife Bureau, and the IDNR Big Sioux Wildlife Unit:

NOW, THEREFORE, IDOT, IDNR, USFWS, and FHWA agree that the undertaking shall be implemented in accordance with the following stipulations relating to impacts to 4(f) properties and to their natural resources including wetlands within the proposed PROJECT area:

STIPULATIONS

A. The FHWA and IDOT will construct the proposed PROJECT improving Iowa Highway 86 in accordance with the final plans and drawings provided to USFWS and IDNR, minor alterations notwithstanding.

B. Upon the completion and execution of this Memorandum of Understanding, the USFWS will issue a notice approving transfer of jurisdiction of the approximately 11.6 acres of the Welch Lake Waterfowl Production Area that is needed for construction of the PROJECT, pending completion of the land exchange.

C. Upon the completion and execution of this Memorandum of Agreement, the IDNR will provide through intergovernmental agreement and transfer of jurisdiction and control approximately 3.9 acres of the Welch Lake Wildlife Management Area as ROW needed for construction of the PROJECT.

D. USFWS, IDNR and IDOT have jointly identified an appropriate parcel shown in **Attachment 1** (PARCEL) to mitigate the dollar for dollar economic basis and the function for function ecological basis of the WPA ROW and WMA ROW areas.

E. The IDOT will acquire the PARCEL as shown in **Attachment 1** to satisfy the requirements of Section 4(f) mitigation.

F. USFWS will accept a land exchange of that portion of the PARCEL necessary to satisfy 4(f) mitigation together with all restored wetlands and uplands thereon as full, complete and satisfactory mitigation of the 4(f) requirements for the WPA ROW.

G. IDNR will accept an intergovernmental agreement and transfer of jurisdiction and control necessary to satisfy 4(f) mitigation together with all restored wetlands and uplands thereon as full, complete and satisfactory mitigation of the 4(f) requirements for the WPA ROW approximately 3.9 acres from IDOT for the WMA ROW areas.

H. The IDOT will design, let and construct wetlands of type and quantity to satisfy the requirements of both its Section 4(f) mitigation as well as its Clean Water Act Section 404 mitigation. IDOT will also seed upland areas of the PARCEL as native prairie buffer. IDOT shall also be responsible for obtaining approvals, permits, and clearances for constructing both the mitigation areas and the PROJECT.

I. The IDNR will accept natural resource management responsibilities on the PARCEL in perpetuity for the public's benefit and in consultation with USFWS as necessary.

J. IDOT shall not be responsible for changes in site conditions not directly resulting from IDOT's proposed construction or maintenance as described herein.

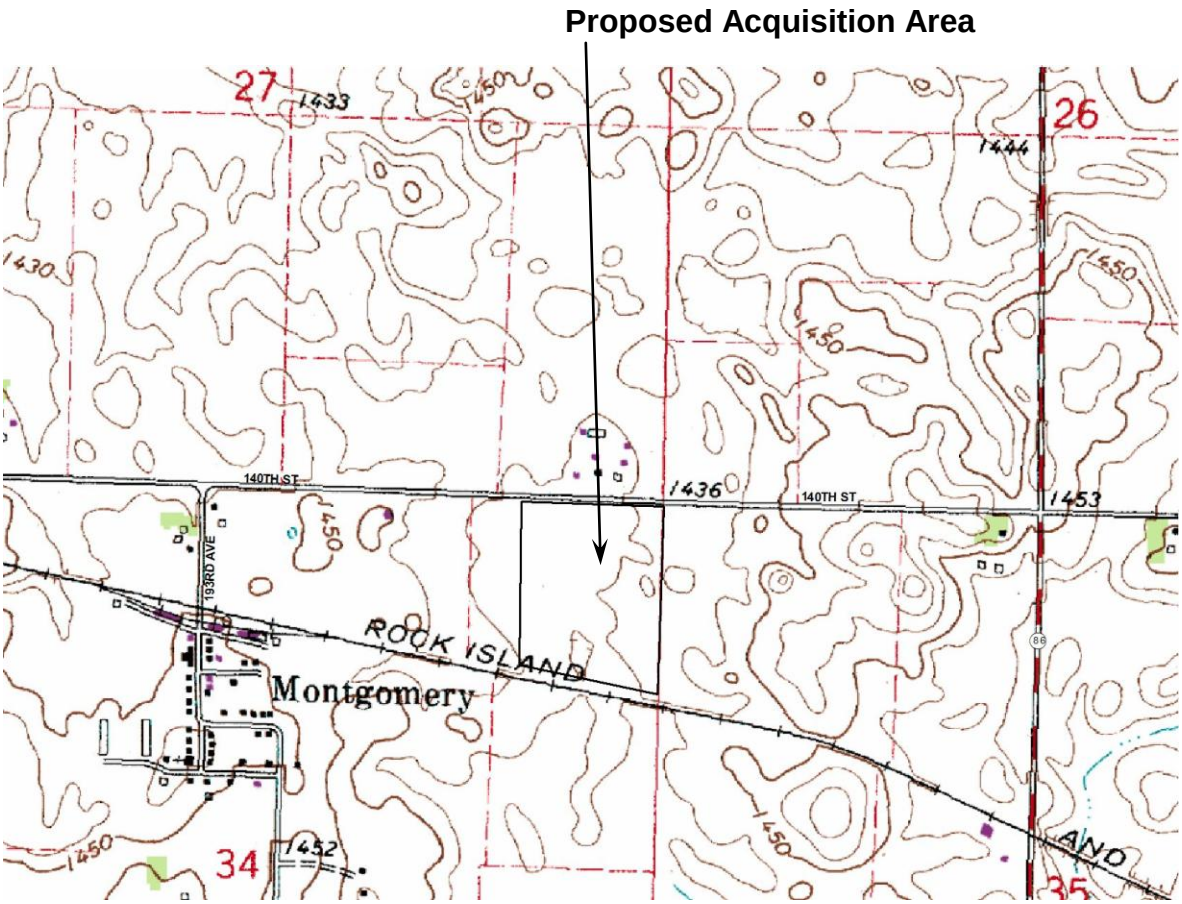
K. Agreement Amendments and Termination, and Dispute Resolution:

(1) Modification, amendment or termination of this agreement as necessary shall be accomplished by the signatory agencies in the same manner as the original agreement.

(2) Disputes regarding the completion of the terms of this agreement shall be resolved by the signatories. If the signatories cannot agree regarding a dispute, any one of the signatories may request the resolution of the dispute by elevating the matter to the appropriate higher level of management.

L. This Agreement, including its attachments, represents the entire and integrated agreement between the signatories and supersedes all prior negotiations, representations or agreements, either oral or written. This Agreement may be amended only by written instrument signed by all signatory agencies.

Attachment 1. Proposed area of acquisition by Iowa DOT, area to contain approximately 29 acres and located in the NE ¼ of the NE ¼ of Section 34 of Diamond Lake Township (Township 100 North, Range 37 West), Dickinson County, Iowa.



MEMORANDUM OF AGREEMENT

IOWA HIGHWAY 86 RECONSTRUCTION PROJECT

Signature Page

The parties undersigned agree that the undertaking shall be implemented in accordance with the previously described stipulations relating to highway right-of-way impacts to state and federal lands including Waterfowl Production Areas and Wildlife Management Areas within the proposed PROJECT area.

IOWA DEPARTMENT OF NATURAL RESOURCES

By:_____ _____

Name and Title of Signer: Date

MEMORANDUM OF AGREEMENT

IOWA HIGHWAY 86 RECONSTRUCTION PROJECT

Signature Page

The parties undersigned agree that the undertaking shall be implemented in accordance with the previously described stipulations relating to highway right-of-way impacts to state and federal lands including Waterfowl Production Areas and Wildlife Management Areas within the proposed PROJECT area.

IOWA DEPARTMENT OF TRANSPORTATION

By:_____ _____

Director, Office of Location & Environment Date

MEMORANDUM OF AGREEMENT

IOWA HIGHWAY 86 RECONSTRUCTION PROJECT

Signature Page

The parties undersigned agree that the undertaking shall be implemented in accordance with the previously described stipulations relating to highway right-of-way impacts to state and federal lands including Waterfowl Production Areas and Wildlife Management Areas within the proposed PROJECT area.

UNITED STATES FISH AND WILDLIFE SERVICE
ECOLOGICAL SERVICES BUREAU

By:_____ _____
Name and Title of Signer: Date

MEMORANDUM OF AGREEMENT

IOWA HIGHWAY 86 RECONSTRUCTION PROJECT

Signature Page

The parties undersigned agree that the undertaking shall be implemented in accordance with the previously described stipulations relating to highway right-of-way impacts to state and federal lands including Waterfowl Production Areas and Wildlife Management Areas within the proposed PROJECT area.

FEDERAL HIGHWAY ADMINISTRATION

By:_____ _____

Iowa Division Administrator Date