Illinois Department of Transportation

Environmental Reevaluation

Longmeadow Parkway, Huntley Road to Illinois Route 62, County of Kane, Illinois

REEVALUATION
ENVIRONMENTAL ASSESSMENT

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

U.S. Department of Transportation
Federal Highway Administration (FHWA)

and

Illinois Department of Transportation (IDOT)

July 26, 2016
Date of Approval

For IDOT

July 26, 2016
Date of Approval

For FHWA

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The proposed action consists of the construction of a new highway between Huntley Road and Illinois Route 62 and a new bridge crossing over the Fox River in Kane County. The length of this improvement from western terminus to eastern terminus is approximately 5.6 miles, with another 3.7 miles of intersecting road improvements. Longmeadow Parkway will impact eleven wetlands for a total acreage of 4.16 acres. The total number of trees impacted by this project (including dead trees) is approximately 5,765 trees.

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GLOSSARY

ADID	Advanced Identification
ADT	Average Daily Traffic
BMPs	Best Management Practices
CFR	Code of Federal Regulation
CMAP	Chicago Metropolitan Agency for Planning
CNE	Common Noise Environment
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
D&E	Design and Environmental
EIS	Environmental Impact Statement
FHWA	Federal Highway Administration
FPDKC	Forest Preserve District of Kane County
FTA	Federal Transit Administration
FQI	Floristic Quality Index
GPS	Global Positioning Systems
HEI	Health Effects Institute
HFV	High Functional Values
HHV	High Habitat Values
HQAR	High Quality Aquatic Resource
IDNR	Illinois Department of Natural Resources
IDOT	Illinois Department of Transportation
IEPA	Illinois Environmental Protection Agency
IGA	Intergovernmental Agreement
INAI	Illinois Natural Area
INHS	Illinois Natural History Survey
IRIS	Integrated Risk Information System
ISGS	Illinois State Geological Survey
IWPA	Interagency Wetland Policy Act
KDOT	Kane County Division of Transportation
LOS	Level of Service
MSE	Manufactured Structural Earth
MSAT	Mobile Source Air Toxics

NAC	Noise Abatement Criteria
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NIPC	Northeastern Illinois Planning Commission
OSLAD	Open Space Lands Acquisition
OWR	Office of Water Resource
OMS	Operational Management Strategies
PESA	Preliminary Environmental Site Assessment
PSI	Preliminary Site Investigation
RECs	Recognized Environmental Conditions
ROD	Record of Decision
RCRA	Resource Conservation and Recovery Act
ROW	Right-of-Way
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
TNM	Traffic Noise Model
TIP	Transportation Improvement Program
TDR	Travel Demand Reduction
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VPH	Vehicles Per Hour
VMT	Vehicle Miles Traveled
WOUS	Waters of the United States

Illinois Department of Transportation

SECTION I: INTRODUCTION & PURPOSE AND NEED

1. Introduction

This document has been prepared to present updated information regarding the environmental studies that have been completed since the Environmental Impact Statement (EIS). The EIS was dated November 2001 and the signature date of the Record of Decision (ROD) was May 13, 2002. In the EIS, this project was referred to as the Bolz Road Corridor, but is now known as the Longmeadow Parkway. As the project moved through the design process the required right-of-way (ROW) was refined. The final ROW footprint of this project is shown on Figure 1. A reevaluation dated November 10, 2009 was completed for the change to toll the bridge which led to the determination that a supplemental EIS was not needed. Other actions that have occurred subsequent to the ROD include Design Report approval received on December 3, 2013. There are no alignment changes in the reevaluation from the alignment selected in the ROD.

Pursuant to 23 Code of Federal Regulations (CFR) 771.130(c), this Environmental Reevaluation is being prepared to assess the impacts of the new information and circumstances that have occurred with the project. Figure 1 shows the project area and new resources being discussed in this document. The new information and circumstances include the following:

a. The construction of neighborhoods adjacent to the project corridor.
b. Air quality including the designation of Kane County as a non-attainment area for $PM_{2.5}$., and addition of construction-related particulate-matter and mobile source air toxics National Environmental Policy Act (NEPA) compliance language
c. Reassessing noise impacts based on the most recent IDOT noise policy and procedures
d. Federal listing of the Northern long eared bat as a threatened species under the Endangered Species Act.
e. Results of the Bald eagle nest survey
f. A wetland delineation was conducted and wetland impacts were reevaluated
g. Section 4(f) Coordination related to Buffalo Park Forest Preserve
h. Section 4(f) Coordination related to Fox River Shores Forest Preserve
i. Section 4(f) Coordination related to Brunner Family Forest Preserve
j. A commitment change from providing clay lined ditches to providing current Best Management Practices (BMPs) that allow for infiltration.
k. A change from no piers in the Fox River to including piers in the Fox River
l. An increase in the acreage of trees impacted (from 2.7 acres to 28.7 acres)
m. A change in acreage of wetland impacted (from 0 to 4.16)
n. Visual impact resulting from taking a strip of land in front of the Perry Lathrop house which is an historic property.
o. Inclusion of the Starhead topminnow which has recently been State-listed as a threatened species.
p. The large presence of Smallmouth bass in the Fox River within the project limits.

This reevaluation also will evaluate each resource area to determine if there are any other changes in impacts with the project. This reevaluation will be made available for public review and comment. Following the public review and comment opportunity, Federal Highway Administration (FHWA) will either determine a Supplemental EIS is required based on new significant impacts; or FHWA will issue a "Finding of No Significant Impact" if no new significant impacts are identified.

The proposed action consists of the construction of a new highway between Huntley Road and Illinois Route 62 and a new bridge crossing over the Fox River in Kane County. The proposed project corridor is located in the Villages of Algonquin, Carpentersville, Barrington Hills, and in unincorporated Kane County. The Algonquin section of the improvement is on the west side of the Fox River between Randall Road and White Chapel Road, unincorporated sections of Kane County are mainly between White Chapel Lane and the east side of the Fox River, the Carpentersville section is on the east side of the Fox River, and the Barrington Hills section is east of the Village of Carpentersville between Illinois Route 25 and Illinois Route 62. The existing section of Longmeadow Parkway is located between Randall Road and White Chapel Road. The proposed Longmeadow Parkway typical cross section consists of two 11-foot lanes in each direction separated by a landscaped barrier median. Signalized intersection improvements would be provided at Huntley/Boyer Road, Randall Road, Sleepy Hollow Road, Illinois Route 31, Bolz Road Connector, Illinois Route 25 and Illinois Route 62 (Algonquin Road). Sandbloom Road would pass under the new bridge over the Fox River and intersect with Bolz Road. The existing T-intersection of Huntley Road and Boyer Road would be reconstructed as a four-legged intersection. The proposed roadway would transition into Huntley Road on the west terminus into a two-lane cross section. The length of this improvement from western terminus to eastern terminus is approximately 5.6 miles, with another 3.7 miles of intersecting road improvements.

2. Purpose and Need

The Purpose and Need of the Longmeadow Parkway project is consistent with and a reiteration of the Purpose and Need stated in the EIS and in the Design Report. The needs that existed at the time the EIS was developed still exist and the deficiencies that the project meant to address are still relevant.

Purpose

The purpose of the Longmeadow Parkway is to provide a transportation corridor that increases access across the Fox River in the north region of Kane County. The Fox River represents a physical barrier, which limits east-west access in this region. The purpose recognizes this barrier and refines the objectives to address it more precisely in terms of land use and transportation issues. The three objectives are:

- Enhance the transportation network by reducing congestion and providing alternate and more direct routes;
- Serve existing land use in the region through efficient access to central business districts, public services, and employment and commercial centers; and
- Serve proposed land use in conformance to local and county land use and resource management plans, which encourage compact, contiguous growth for the eastern portion of the region and preserve the rural qualities of the western portion of the region.

Need

Enhance the Transportation Network – There are no major river crossings within the 5.1 mile stretch between the Illinois Route 72/Main Street Bridge, in the Villages of East and West Dundee, and the Illinois Route 62/Algonquin Road Bridge, in the Village of Algonquin. The Illinois Route 72/Main Street Bridge in East and West Dundee facilitates both local and regional traffic. Illinois Route 72/Main Street is congested through East and West Dundee with numerous driveways and businesses fronting the road. The Illinois Route 62/Algonquin Road Bridge through Algonquin is consistently congested, due to lack of capacity through the intersection of Algonquin Road and Illinois Route 31 on the west side of the Fox River. The Huntley Road/Main Street Bridge, in Village of Carpentersville, is a two-lane bridge that primarily serves local traffic and terminates at Lord Avenue, four blocks east of the Fox River. Providing highway improvements within this area will enhance travel by reducing travel times and providing safer traveling conditions.

Capacity – The proposed Longmeadow Parkway corridor would provide access across the Fox River, reduce congestion and provide an alternate and more direct east-west route within this northern region of Kane County. As documented in the EIS, the need is for more than relief to an existing roadway or bridge; the traffic demands for crossings of the Fox River, in the immediate project area, currently exceed the effective capacity available. Therefore, the benefit of adding an additional bridge crossing over the Fox River will improve the entire roadway network within this region. Instead, network modeling by the Chicago Metropolitan Agency for Planning (CMAP) indicate the network will be more efficient since trips will be more direct on a less congested network. Furthermore, east-west through traffic will be diverted from the downtowns of Carpentersville, Algonquin and East and West Dundee. Traffic modeling has indicated traffic volumes will continue to grow, with or without a new bridge crossing, resulting in higher levels of congestion within the subject roadway network. The increase in traffic volumes is due to continued growth in population, employment, and automobile usage within the region.

The need for the proposed improvement is evident from an examination of the existing and projected traffic volumes within the project corridor. With projected traffic volumes ranging from 8,000 to 33,000 vehicles per day in 2040, motorists will benefit from a more direct regional corridor that allows crossing of the Fox River with minimal delays. Figure 2 in the Appendix shows the range in the Average Daily Traffic (ADT) values for the existing and 2040 design year. The ROD was based on 2020 traffic projections. The 2013 Design Report and this reevaluation utilize 2040 traffic projections. Differences in traffic volume projections between 2020 and 2040 vary depending on locations within the corridor. West of the Fox River, there are generally minimal projected increases in traffic volumes. The only increase, west of the Fox River, is west of Boyer Road on Huntley Road where volumes are expected to increase 65% from 2020 to 2040. East of the Fox River, there is an anticipated decrease in volumes between 2020 projections and 2040 projections, ranging anywhere from 21% to 55%. Though the 2040 projections show wide variances from the 2020 projections, the increase between the existing volumes and the 2040 projections still support the need for the proposed improvement. The projected increases on existing Longmeadow Parkway range from 106% along existing Huntley Road to 1,418% east of Sleepy Hollow Road.

Land Use Development and Community Cohesion – The Villages of Carpentersville and Algonquin, as well as unincorporated Kane County, are experiencing rapid growth in residential developments west of the Fox River. As documented in the EIS, CMAP formerly known as the Northeastern Illinois Planning Commission (NIPC), projects a growth trend in housing and jobs to continue into the year 2020, when Kane County's population is projected to reach 552,944, a 74% increase over the 1990 population. East of the Fox River, the Villages of Carpentersville and Algonquin have seen residential developments occur north of Bolz Road from the Fox River to Illinois Route 25. The proposed Longmeadow Parkway corridor will support and complement existing developments and the expected continuation of growth within the region.

The 2010 population for Kane County was 508,482 per the U.S. Census Bureau. Kane County's population is projected to reach 789,295 by 2040, an increase of 55.2% over the 2010 population. This is an increase of 149% over the 1990 population.

The original EIS analyzed present day land uses at the time, which included one new subdivision (Silverstone Lake Subdivision) located along the north side of proposed Longmeadow Parkway between Amarillo Drive and Alameda Drive. Figure 3 shows the land use changes that have occurred since 1999.

Roadway Deficiencies and Safety – An existing three-leg intersection is located at Huntley Road and Boyer Road. When Longmeadow Parkway is constructed, the fourth leg of the intersection will be built. Between 2009 and 2012, there were four rear-end crashes, three fixed-object crashes, five side-swipe crashes, and one overturned vehicle for a total of thirteen crashes. Twelve of the crashes were property damage only; one crash (NB rear-end) resulted in an injury. Capacity improvements at the intersection will likely reduce rear-end collisions and the center barrier median to be added on Huntley Road will likely reduce opposite direction side-swipe collisions. The Huntley-Boyer Road intersection will be reconstructed and remain a signalized intersection in accordance with current roadway standards.

There also is an existing three-leg intersection at Randall Road and Longmeadow Parkway, which is currently an unsignalized T-intersection. There were eighteen crashes at the intersection during the 5-year period between 2008 and 2012. The predominant type of crash is rear-end, with 7 reported during the 5-year period. The remaining crash types are sideswipe-same direction (3), left-turning (3), animal (3) and fixed object (2). Three of the crashes resulted in an injury. This intersection will be reconstructed as a four-leg signalized intersection in accordance with current roadway standards.

There is no existing intersection along the proposed Longmeadow Parkway alignment which intersects with Illinois Route 31, Illinois Route 25, or Illinois Route 62. Therefore, no crash data was analyzed at these locations.

SECTION II: AFFECTED ENVIRONMENT TABLE

Environmental Resources/Conditions	Resource/Condition Present?			
	Impacts Identified in the EIS		Impacts Identified During the Reevaluation	
	Yes	No	Yes	No
I. Social/Economic				
1. Community Cohesion		X		X
2. Environmental Justice and Title VI		X		X
3. Public Facilities and Services	X		X	
4. Changes in Travel Patterns and Access	X		X	
5. Relocations (Business and Residential)	X		X	
6. Economic Impacts	X		X	
7. Land Use	X		X	
8. Growth and Economic Development	X		X	
9. Pedestrian and Bicycle Facilities	X		X	
II. Agricultural				
1. Farms and Farmland Conversion	X		X	
2. Prime and Important Soils	X		X	
3. Severed/Landlocked Parcels		X		X
4. Adverse Travel		X		X
III. Cultural Resources (Historic Properties)				
1. Archaeological Sites		X		X
2. Historic Bridges		X		X
3. Historic Districts		X		X
4. Historic Buildings	X			X

Environmental Resources/Conditions	Resource/Condition Present?			
	Impacts Identified in the EIS		Impacts Identified During the Reevaluation	
	Yes	No	Yes	No
IV. Air Quality				
1. Microscale Analysis		X		X
a. Does project add through lanes or auxiliary turning lanes?	X		X	
b. Has COSIM 4.0 been used?	NA	NA	NA	NA
2. Air Quality Conformity	X			X
a. Is project in a non-attainment or maintenance area?	X		X	
3. Is project located in a PM 2.5 or PM 10 non-attainment or maintenance area	X		X	
4. Construction-Related Particulate Matter	NA	NA		X
5. Mobile Source Air Toxics	NA	NA		X
V. Noise				
1. Is this a Type I project?	X		X	
a. Noise impacts	X		X	
b. Does abatement meet feasibility and reasonableness criteria?		X		X
2. Is this a Type III project?		X		X
VI. Natural Resources				
1. Upland Plant Communities	X		X	
a. Does the project impact wooded areas (Trees)?	X		X	
b. Does the project impact Prairie?		X		X
c. Does the project occur within an Illinois Department of Agriculture quarantine area for an invasive species?	NA	NA	X	
2. Wildlife Resources	X		X	
a. Does the project area contain Wildlife Habitat?	X		X	
b. Does the project area contain breeding habitat for neotropical migrant species of birds?		X		X
c. Does the project area contain nesting Bald eagles?		X	X	
3. Threatened and Endangered Species	X		X	
a. Does habitat exist for Federally-listed species in the project area?		X	X	
b. Did the EcoCAT response from IDNR indicate the presence of State-Listed Species in the project area?	X		X	

Environmental Resources/Conditions	Resource/Condition Present?			
	Impacts Identified in the EIS		Impacts Identified During the Reevaluation	
	Yes	No	Yes	No
VII. Water Quality/Resources/Aquatic Habits				
1. Does the project involve a waterbody?	X		X	
2. Does the project affect the physical features of a stream?		X	X	
3. Does the project affect the fish and/or mussels within the stream?		X	X	
4. Does the project affect either the narrative or numeric water quality standards?		X		X
5. Does the project occur within an area listed as a navigable stream, nationwide river inventory, ADID stream, or have a rating under the Biological Stream rating system?	X		X	
6. Do the project impacts require mitigation?	X		X	
VIII. Groundwater Resources				
1. Is groundwater the primary source of potable water in the area?		X		X
2. Does the project occur within an area of karst topography?		X		X
3. Does the project occur within a watershed that has been designated by the IEPA as vital for a particularly sensitive ecological system?		X		X
4. Does the project impact a Wellhead Protection Area?		X		X
5. Does the project occur within an area where potable water supply wells are present?		X		X
6. Does the project contribute to degradation of the area's groundwater quality?		X		X
7. Does the project occur within an area designated as a special resources groundwater?		X		X

Environmental Resources/Conditions	Resource/Condition Present?			
	Impacts Identified in the EIS		Impacts Identified During the Reevaluation	
	Yes	No	Yes	No
IX. Floodplains				
1. Does the project occur within a 100-year floodplain?	X		X	
2. Does the project occur within the Regulated Floodway?	X		X	
3. Is a Floodplain Finding required?		X		X
X. Wetlands				
1. Does the project impact Wetlands?		X	X	
2. Do the wetlands have an FQI of 20 or greater?		X		X
3. Are the wetlands listed as an ADID Site?	NA	NA	X	
4. Wetlands Finding	X		X	
XI. Special Waste				
1. Did project pass Level I screening?	NA	NA		X
2. Did project pass Level II screening?	NA	NA		X
3. Was a Preliminary Environmental Site Assessment (PESA) required?	X		X	
a. Is All Appropriate Inquiry (AAI) required?	NA	NA		X
b. Were REC(s) identified in the PESA?	NA	NA	X	
4. Was a Preliminary Site Investigation (PSI) required?	NA	NA	X	
XII. Special Lands				
1. Section 4(f)	X		X	
a. *DeMinimis*, Programmatic, or Individual	X		X	
2. Section 6(f)		X		X
3. Open Space Lands Acquisition and Development (OSLAD) Act Lands		X		X
4. INAI Sites		X		X
5. Nature Preserves		X		X
6. Land & Water Reserves		X		X

Environmental Resources/Conditions	Resource/Condition Present?			
	Impacts Identified in the EIS		Impacts Identified During the Reevaluation	
	Yes	No	Yes	No
XIV. Environmental Commitments Permits/Certifications Required				
1. Does the project require Section 404 Permit(s)?	X		X	
2. Will an individual Water Quality Certification from IEPA be required?	X		X	
3. Will a Coast Guard Bridge Permit be required?		X		X
XV. Public Involvement	X		X	
XVI. Agency Coordination	X		X	

SECTION III: ALTERNATIVES

In this reevaluation, the two alternatives under consideration are the No-Build and the Build alternative, which was selected in the ROD. The ROD dismissed the No-Build alternative because it would not meet the purpose and need for the project; however, it is included in this re-evaluation for comparison with the Build Alternative. The original EIS evaluated several alignments for the Bolz Road Corridor (Longmeadow Parkway), and the ROD selected the alternative with the least environmental impacts. The selected alternative from the ROD is the subject of this re-evaluation to determine if there are any new significant impacts. If new significant impacts are identified, then a Supplemental EIS is required.

The No-Build alternative is the current roads in their existing configuration with no improvements other than routine maintenance and minor rehabilitation. It is the future base condition against which the effects of the Build alternative will be measured. Selection of the No-Build alternative will result in longer travel times and increased congestion due to the lack of major river crossings within the 5.1 mile stretch between IL Route 72 and IL Route 62. This selection will be detrimental to the roadway network support of current and future land use development within the region. Within this re-evaluation, the No-Build alternative still does not meet the purpose and need for the project.

SECTION IV: IMPACTS, DOCUMENTATION AND MITIGATION

Part I. Socio-economic

In the EIS, there were no impacts under Community Cohesion and Title VI and Environmental Justice and there are no new impacts as a result of this reevaluation. Effects to Public Facilities and Services, Changes in Travel Patterns and Access, Economic Impacts, Land Use and Growth and Economic Development, and Pedestrian and Bicycle Facilities were described in the EIS and summarized in this reevaluation. The EIS identified 11 single family residential displacements necessary to build the proposed bridge and roadway improvements. This impact has been reduced to 3 single family residential structures being displaced.

1. Community Cohesion

Description

The proposed bridge crossing would connect neighborhoods on both the east and west side of the Fox River reducing congestion. Dundee School District #300 will benefit from improved bus access within its service area as a result of the bridge and roadway improvement as District #300 serves both sides of the Fox River. There have been no changes in community cohesion impacts from the EIS.

2. Title VI and Environmental Justice

Title VI

Groups of ethnic, racial or religious minorities or elderly or disabled people are not present within the project area. No groups of individuals have been or will be excluded from participation in public involvement activities, denied the benefit of the project or

subjected to discrimination in any way on the basis of race, color, age, national origin, disability, or religion.

Environmental Justice

Upon reviewing and evaluating available data regarding the census tracts within the project limits, there are no disproportionate impacts on the low-income and minority population. At the time of the EIS, the project limits were included in one census tract 8501.00. The project limits did not change; however, the original census tract has been since subdivided into three census tracts, 8501.01, 8501.05, and 8501.06. The data for the 2010 census from each of these census tracts was reviewed and there are no disproportionate impacts on the low income or minority population. The census tracts within the project limits had a lower level of minority and low income population than Kane County as a whole. This reevaluation found that this determination from the EIS is still valid.

3. Public Facilities and Services

Description

The Algonquin and Carpentersville Police and Fire Departments serve both the west and east sides of the Fox River and would benefit from improved response times as a result of implementing the bridge and roadway improvements. There also are many park and recreational facilities located on both the east and west sides of the Fox River. Providing an alternative bridge crossing between the two existing crossings in Algonquin and Carpentersville will improve access for many residents in both of these communities, adjacent communities, and unincorporated Kane County. There have been no changes in impacts to public facilities and services from the EIS.

4. Changes in Travel Pattern and Access

Description

The primary future growth areas of both Algonquin and Carpentersville are west of the Fox River. As congestion increases on the existing bridges in the downtown areas of these communities, automobile and pedestrian movements will be impeded, affecting the viability of these commercial areas. The proposed improvements will provide a major transportation link from residences to employment, shopping and recreational opportunities. There have been no changes in impacts to travel patterns and access from the EIS.

5. Relocations (Business and Residential)

Estimation and Description

The EIS had 11 single family residential displacements to accommodate the proposed bridge and roadway improvements. This impact has been reduced to 3 single family residential structures being displaced. One residence in the area of Karen Drive was purchased at least five years ago and was demolished. One residence is in negotiation along Route 31. One residence at the northwest corner of Randall/Longmeadow was purchased and has been demolished.

The number of relocations have been reduced from eleven (EIS) to three (reevaluation).

6. Economic Impacts

Description

The proposed bridge and roadway improvements will help focus new employment opportunities within Kane County and the local municipalities. Businesses that are currently located in this developed corridor also will benefit from the improved access to major transportation routes, business districts, customer bases, and public services. There have been no changes in economic impacts from the EIS.

7. Land Use

Description

The land use along the Longmeadow Corridor is predominantly residential with forest preserve and open lands also present. There have been no changes in land use from the EIS.

8. Growth and Economic Development

Description

Improved accessibility across the Fox River will enhance the planned development potential of the undeveloped parcels along the corridor as traffic is projected to increase. Growth in these areas is consistent with the policies of local governmental units as reflected in Comprehensive Plans and Zoning Ordinances. There have been no changes in impacts to growth and economic development from the EIS.

9. Pedestrian and Bicycle Facilities

- [x] Project will cause disruption or permanent changes in pedestrian or bicycle acess
- [ ] Project will not cause disruption or permanent changes in pedestrian or bicycle acess

Description

This project will include the construction of a new bike path and will make connections to existing bike paths, which are considered positive changes (i.e. improvements) for the Forest Preserve District of Kane County (FPDKC). There will not be any permanent interruption of the existing bicycle or pedestrian paths. The proposed improvements will provide permanent changes in pedestrian or bicycle access, as a multi-use path will be constructed along the entire Longmeadow Parkway corridor. There could be some short term closures or detours at the existing bicycle path during construction. There have been no changes in impacts to pedestrian and bicycle facilities from the EIS.

Part II. Agricultural

The project will have impacts to Farms and Farmland Conversion and Prime and Important Soils; however, there have been no changes in impacts from the EIS.

1. Farms and Farmland Conversion

There are 28.5 acres of land to be acquired from farm parcels. There are no farm houses or buildings being displaced. There is no change in impacts from the EIS.

2. Prime and Important Soils

According to the EIS and reevaluation, there are 28.5 acres of prime soils within the Longmeadow Parkway corridor and there are no impacts to statewide important soils. There is no change in impacts from the EIS.

3. Severed/Landlocked Parcels

Identify

There are no severed or landlocked parcels resulting from the Longmeadow Parkway project. There are no changes in impacts from the EIS.

4. Adverse Travel

According to the EIS and reevaluation, there is no adverse travel resulting from the Longmeadow Parkway project. There are no changes in impacts from the EIS.

Part III. Cultural Resources

There are no impacts under Archeological Sites, Historic Bridges and Historic Districts in the EIS or reevaluation. There was an impact under Historic Buildings resulting from taking approximately 0.23 acres of frontage from the Perry-Lathrop property located along the east side of Illinois Route 31 at 19N045. This property was determined eligible for inclusion on the National Register of Historic Places. An approximately 40 feet wide strip of land will be taken in front of the Perry Lathrop House. The only impact will be visual and a landscape plan will be developed and submitted for State Historic Preservation Office (SHPO) approval for the area adjacent to the Perry Lathrop property prior to construction. The parcel to the south and east of the Perry Lathrop property, known as the Melva property, will be acquired by the County and transferred to the FPDKC. The Melva property will be transferred to the FPDKC and will be maintained in perpetuity as greenspace upon request by FPDKC. The Intergovernmental Agreement (IGA) between Kane County Division of Transportation (KDOT) and the FPDKC is included in Appendix A, Page A-7.

☐ No Historic Properties Affected - See letter from SHPO

☑ Historic Properties Affected - See below

IDOT coordinated with the Illinois State Historic Preservation Officer (SHPO) and the SHPO concurred with a “Conditional No Adverse Effect” finding (Appendix A, Page A-2) for the

Perry Lathrop House provided that SHPO reviews and approves the landscape plan for the Perry Lathrop House (See Appendix A, Page A-1).

On April 8, 2016, IDOT coordinated with the SHPO in regards to the acreage around the Perry-Lathrop House (known as the Melva property) and the SHPO concurred with a "Conditional No Adverse Effect" finding (Appendix A, Page A-4) for this property provided that SHPO reviews and approves the landscape plan (See Appendix A, Page A-3).

1. Archaeological Properties

- ☑ Project will not affect Archeological Properties
- ☐ Project will affect Archeological Properties

2. Historic Bridges

- ☑ Project will not affect a Historic District
- ☐ Project will affect a Historic District

3. Historic District

- ☑ Project will not affect a Historic District
- ☐ Project will affect a Historic District

4. Historic Buildings

- ☑ Project will not affect any Historic Buildings
- ☐ Project will affect Historic Buildings

Impacts

A 40 foot strip of right-of-way will be acquired from the Perry-Lathrop property. A landscaping plan will be developed and submitted to the Illinois SHPO for review and concurrence and an adjacent property, the Melva property, will be preserved in perpetuity as greenspace upon request of the FPDKC.

Coordination

A landscape plan will be developed and submitted for the area adjacent to the Perry-Lathrop house that fronts the proposed Longmeadow Parkway, and this plan must be reviewed and approved in writing by the SHPO prior to construction.

No new historic properties have been identified after the EIS was issued. There is a "no adverse effect" to historic properties.

Part IV. Air Quality

In the EIS, there were no impacts under Air Quality.

Since the EIS was prepared, there have been new regulatory requirements established for $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas. Additionally, Construction-Related Particulate Matter, and Mobile Source Air Toxics (MSAT) are analyzed during the NEPA process. The air quality analysis has been updated to address these new requirements. As a result of the analysis, there are no new impacts to air quality.

1. <u>CO Microscale Analysis</u>

Project Type:

This project does not meet any of the below listed project types.

☐ Project does not add Through Lanes or Auxillary Turning Lanes

☐ Project does not involve any sensitive receptors and is not suitable for using COSIM 4.0

☐ Project is subject to COSIM Pre-screen

☐ Project is subject COSIM screening analysis

In accordance with the IDOT-Illinois Environmental Protection Agency (IEPA) "Agreement on Microscale Air Quality Assessments for IDOT Sponsored Transportation Projects," projects are exempt from project-level carbon monoxide air quality analysis if the highest design-year approach-volume on the busiest leg of the intersection is less than 5,000 vehicles per hour (vph) or 62,500 ADT. This project does not have traffic that would exceed this threshold, and therefore a CO analysis is not required.

2. <u>Air Quality Conformity</u>

Project Type:

☐ Project is outside of Nonattainment or Maintenance Area

☐ Exempt Project in Nonattainment or Maintenance Area

☑ Project is within a portion of a Nonattainment or Maintenance Area where CMAP is the MPO

☐ Project is within a Nonattainment or Maintenance area served by an MPO other than CMAP

☐ Project is within a Nonattainment or Maintenance area not served by an MPO

☐ Regionally Significant Non-Federal project within a Nonattainment or Maintenance Area.

This project is included in the FY 2014-2019 Transportation Improvement Program (TIP) endorsed by the Metropolitan Planning Organization Policy Committee of the Chicago Metropolitan Agency for Planning (CMAP) for the region in which the project is located. Projects in the TIP are considered to be consistent with the regional transportation plan endorsed by CMAP. The project is within the fiscally constrained portion of the plan.

On June 5, 2015, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) determined that the GO TO 2040 Comprehensive Regional Plan and

the Transportation Improvement Plan conforms to the State Implementation Plan (SIP) and the transportation-related requirements of the 1990 Clean Air Act Amendments. These findings were in accordance with 40 CFR Part 93, "Determining Conformity of Federal Actions to State or Federal Implementation Plans."

The project's design concept and scope are consistent with the project information used for the TIP conformity analysis. Therefore, this project conforms to the existing State Implementation Plan and the transportation-related requirements of the 1990 Clean Air Act Amendments. The TIP number for this project is 09-96-0017.

3. $PM_{2.5}$ and $PM_{10.0}$ Nonattainment and Maintenance Areas

Project-Type

☐ Exempt Project

☑ Nonexempt project that is not an Air Quality Concern

☐ Nonexempt project that is an Air Quality Concern

Pursuant to 40 CFR 93.123(b)(1) this is not a project of air quality concern and therefore a quantitative hot spot analysis is not required. The highest projected ADT along Longmeadow Parkway is 33,300 with 4% trucks, for a total of 1,332 diesel trucks. The regulations provide examples of projects that are of air quality concern, such as a project that adds 10,000 new diesel trucks; however, this project adds substantially less than 10,000 trucks. Also, the regulations describe projects affecting intersections with a Level of Service (LOS) of D, E, or F as projects of air quality concern. This project will not affect any intersection with a LOS of D, E, or F with additional diesel trucks. Due to the fact that the ADT is 33,300 which is well below the 125,000 ADT threshold and truck traffic is less than 8%, this project will not cause or contribute to any new localized $PM_{2.5}$ violations or increase the frequency or severity of any $PM_{2.5}$ violations. United States Environmental Protection Agency (USEPA) has determined that such projects meet the Clean Air Act's requirements without any further Hot-Spot analysis. The LOS for intersections is shown in Table 1.

Table 1
Level of Service for Intersections

	AM Intersection Level of Service (2040)						
	Boyer Road	Randall Road	Sleepy Hollow Road	Illinois Route 31 Connector	Bolz Road Connector	Illinois Route 25	Illinois Route 62
Longmeadow Parkway	C	C	C	B	C	C	B

	PM Intersection Level of Service (2040)						
	Boyer Road	Randall Road	Sleepy Hollow Road	Illinois Route 31 Connector	Bolz Road Connector	Illinois Route 25	Illinois Route 62
Longmeadow Parkway	C	D	C	B	C	C	B

4. Construction-Related Particulate-Matter

Demolition and construction activities can result in short-term increases in fugitive dust and equipment-related particulate emissions in and around the project area. (Equipment-related particulate emissions can be minimized if the equipment is well maintained.) The potential air quality impacts will be short-term, occurring only while demolition and construction work is in progress and local conditions are appropriate. The potential for fugitive dust emissions typically is associated with building demolition, ground clearing, site preparation, grading, stockpiling of materials, on-site movement of equipment, and transportation of materials. The potential is greatest during dry periods, periods of intense construction activity, and during high wind conditions. IDOT's Standard Specifications for Road and Bridge Construction include provisions on dust control. Under these provisions, dust and airborne dirt generated by construction activities will be controlled through dust control procedures or a specific dust control plan, when warranted. The contractor and IDOT will meet to review the nature and extent of dust-generating activities and will cooperatively develop specific types of control techniques appropriate to the specific situation. Techniques that may warrant consideration include measures such as minimizing track-out of soil onto nearby publicly-traveled roads, reducing speed on unpaved roads, covering haul vehicles, and applying chemical dust suppressants or water to exposed surfaces, particularly those on which construction vehicles travel. With the application of appropriate measures to limit dust emissions during construction, this project will not cause any significant, short-term particulate matter air quality impacts.

5. Mobile Source Air Toxics (MSAT)

Project-Type:

- ☐ Project is exempt
- ☐ Project has no meaningful potential MSAT effects
- ☑ Project has low meaning potential MSAT effects and is one of the following types below:
  - ☐ A minor widening project
  - ☑ A new interchange connecting an existing roadway with a new roadway
  - ☐ A new interchange connecting new roadways

- ☐ Minor improvements or expansions to intermodal centers or other projects that affect truck traffic
- ☐ Project has high potential MSAT effects

This project has a low potential for MSAT effects because design year traffic is projected to be less than 140,000 to 150,000 annual average daily traffic AADT. As a project with low potential for MSAT effects, a qualitative analysis was completed.

For the build alternative, the amount of MSAT emitted would be proportional to the vehicle miles traveled (VMT). Because the VMT estimated for the No Build Alternative is higher than for the Build Alternative, higher levels of regional MSAT are not expected from the Build Alternative compared to the No Build Alternative. Also, emissions will likely be lower than present levels in the design year as a result of USEPA's national control programs that are projected to reduce MSAT emissions by 72 percent from 1999 to 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the USEPA-projected reductions is so great, even after accounting for VMT growth, emissions in the study area are likely to be lower in the future in virtually all locations. There may be localized areas where VMT would increase, and other areas where VMT would decrease. Therefore, it is possible that localized increases and decreases in MSAT emissions may occur. The localized increases in MSAT emissions would likely be most pronounced along the new roadway sections that would be built over and adjacent to the Fox River under the Build Alternative Longmeadow Parkway. However, even if these increases do occur, they too will be substantially reduced in the future due to implementation of USEPA's vehicle and fuel regulations.

In summary, under the Build Alternative in the design year, it is expected there would be reduced MSAT emissions in the immediate area of the project, relative to the No Build Alternative, due to the reduced VMT associated with more direct routing, and due to USEPA's MSAT reduction programs.

INCOMPLETE OR UNAVAILABLE INFORMATION FOR PROJECT-SPECIFIC MSAT HEALTH IMPACTS ANALYSIS

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

USEPA Role

The USEPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. It is the lead authority for administering the Clean Air Act and its amendments and has specific statutory obligations with respect to hazardous air pollutants and MSAT. USEPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. It maintains the Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human

health effects." IRIS can be accessed through the USEPA website. Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Role of Other Organizations

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of FHWA's "Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents." Among the adverse health effects linked to MSAT compounds at high exposures are cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations or in the future as vehicle emissions substantially decrease. See research reports available through the HEI website.

Problems with Modeling Methodologies

The methodologies for forecasting health impacts include emissions modeling, dispersion modeling, exposure modeling, and then final determination of health impacts, each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology, which affects emissions rates over that time frame, because such information is unavailable.

It is particularly difficult to reliably forecast MSAT exposure near roadways, and to determine the portion of time that people are actually exposed at a specific location. It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposures near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

MSAT Toxicity Estimates

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI. As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. USEPA and the HEI have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

Level of Risk

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by USEPA, as provided by the Clean Air Act, to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards (e.g., benzene

emissions from refineries). The decision framework is a two-step process. The first step requires USEPA to determine an “acceptable” level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the US Court of Appeals for the District of Columbia Circuit upheld USEPA’s approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than safe or acceptable.

Conclusions

Because of the limitations in the methodologies for forecasting the health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits (e.g., reducing traffic congestion, crash rates, and fatalities plus improved access for emergency response) that are better suited for quantitative analysis.

Part V. Noise

In the EIS, noise impacts were evaluated using the STAMINA noise model software. The noise analysis for the Longmeadow Parkway has been reevaluated based on the current IDOT Noise Policy and the current FHWA Traffic Noise Model (TNM) model software was used. Since the original noise study was completed, a few scattered residences have been constructed near the proposed roadway and a new subdivision, located along the north side of the proposed Longmeadow Parkway and west of Illinois Route 25, has been completed.

The noise analysis was conducted for two sections: Section A-1 and Section A2-B1 to Section D. The proposed action for Section A-1, located between Huntley Road from approximately 2,300 feet west of Boyer Road to just west of Randall Road, is a new alignment from the eastern extent of the east/west leg of Huntley Road to just short of the current Longmeadow Parkway/Randall Road three-way intersection. The proposed actions for Section A2-B1 to Section D, located between Randall Road and Illinois Route 62 (Algonquin Road), are additional lanes between Randall Road and White Chapel Lane, a new alignment east from the Longmeadow Parkway/White Chapel Lane intersection to Algonquin Road, and a new alignment north of existing Bolz Road. Appendix B contains both the A-1 and the A2-B1 to Section D Noise Study Summary Memoranda.

☑ Type I Project

☐ Type III Project

An analysis of noise abatement measures (noise barriers) was conducted in conformance with FHWA requirements contained in Title 23 *Code of Federal Regulations* Part 772 for each of the impacted receptors. In order for a noise abatement measure to be constructed, it must meet both the feasibility and reasonableness criteria, described below.

Feasibility
The feasibility evaluation is a combination of acoustical and engineering factors considered in the evaluation of a noise abatement measure. The acoustical portion of the IDOT policy, as required by FHWA regulations, considers noise abatement to be feasible if it achieves at least a 5 dB(A) traffic noise reduction at an impacted receptor. Factors including, but not limited to, safety, barrier height, topography, drainage, utilities, maintenance, and access issues are also considered.

Reasonableness
As per FHWA regulations, a noise abatement measure is determined to be reasonable when all three of the following reasonableness evaluation factors are met:

- cost effectiveness of the highway traffic noise abatement measure;
- achievement of IDOT's noise reduction design goal; and,
- consideration of the viewpoints of the benefited receptors (property owners and residents), if all other criterion are achieved.

A noise abatement measure is considered cost-effective to construct if the noise wall construction cost per benefited receptor is less than the allowable cost per benefited receptor. A benefited receptor is any receptor that is afforded at least a 5 dB(A) traffic noise reduction from the proposed noise abatement measure. The FHWA regulations allow each State Highway Authority to establish cost criteria for determining cost effectiveness.

IDOT policy provides that the actual cost per benefited receptor shall be based on a noise wall cost of $25 per square foot, which includes engineering, materials, and construction. The base value allowable cost is $24,000 per benefited receptor, which can be increased based on three factors as summarized below:

- the absolute noise level of the benefited receptors in the design year build scenario before noise abatement;

- the incremental increase in noise level between the existing noise level at the benefited receptor and the predicted build noise level before noise abatement; and

- the date of development compared to the construction date of the highway. These factors are considered for all benefited receptors.

Table 2
Absolute Noise Level Consideration

Predicted Build Noise Level Before Noise Abatement	Dollars Added to Base Value Cost per Benefited Receptor
Less than 70 dB(A)	$0
70 to 74 dB(A)	$1,000
75 to 79 dB(A)	$2,000
80 dB(A) or greater	$4,000

Source: IDOT Highway Traffic Noise Assessment Manua

Table 3
Increase in Noise Level Consideration

Incremental Increase in Noise Level Between the Existing Noise Level and the Predicted Build Noise Level Before Noise Abatement	Dollars Added to Base Value Cost per Benefited Receptor
Less than 5 dB(A)	$0
5 to 9 dB(A)	$1,000
10 to 14 dB(A)	$2,000
15 dB(A) or greater	$4,000

Source: IDOT Highway Traffic Noise Assessment Manual

Table 4
New Alignment / Construction Date Consideration

Project is on new alignment OR the receptor existed prior to the original construction of the highway	Dollars Added to Base Value Cost per Benefited Receptor
No for both	$0
Yes for either	$5,000

Note: No single optional reasonableness factor shall be used to determine that a noise abatement measure is unreasonable.
Source: IDOT Highway Traffic Noise Assessment Manual

The IDOT noise reduction design goal is to achieve an 8 dB(A) traffic noise reduction at a minimum of one benefited receptor. If a noise abatement measure is feasible, achieves the cost-effective criterion, and achieves the IDOT noise reduction design goal, then the viewpoints of benefited receptors are solicited on the construction of the noise wall.

The third component of reasonableness is obtaining the viewpoints of those who would be benefitted by a feasible and cost-effective noise barrier that meets the IDOT noise reduction design goal. The viewpoints solicitation process will be completed with the property owners and tenants of the receptors that would benefit from the proposed walls. The received votes will be tallied by noise wall per IDOT policy. If greater than fifty percent of a wall's votes are in support of wall construction, the wall will be recommended for construction and will likely be included in final design plans for the project. Conversely, walls that do not receive fifty percent or more votes in favor of the wall will not be recommended for construction as part of the project.

Impacts

In the EIS, twelve sites were selected as receptors for analysis along the entire preferred Longmeadow alignment. Future traffic noise levels were predicted for the design year 2020 for both the Build Alternative and No-Build Alternative. For the No-Build Alternative, noise levels typically increased by 1 dB(A) or less within the project corridor. Traffic noise levels under the Build Alternative ranged from 44 dB(A) to 69 dB(A). The increase from Existing to Build noise levels ranged from 2 dB(A) to 13 dB(A) with one receptor, R4, having a 24 dB(A) increase from the Existing to Build condition. Four receptors were determined to have a noise impact, R3, R4, R9 and R12.

Section A-1

For the reevaluation noise analysis in Section A-1, four receptors (R1 through R4) have been selected to represent the study area in Section A-1. Existing (2015) and future (2040) Build and No-Build traffic noise levels were predicted for the receptor sites utilizing TNM. The results are shown in Table 5.

Table 5
NOISE MODELING RESULTS SECTION A-1

Receptor Number	Land Use Category / NAC in dB(A)	Existing 2015 Noise Level, dB(A)	No-Build 2040 Noise Level, dB(A)	Build 2040 Noise Level, dB(A)	Build Increase Over Existing
R1	B / 67	57	58	60	3
R2	B / 67	61	62	64	3
R3	B / 67	59	60	63	4
R4	B / 67	73	74	**77**	4

Boldface and highlighted indicates whether the noise levels approach, meet or exceed the Noise Abatement Criteria (NAC) in the Build scenario.

The Existing 2015 noise levels range from 57 dB(A) at R1 to 73 dB(A) at R4. The projected No-Build 2040 traffic noise levels range from 58 dB(A) at R1 to 74 dB(A) at R4. Receptor noise levels increased 1 dB(A) from the Existing scenario to the No-Build scenario. Any increase in traffic noise levels are due to an increase in traffic volumes.

The 2040 traffic noise levels for the Build scenario as predicted by TNM range from 60 dB(A) at R1 to 77 dB(A) at R4. Traffic noise levels increased 3 dB(A) or 4 dB(A) from the Existing scenario to the Build scenario due to the increase in the traffic volumes and the proposed geometry. One of the four receptor locations exceeded the FHWA NAC criteria. Based on the 2040 traffic noise levels, noise abatement was evaluated for the impacted receptor.

Section A2-B1 to Section D

For the reevaluation noise analysis for Section A2-B1 to Section D, thirty receptors have been selected to represent the study area in Section A2-B1 to Section D. The results are shown in Table 6.

Table 6
NOISE MODELING RESULTS SECTION A2-B1 TO SECTION D

Receptor / CNE No.	Existing Noise Level, dB(A)	No-Build 2040 Noise Level, dB(A)	No-Toll Build 2040 Noise Level, dB(A)	Change from Existing to Build, dB(A)
R5	73	74	**75**	2
R6	46	48	59	13
R7	50	51	61	11
R8	49	51	63	14
R9	51	53	64	13
R10	52	53	56	4
R11	60	61	63	3
R12	59	60	64	5
R13	48	50	62	14
R14	46	48	60	14
R15	48	50	62	14
R16	45*	45*	59	14
R17	60	61	N/A	N/A
R18	45*	45*	49	4
R19	51	52	64	13
R20	49	50	57	8
R21	44	45	55	11
R22	61	61	62	1
R23	47*	47*	54	7
R24	61	62	62	1
R25	67	68	**69**	2
R26	71	72	**73**	2
R26A	70	71	**72**	2
R27	60	61	64	4
R28	52	53	58	6
R29	44*	44*	53	9
R30	55	56	60	5
R31	60	62	62	2
R32	62	63	65	3
R33	62	63	64	2

Bold, highlighted data represent Build Condition noise levels that approach, meet, or exceed the appropriate NAC.
* - Noise levels taken from monitoring results as receptors are greater than 500 feet from modeled roadways and therefore beyond TNM's effective range.
Receptor 17 is directly in the path of Longmeadow Parkway new alignment and therefore not modeled in the Build Condition.

The Existing 2015 noise levels range from 44 dB(A) at R21 and R29 to 73 dB(A) at R5. The projected No-Build 2040 traffic noise levels range from 44 dB(A) at R29 to 74 dB(A) at R5. Receptor noise levels remained the same or increased by either 1 dB(A) or 2 dB(A) from the Existing scenario to the No-Build scenario. Any increase in traffic noise levels are due to an increase in traffic volumes.

The 2040 traffic noise levels for the Build scenario, as predicted by TNM range from 49

dB(A) at R18 to 75 dB(A) at R5. Traffic noise levels increased from 1 dB(A) to 14 dB(A) from the Existing scenario to the Build scenario due to the increase in the traffic volumes and the proposed geometry. Four of the 30 receptor locations exceed the NAC and are considered traffic noise impacts. These four receptor locations also approach or exceed the NAC in the existing condition. None of the receptors are considered an impact due to a substantial increase (greater than 14 dB(A)) in noise. Traffic noise abatement measures were considered for impacted receptors that approach, meet, or exceed the appropriate FHWA NAC.

Abatement Evaluation

In the EIS, four out of the twelve sites had a noise impact and were evaluated for noise abatement. Three of the four barriers could not substantially reduce noise levels, and therefore were not considered feasible. The fourth barrier could substantially reduce noise, but this wall was not economically reasonable based on the cost of the wall per benefitted receptor. Therefore, no abatement was proposed in the EIS noise analysis, and this was documented in the ROD.

Section A-1

For the reevaluation in Section A-1, TNM was used to perform the noise wall feasibility and reasonableness check for the one impacted receptor (R4). The noise wall met IDOT's feasibility criterion. The noise barrier also achieved IDOT's noise reduction design goal of at least an 8 dB(A) traffic noise reduction at one or more benefited receptor locations. The wall was then checked for economic reasonableness. Based on the evaluation, the noise wall would not be economically reasonable, as the actual cost per benefited receptor exceeds the adjusted allowable cost per benefited receptor, see Table 7 and 8 below. Therefore, noise abatement will not be implemented as part of this project within Section A-1.

Section A2-B1 to Section D

For Section A2-B1 to Section D, TNM was used to perform the noise wall feasibility and reasonableness check for the four impacted receptors: R5, R25, R26, and R26A. This includes two variants of a shared noise wall in the area of R26 and R26A. Noise Wall B2A, a shared noise wall spanning the length of adjacent CNEs R26 and R26A, was evaluated separately from Noise Wall B2 in the event that the church (R26A) would prefer to maintain visibility over noise abatement. When determining if an abatement measure is feasible and reasonable, the noise reductions achieved, number of residences benefited, total cost, and total cost per residence benefited are considered. All noise walls were modeled along the proposed right-of-way.

All four of the noise walls could feasibly be built and achieve at least a 5 dB(A) reduction at an impacted receptor. Three (B1/R25, B2/R26, and B2A/R26 & R26A) of the four noise barrier considered feasible would be considered acoustically reasonable, as they achieve the IDOT noise reduction design goal of at least an 8 dB(A) traffic noise reduction at one or more benefited receptor locations. A noise wall at R5 would not achieve the noise reduction design goal, as the gap in the wall (needed to maintain driveway access) limited the effectiveness of the noise wall.

The three feasible and noise reduction design goal-achieving noise walls, at CNEs R25, R26, and R26A, were then evaluated for cost-effectiveness. Based on the adjusted cost evaluation, none of noise reduction design goal-achieving noise walls (Noise Walls B1, B2 and B2A) would be economically reasonable, as the actual cost per benefited receptor

exceeds the adjusted allowable cost per benefited receptor. Therefore, noise abatement will not be implemented as part of this project within Section A2-B1 to Section D.

Table 7
ADJUSTED ALLOWABLE COST PER BENEFITED RECEPTOR SUMMARY

Barrier / CNE	Benefited Receptors	Adjustment Factor [1]	Adjusted Allowable Cost per Benefited Receptors
B1 / R4	1	$7,000[3]	$31,000
B0 / R5	Does not meet IDOT Noise Reduction Design Goal		
B1 / R25	5	$0	$24,000
B2 / R26	4	$0 to $1,000[2]	$24,250
B2A / R26 & R26A	5	$ 0 to $1,000[2]	$24,400

[1] The Adjustment factor is analyzed individually for each benefited receptor; therefore, a range may be presented for the Adjustment Factor.
[2] Include $1,000 for the Absolute Noise Level Consideration.
[3] Includes $2,000 for the Absolute Noise Level Consideration and $5,000 for New Alignment Consideration.

Table 8
NOISE WALL COST REASONABLENESS EVALUATION

Barrier / CNE	Benefited Receptors[1]	Total Noise Wall Cost[2]	Actual Cost per Benefited Receptor	Adjusted Allowable Cost per Benefited Receptor
B1/R4	1	$57,250	$57,250	$31,000
B0 / R5	Does not meet IDOT Noise Reduction Design Goal			
B1 / R25	5	$158,850	$31,770	$24,000
B2 / R26	4	$263,450[3]	$65,863	$24,250
B2A / R26 & R26A	5	$300,250[3]	$60,050	$24,400

[1] Includes the anticipated outdoor use areas anticipated to receive at least a 5 dB(A) reduction
[2] Based on the IDOT policy value of $25 per square foot
[3] Includes estimated cost of utility relocation required to construct wall ($197,850)

Construction Noise

Trucks and machinery used for construction produce noise that may affect some land uses and activities during the construction period. Residents along the alignment will, at some time, experience perceptible construction noise from implementation of the project. To minimize or eliminate the effect of construction noise on these receptors, mitigation measures have been incorporated into the IDOT Standard Specifications for Road and Bridge Construction as Article 107.35.

Part VI. Natural Resources

The EIS quantified an impact of forested areas of 2.7 acres adjacent to the Fox River, but did not quantify a number of trees. As part of the reevaluation, it was determined that the total number of trees impacted by this project is about 5,765. The acreage associated with the tree impacts adjacent to the Fox River is approximately 2.4 acres with a total tree acreage impact throughout the corridor of 28.7 acres. This includes all land covered by trees within the corridor, i.e. floodplain, upland and wetland forested areas, as well as tree lines. At the time of the EIS

there were several open fields which had converted into forested areas over the last decade when the most recent calculation of tree coverage was completed. In addition, the right-of-way necessary for construction of Longmeadow Parkway and detention requirements was refined through the design process, resulting in additional tree impacts. Impacts from side street improvements were not considered in the EIS.

1. Upland Plant Communities

Impacts

The total number of trees within the Longmeadow Corridor is estimated at 7,485. The total number of trees impacted by this project (including dead trees) is about 5,765 trees. The number of dead trees is 232 based on Addendum A to the Tree Survey Report for Longmeadow Parkway dated September 2015. The dead trees do provide habitat for wildlife, specifically bats, and as a voluntary conservation measure were included as an impact and mitigated for. This number also includes the trees to be removed at Raging Buffalo Snowboard Ski Park. About 235 trees will be impacted at Raging Buffalo Snowboard Ski Park. Improvements to Raging Buffalo Snowboard Ski Park are discussed in Section XII, Special Lands.

Both the EIS and the reevaluation determined that the project area does not impact prairie. The project does occur within an Illinois Department of Agriculture quarantine area for an invasive species of the Emerald ash borer. This was not previously evaluated in the EIS because the Emerald ash borer was not an issue at the time the EIS was completed.

Both the EIS and reevaluation have identified tree impacts. Additional tree impacts were identified during the reevaluation process.

Proposed Mitigation

Tree replacement based on the IDOT Design and Environment (D&E) -18 departmental policy requires the replacement of trees within the project right-of-way to the extent practical. Where it is not practical to provide replacement plantings within the right-of-way, opportunities for plantings should be considered outside of the right-of-way or on other projects to achieve a long-term goal of providing at least as many replacement trees as the number removed. According to IDOT policy, if bare root or balled and burlapped trees are used for replacement plantings, a minimum ratio of 1:1 is recommended for the number of trees removed to the number of trees intended to be established. If seedlings are used, a minimum ratio of 3:1 is recommended. The mitigation ratio proposed for this project is 2:1, due to response to public comments, for a total of 11,530 trees. This exceeds D&E-18 and demonstrates environmental stewardship. A Tree Mitigation Plan has been prepared and can be found in Appendix C, Page C-12. Kane County plans to plant approximately 4,050 trees within the right-of-way of the Longmeadow Parkway and 7,500 trees on the west side of the Fox River within the Brunner Family Forest Preserve. Sizes, types and densities will be coordinated with the FPDKC.

2. Wildlife Resources

Both the EIS and reevaluation states that the project area contains wildlife that will be impacted; however, the project area does not contain breeding habitat for neotropical migrant species of birds. The EIS did not address the presence of nesting Bald eagles;

however, nesting Bald eagles have subsequently been observed in the project area. One confirmed Bald eagle nest is located approximately 1,330 feet southwest of the closest project limit. Since there is adequate distance between the project and this nest there will be no impact to this Bald eagle nest. One potential Bald eagle nest is located approximately 800 feet southwest of Karen Drive and Forest Drive. In April 2016, Great horned owls were documented using this nest. Per the US Fish and Wildlife Service (USFWS), since there is no information indicating that Bald eagles have ever utilized the nest but a Great horned owl was documented using the nest, a Bald eagle permit is not necessary. A memorandum prepared to summarize the Bald eagle survey is located in Appendix C, Page C-17. The Great horned owl is protected by the Migratory Bird Treaty Act.

Smallmouth bass was not evaluated during the EIS since there were no concerns regarding its populations at that time. Since that time, IDNR has conducted recent surveys and this information has been included in the reevaluation document. Per the Illinois Department of Natural Resources (IDNR), a 2015 fish survey was conducted in the project area and 250 Smallmouth bass were captured per hour. In 2014, an IDNR fish survey caught 358 Smallmouth bass per hour approximately one mile downstream. In comparison the largest amount caught on any other area within the Fox River basin was 154 per hour in 2012 (Fox River Basin Survey). The next highest catch was 95 per hour and the average for the Fox River was 38 per hour. Based on this comparison, the project area has a higher Smallmouth bass population than other areas in the Fox River Basin.

Impacts

There are no impacts anticipated to the Bald eagle, Great horned owl or Smallmouth bass.

Proposed Mitigation

Although, there are no impacts anticipated to Bald eagle, Great horned owl or Smallmouth bass commitments have been made to ensure their protection. Great horned owls were documented using the nest that is located approximately 800 feet southwest of Karen Drive and Forest Drive. Since the Great horned owl is protected by the Migratory Bird Treaty Act, the tree with the nest shall not be cleared until the young have fledged and the nest is not being used. Per the INHS, the Great horned owl nests between January 1 and May 31.

No in stream work will occur between April 1 and June 30. The in stream work restriction that is being implemented for listed threatened and endangered species will also protect the Smallmouth bass since no in stream work will occur while the Smallmouth bass is spawning.

3. Threatened and Endangered Species

In the EIS, no federally listed species were observed in the project area; however, the state listed Brown creeper was observed in the project area but no impacts were proposed. The Brown creeper was delisted in 2004.

On April 2, 2015, the USFWS listed the Northern long-eared bat as a threatened species, affording it protection under the Endangered Species Act. The project is within the range of the Northern long-eared bat; IDOT with concurrence from USFWS, has determined there is suitable habitat for the Northern long-eared bat in the project area.

State-listed species that occur within the vicinity of the project area include the state-listed threatened Blanding's turtle, threatened Starhead topminnow, and threatened Slippershell mussel. None of these species were State-listed threatened species, so none were listed in the EIS. The Starhead topminnow can be identified by its light olive tan back and upper sides with the lower sides and belly lighter to yellowish in color. There is a prominent dark blotch of color (similar to a teardrop) beneath its eye. The adult length is approximately two inches.

a. Federally-listed Species/Habitat

Identify listed species or habitat in project area

The federally listed species that occur in Kane and Cook Counties were compared to the habitat in the project area. IDOT, with concurrence from USFWS, determined that there may be suitable habitat for only the Northern long-eared bat in the project area. The following conservation measures will be implemented as part of this project:

- Trees will not be cleared from April 1 through September 30, consistent with tree clearing dates noted on the permits; and
- Impacts to trees will be mitigated at a 2:1 mitigation ratio per the tree Mitigation Plan, providing potential habitat for the Northern Long-eared bat.

The project is not likely to adversely affect the Northern long-eared bat. See Appendix C for documentation of the coordination between USFWS and IDOT.

Impacts

☐ No Effect

☑ May Effect

☑ Informal Consultation

☐ Formal Consultation

b. State-Listed Species

Identify listed species or habitat in project area

The in stream work restriction commitment listed in the 2002 ROD regarding the Greater redhorse and River redhorse is out of date. No record of the Greater redhorse exists in the project vicinity. A record of the River redhorse occurs approximately 2 miles downstream from the project. A record of the Starhead topminnow occurs approximately 2,000 feet downstream of the project and is not discussed in the 2002 ROD. Due to the potential presence of the River redhorse and the Starhead topminnow no in stream work in the Fox River shall occur between April 1 and June 30. In addition, a fish survey will be conducted during the summer of 2016 to document the existing habitat in the project area. Results of the survey will be incorporated into the FONSI. If any listed fish species are found, IDOT will implement commitments to protect the listed fish in consultation with IDNR.

In 2007, the Illinois Natural History Survey (INHS) conducted a mussel survey and found seven native species. No threatened or endangered species were collected. INHS stated that they "believe that the presence of listed mussel species is unlikely in the Fox River in the vicinity of the proposed Bolz Rd/Longmeadow Parkway. No listed species were found alive in the area during this visit or have been found alive in the last 50 years in a reach of the river from upstream of the Carpentersville dam to downstream of the Algonquin dam (INHS Mollusk Collection). Because of unsuitable habitat, only the most tolerant unionid mussel species, if any, typically are found in the impounded areas of the Fox River, and re-colonization from downstream sources is unlikely because dams block the upstream dispersal of glochidia-bearing fishes."

A shoreline mussel survey was conducted at the Fox River Bridge crossing by Huff & Huff (consultant) on June 11, 2014. Eighteen state threatened Spike mussel shells were found. Seventeen were considered dead more than 5 years. One was considered dead less than five years (ligament attached). A shell of the Slippershell mussel and a shell of the Purple wartyback mussel were found and considered dead for more than 5 years. The Illinois Natural Heritage Database does not have any records of listed mussels in the project vicinity.

The commitment regarding mussels in the 2002 ROD states "Prior to the start of construction, a population survey of live, non-invasive mussel species will be conducted in streams to be crossed. In the event that any live specimens of the Elktoe mussel or other non-invasive species are found, a mussel relocation program will be developed in consultation with the IDNR".

This commitment was written prior to the understanding of IDNR's Incidental Take Authorization process which became effective July 17, 2001. Thus, the commitment shall be changed to "A mussel survey will be conducted in the summer of 2016 to determine if any live threatened or endangered mussels exist in the project corridor. If a state listed mussel is found, an Incidental Take Authorization will be required before any in stream work in the Fox River will occur." Results of the survey will be incorporated into the EA Errata.

The Illinois Natural History Database contains a record of the State-listed threatened Blanding's turtle (*Emydoidea blandgii*) approximately 1,000 feet south of Longmeadow Parkway. The project was coordinated with the IDNR via an EcoCAT submittal dated March 24, 2015. IDNR responded via email dated March 25, 2015 and requested several commitments which will be implemented into the project plans along the area where there is high potential for Blanding's turtle.

The commitments listed regarding the Blanding's turtle are as follows:

- In order to assist in ease of movement for the Blanding's turtle, and decrease the likelihood of entrapment in the roadway, the proposed plan has been revised to demonstrate mountable curb and gutter along the entire south leg of the proposed construction limits.

- KDOT will educate and inform construction crews and all on-site personnel about the Blanding's turtle before work begins. The local agency will distribute photos (adult and juvenile) of the species and discuss the site management plan for responding to encounters in a training session and at the preconstruction site meeting. If a turtle is encountered on site, crews will be informed to immediately stop construction in the

surrounding area and contact the appropriate staff at IDNR as listed in the contractor's documents; keeping in mind it is a criminal act to handle a listed species. Personnel on site should watch the turtle until the proper authority arrives to alleviate the situation, keeping at a respectable distance. If the turtle moves, crews should mark the spot it was seen.

- The project area near Sleepy Hollow Road and Highmeadow Lane intersection (south of Longmeadow Parkway) may contain the route to a nesting site. Therefore, potential harm to transiting turtles is a concern. IDNR recommends limiting work at Sleepy Hollow Road and Highmeadow Lane intersection to between late October and late March, when this species is hibernating, to prevent construction activities from crushing or injuring juvenile or adult turtles.

- If construction cannot be limited to between late October and late March, exclusionary fencing should be installed along the construction limits of the intersection of Sleepy Hollow Road and Highmeadow Lane. The fencing should be in place from the end of March through October to prevent turtles from entering the construction areas. Daily inspections should occur for the first two weeks and then be maintained weekly throughout the construction period to ensure the exclusionary fencing has been properly installed (dug into the ground) and to check if any turtles are present on either side of the fence.

- Trenches along the construction limits of the intersection of Sleepy Hollow Road and Highmeadow Lane should be covered at the end of each work day. Before starting each work day, trenches and excavations should be routinely inspected to ensure no turtles (or other amphibians and reptiles) have become trapped within.

IDNR Consultation results

☑ Closed
Date (04-24-2015)

☐ Open

Incidental Take Authorization

☐ Yes

☑ No

Part VII. Water Quality/Resources/Aquatic Habitats

The EIS states that the project involves a waterbody, the Fox River, but would not affect the physical features of the stream and would not result in impacts that require mitigation. The EIS also states that other drainage ways crossed are intermittent and generally have watersheds that are less than one square mile. Culverts of various sizes will be used for these crossings. The EIS does not discuss impacts to the waterways under the Clean Water Act. In the EIS, the proposed bridge over the Fox River was designed to span the entire floodway with no piers

placed in the river. Due to the value engineering process, it was determined to be more economical to redesign the bridge crossing to allow piers in the river. Preliminary bridge designs indicate two piers located at the eastern and western edge of the river bank. One pier is also planned in the floodplain forest on the west bank of the Fox River. This placement minimizes any direct impact on the Fox River's water quality and related biological resources or recreational activities. Removal of a portion of the floodplain forest on the west bank during construction will be mitigated by erosion control practices and revegetation. Therefore, the crossing of the Fox River includes placement of piers in the river, and in the reevaluation, the project will affect the physical features of the stream and will result in impacts that require mitigation. The placement of piers in the Fox River will result in temporary increases of sedimentation and turbidity and impacts to boating and fishing.

The study area is located in two watersheds. The majority of the study area is located within the Fox River Watershed (Hydrologic Code [HUC] 07120006) and the very western portion of the project area is located in the Kishwaukee River Watershed (HUC 07090006).

The Biological Stream Characterization (BSC) that was discussed in the EIS is outdated. The BSC has since been updated and has become the Integrated Multiple Taxa in a Biological Stream Rating System. The following updates this section of the EIS. The portions of the rivers and creeks in the study area are not listed as Biologically Significant Streams in the IDNR Biological Stream Rating Report, "*Integrating Multiple Taxa in a Biological Stream Rating System*" (2008). The segment of the Fox River that passes through the study area has a "C" rating for diversity and a "C" rating for integrity. The diversity and integrity ratings are based on a score calculated from a dataset of similar samplings. The ratings are grouped into grades, from A (high) to E (low), for different ranges of scores.

The Illinois Environmental Protection Agency (IEPA) use supports (IEPA, 2000) were updated with the following information. The IEPA Integrated Water Quality Report and Section 303(d) List (February 2016) was reviewed to determine the "Use Support" of each of the assessed rivers and creeks that are located within the limits of the proposed improvements. The Fox River is not supporting aquatic life and fish consumption. Causes include alteration in stream-side or littoral vegetative covers, other flow regime alterations, dissolved oxygen, and polychlorinated biphenyls. Sources include habitat modification, impacts from hydrostructure flow regulation/modification, and unknown sources.

Wetlands were delineated in 2013 and surface waters located within the study area. Their locations are depicted on the Environmental Resources Exhibit (Figure 1). The surface waters (i.e. rivers and creeks) are described below. Wetlands are discussed in Part X.

There were ten waterways identified within the project limits and summarized in Table 9.

Table 9
Waterway Summary

Site #	Waterway Type*	Function**	Dominant Vegetation (all strata)	FQI/ C-Value	Mapped Soil Type	NWI Classification	Kane County ADID Classification
5	Intermittent tributary/WOUS	F, C, WH	Tatarian honeysuckle	8.0/4.0	Senachwine silt loam (618E)	Hydrology line	Unrated stream

Site #	Waterway Type*	Function**	Dominant Vegetation (all strata)	FQI/ C-Value	Mapped Soil Type	NWI Classification	Kane County ADID Classification
6	Intermittent tributary/WOUS	F, C, WH	Black walnut, white mulberry, Siberian elm, clearweed, motherwort, stickseed, pinkweed, pokeweed, crowned beggarticks, black raspberry	9.3/2.8	Senachwine silt loam (618E)	None	None
8	Unnamed tributary/WOUS/ Forested wetland/ Wet meadow	F, C, T, S, E,WH	Silver maple, slippery elm, Norway maple, Amur honeysuckle, Tatarian honeysuckle, tall morning glory, reed canary grass, calico aster, orange jewelweed	18.8/2.7	Peotone silty clay loam (330A), Harpster silty clay loam (67A), Drummer silty clay loam (152A)	Hydrology line/ PEMA	NRCS Farmed Wetland
10	Fox River/WOUS	F, C, WH, M	None	--	Water (W), Casco-Roadman Complex (969F)	R2UBH	High Quality River/Natural Open Water Wetland #100011
12	Tributary/WOUS and associated wetlands	F, C, T, S, E,WH	Green ash, American elm, Tatarian honeysuckle, common buckthorn, stickseed, common reed	11.7/2.5	Casco-Rodman Complex (969E2)	None	None
13	Tributary/WOUS/ Wet meadow/ Open water pond/ Forested	F, C, T, S, E,WH	Box elder, common buckthorn, American elm, sugar maple, Missouri gooseberry, Tatarian honeysuckle, green ash, multiflora rose, curly dock, reed canary grass, orange jewelweed, fowl mannagrass, bittersweet nightshade	16.1/2.5	Casco-Rodman Complex (969E2)	PUBHh,	Artificial Pond #904
26	Open Water Channel	F,C, WH	Black cherry, silver maple,	--	Kidder loam (361E2)	None	None

Site #	Waterway Type*	Function**	Dominant Vegetation (all strata)	FQI/ C-Value	Mapped Soil Type	NWI Classification	Kane County ADID Classification
			common buckthorn, Tatarian honeysuckle				
27	Open Water Channel	F,C, WH	Black locust, box elder	--	Kidder loam (361B)	None	None
28	Open Water Channel	F, C, WH	Box elder, bur oak, Virginia creeper, multiflora rose	--	Kidder loam (361B)	None	None
29	Intermittent tributary/WOUS	F, C, WH	Sugar maple, eastern cottonwood, Tatarian honeysuckle, jumpseed	2.1/1.5	Senachwine silt loam (618E)	None	None

*Wetland type is listed by IDOT classification on WIE forms.
** F = flood control, C = conveyance, T = treatment of surface runoff, S = sediment and nutrient uptake, E = erosion control, WH = wildlife habitat, M = moderation of temperature within the microclimate.
+Isolated is based on professional judgment in the field. The COE makes all final jurisdictional determinations. Isolated applies to the lack of hydrological connection to a "Waters of the U.S.

Impacts

Impacts to waterways are summarized in Table 10. The existing waterway acreage is 4.50 acres. Impacts to the waterways total 0.652 acres.

Construction impacts to water resources in this corridor occur at the bridge crossing of the Fox River and at intermittent waterways within the corridor. The proposed bridge over the Fox River will impact the Fox River and associated floodway and floodplain due to placement of piers in the river. The proposed impact resulting from the piers in the river is 0.06 acres (see Site 10 in Table 10). Preliminary bridge designs indicate two piers located at the eastern and western edge of the river bank. One pier is also planned in the floodplain forest on the west bank of the Fox River. The placement of piers in the Fox River will result in temporary increases of sedimentation and turbidity and impacts to boating and fishing. The Fox River is not a continuously navigable waterway; there are dams at regular intervals with the nearest north in Algonquin and south in Carpentersville. All other drainage ways crossed are intermittent and generally have watersheds that are less than one square mile. The EIS did not specify impacts to other drainage ways besides the Fox River. Impacts to these drainage ways would involve culvert improvements. Impacts to waterways and the required mitigation for these impacts under the Clean Water Act is listed in Table 10.

Due to the size of the proposed Fox River crossing, a variety of construction practices may be utilized. Construction will be staged as much as possible from adjacent upland areas in order to minimize temporary impacts to wetlands and waterways. The width of the river at the proposed crossing likely precludes the ability to construct the bridge from the banks. As a result, it is anticipated that temporary causeways will be required. The size of the causeway would be limited to less than one-half the width of the river at any time during any construction stage. The causeway will be utilized to construct the bridge as needed.

A construction staging area is typically required at the base of a bridge to construct piers and erect beams. The staging area must be graded level adjacent to the piers to allow for the safe operation of cranes and drill rigs. Based on the crane size needed for this project, the staging area would occupy the entire proposed alignment area. Additional space would also be needed to create a level platform for crane operations. The area needed to create a level platform for crane operations would be located within the project corridor. Beam erection will be accomplished by conducting all crane operations from within the Fox River or from adjacent upland areas along the banks of the Fox River.

The temporary features within the Fox River are anticipated to be in place as long as 2 years during the construction of the Fox River Bridge. It is anticipated that the bridge construction will extend over two construction seasons.

Proposed Mitigation

The Clean Water Act requires mitigation for impacts to waterways. Proposed mitigation for the waterways are summarized in Table 10. The total mitigation required is 0.998 acres.

Removal of a portion of the floodplain forest area on the west bank during construction will be mitigated by erosion control practices and revegetation. The banks will be revegetated following construction. Vegetated ditches will be constructed for the majority of the corridor located on the west side of the Fox River. Curb and gutter with storm sewers will be used in the more urban areas east of the river. Outfalls will be protected with erosion protection measures such as rip rap or energy dissipaters.

The table below summarizes all the waterways delineated for this project, including type, watershed, jurisdictional status, Floristic Quality Index (FQI), impact, and mitigation ratios.

Table 10
Total Waterway Impacts and Mitigation Summary

Site #	Watershed	JD Status	HQAR (Y/N)	Existing Waterway Acreage	Permanent Waterway Impact (Acres)	USACE Mitigation Ratio[1]	Kane County Mitigation Ratio[3]	Total Mitigation (Acres)
5	Fox	USACE	N	0.22	0.14	1.5:1	N/A	0.21
6	Fox	USACE	N	0.023	0.13	1.5:1	N/A	0.20
8	Fox	USACE	N	0.47	0.27	1.5:1	N/A	0.405
10	Fox	USACE	N	2.44	0.06	1.5:1	N/A	0.09
12	Fox	USACE	N	0.06	0.02	1.5:1	N/A	0.03
13	Fox	USACE	N	1.15	0.01	1.5:1	N/A	0.02
26	Fox	Isolated	N	0.10	0.01	N/A	2:1	0.02
27	Fox	Isolated	N	0.01	0.01	N/A	2:1	0.02
29	Fox	USACE	N	0.03	0.002	1.5:1	1.5:1	0.003
				4.50	0.652			0.998

N/A Not applicable
High Quality Aquatic Resources (HQARs) include Advanced Identification (ADID) High Habitat Values (HHV) and High

Functional Value (HFV) sites, bogs, ephemeral pools, fens, forested wetlands, sedge meadows, wet meadows, seeps, streams rated Class A or B in the Illinois Biological Stream Characterization Study, streamside marshes, wet prairies, wetland supporting Federal or Illinois endangered or threatened species, and wetlands with a floristic quality index of 20 or greater or mean-C value of 3.5 or greater.

[1] Per the US Army Corps of Engineers (USACE), for non-HQARs the minimum mitigation ratio is 1.5:1, for HQARs the minimum is 5.5:1

[2] Per the IWPA, permanent impacts that are <0.5 acre are to be mitigated at either 2:1 (in-basin) or 3:1 (out-of-basin) and impacts >0.5 acre are to be mitigated at either 4:1 (in-basin) or 5.5:1 (out-of-basin). In-basin mitigation will occur in the Fox River watershed.

[3] Per the Kane County Ordinance, Floristic Quality Index (FQI)<7=1:1 ratio, FQI>7 but <16= 2:1 ratio, FQI>16 but < 25 = 3:1 ration, FQI>25 is unmitigable. However, mitigation for isolated wetland impacts upon more than one wetland within a site shall meet the standards of highest quality isolated wetland.

Operational Impacts

Salt splash and spray impacts were discussed during the EIS. The following additional information was not included in the EIS. Specific calculations were completed for this project to assess potential chloride concentrations in the streams of the project area. These calculations were completed using the U.S. Geological Survey (USGS) methodology, which is a standard estimating procedure. The USGS methodology does not consider the effects of BMPs or detention basins in estimating water quality concentrations. The results of these calculations indicate the chloride General Use Water Quality Standard of 500 mg/L would be achieved with one exception. The daily maximum chloride concentration of the tributary to the West Branch of the South Tributary to the Fox River was estimated at 513 mg/L prior to any BMP or storm water treatment. The upstream drainage area tributary to this location results in 0.14 square miles with intermittent flow. Stormwater runoff from this area is directed to a stormwater detention basin prior to discharge. This basin is anticipated to provide mixing and reduce chloride concentration peaks to below 500 mg/L. This would require only a three percent reduction from estimated peak levels, which is achievable with such equalization.

Typically, detention basins do not show chloride removals when the concentrations vary from 16 to 200 mg/L; however, two studies did indicate 11 to 13 percent lower concentrations during winter events. Primarily, the detention basins provide equalization of concentrations, which lowers the peak or maximum concentration discharged. To achieve the water quality standard would only require a 3 percent reduction, which is anticipated to be achieved and maintain water quality in that tributary.

KDOT has been proactive in reducing the impacts of salt. Through the use of computerized/calibrated salt spreaders and Global Positioning Systems (GPS), drivers can more accurately spread the correct amount of salt and better pinpoint the application of salt on its roads. In addition, drivers cannot control the applications which are pre-programmed into the computers. The trucks are regularly calibrated and spot checked. Drivers also receive regular training on de-icing procedures. KDOT continues to evaluate alternate deicers and is constantly monitoring and following the latest industry trends. Currently, KDOT is utilizing Cargill ClearLane, an enhanced deicer/salt product that contains a pre-wetting agent. The product adheres to the road surface more effectively than dry salt, minimizing loss of deicer from wind and traffic scatter, thereby reducing distribution to adjacent areas.

Potential impacts from increased roadway runoff due to this project are expected to involve minor short-term water quality degradation with no chronic effects.

Part VIII. Groundwater Resources

The EIS states that the upper sand and gravel aquifer is a public water supply aquifer within the project corridor. In the east half of the corridor, the shallow sand and gravel aquifer is known as the Valparaiso Aquifer. Two of the public supply wells in the City of Carpentersville, south of the proposed corridor, draw water from the Valparaiso Aquifer at a depth of 180 feet. Most of the private wells on both sides of the Fox River extract water from the Valparaiso Aquifer. The public wells reported in the project vicinity are 2,000 to 3,000 feet from the project corridor. These wells are confined to the Valparaiso aquifer. There are no changes to groundwater resources in the reevaluation.

Impacts

According to the EIS and reevaluation, roadway excavation will not penetrate either of the aquifers above bedrock that are supplying water in the vicinity of the corridor. No impedance to the groundwater flow toward the Fox River is anticipated considering the roadway section and alignment proposed.

Eleven private wells are located within 500 feet of the corridor and two within the ROW will need to be properly abandoned and capped. One well is located on the northwest corner of Longmeadow Parkway and Randall Road and the other is located on Angelina Place, just east of the Fox River. Since the EIS was approved, three wells along Angelina Place have been abandoned and capped. No public wells were noted within 1,500 feet of the corridor.

As a result of the analysis, there are no new impacts to groundwater resources.

Part IX. Floodplains

According to the EIS, the Fox River has an identified floodplain at the crossing location. The streambanks are undeveloped and include a floodplain forest on the western bank. The EIS stated that impacts to the floodplain would include the installation of one bridge pier but no acreage of impact was provided. The EIS further states that the proposed Bolz Road corridor has a transverse crossing of the Fox River floodplain and that the proposed bridge will span the entire designated floodway of the Fox River with no piers in the floodway and no construction below the 100 year flood elevation. Therefore, there will be no significant impact to flood elevations or flood flow velocities. Since the EIS, the design adjacent to the Fox River has been refined. Floodplain fill is estimated at 0.57 acre-feet from fill generated from piers and walls. Mitigation for fill in the floodplain will include providing sufficient compensatory storage.

Part X. Wetlands

According to the EIS, there were six wetlands delineated in 1995 by the Illinois Natural History Service (INHS) along the Longmeadow Parkway. Only one of those wetlands (Wetland No. 5) would be directly affected by construction of the Build Alternative but this wetland was later converted to a detention pond during the EIS process and therefore was no longer considered a wetland. Further information as to who converted the wetland to a detention basin was not provided in the EIS. Therefore, no wetland impacts were proposed.

During subsequent Phase 1 studies, the INHS re-delineated the entire corridor and four additional wetlands in 2005 and 2007. This was done due to changes that were made to the shape of the proposed corridor between 1995 and 2005. The four additional sites were new project areas not included in the 1995 study. As part of the reevaluation, a wetland delineation was conducted in October 2013, utilizing the Regional Supplement to the Corps of Engineers Wetland Delineation Manual Midwest Region, and there were twenty wetlands delineated that are summarized in Table 11. Additional wetlands delineated between the EIS and reevaluation can be attributed to refined right-of-way necessary for construction of Longmeadow Parkway and detention requirements, which increased from when the EIS was prepared resulting in additional wetland impacts. Furthermore, impacts from side street improvements were not considered in the EIS. Adjacent development can also affect overland flow, drainage resulting in additional wetland areas over the past decade. In addition, the original wetland delineation followed procedures outlined in the "Corps of Engineers Delineation Manual (Technical Report Y087-1) which was the methodology used at that time. The current methodology used is the Regional Supplement to the Corps of Engineers Wetland Delineation Manual Midwest Region, this methodology is more inclusive as it uses specific regional indicators that were not considered as part of the older methodology used at the time of the EIS. It also appears that farmed wetlands were not delineated for the EIS, which accounts for an additional five wetlands that are described in the reevaluation that are not included in the EIS. At the time the EIS was prepared, farmed wetland delineations were not typically completed.

Site 1, 9, and 11 are classified as Advanced identification (ADID) wetlands on the Kane County wetland mapping high habitat and/or high function wetland value.

Table 11
Wetland Summary

Site #	Wetland Type	Function**	Dominant Vegetation (all strata)	FQI/ C-Value	NWI Classification	Kane County ADID Classification
1	Wet meadow/ Marsh	F,T, S, E, WH	Sandbar willow, eastern cottonwood, black willow, reed canary grass, Canada thistle, cinnamon willow herb, narrow-leaved cattail	16.7/3.1	PEMC	HHV #917
1A	Wet meadow	F,T, S, E,WH	Barnyard grass, pinkweed, narrow-leaved cattail, sedge sp.	13.1/2.7	PEMC	None
1B	Farmed	F,T, S, E,WH	Sandbar willow, river bulrush, giant ragweed Canada thistle, riverbank grape	4.2/1.3	None	None
1C	Farmed	F,T, S, E,WH	Narrow-leaved cattail, corn, deer tongue grass	12.7/2.3	PEMCf	Wetland #650 and Wetland #651
2	Farmed	F,T, S, E,WH	Box elder, elderberry, reed canary grass	10.7/2.3	None	NRCS Farmed Wetland
3	Wet meadow	F,T, S, E,WH	Box elder, silver maple, reed canary grass, riverbank grape	9.4/2.0	PEMF	Wetland #655
4	Wet meadow	F,T, S, E,WH	Eastern cottonwood, red osier dogwood, reed canary grass, common reed	12.2/2.5	None	None

Site #	Wetland Type	Function**	Dominant Vegetation (all strata)	FQI/ C-Value	NWI Classification	Kane County ADID Classification
7	Forested	F, T, S, E,WH	Black cherry, common buckthorn, Tatarian honeysuckle, European high bush cranberry, green ash, moneywort, riverbank grape	12.8/2.3	None	HFV #643
8	Unnamed tributary/WOUS/ Forested wetland/ Wet meadow	F, C, T, S, E,WH	Silver maple, slippery elm, Norway maple, Amur honeysuckle, Tatarian honeysuckle, tall morning glory, reed canary grass, calico aster, orange jewelweed	18.8/2.7	Hydrology line/ PEMA	NRCS Farmed Wetland
9	Forested	F, T, S, E,WH	Green ash, box elder, creeping Charlie, garlic mustard	14.0/2.5	PFO1A	HFV #643
11	Forested	F, T, S, E,WH	Green ash, American elm, common buckthorn, riverbank grape	16.9/2.5	None	HFV #643
12	Tributary/WOUS and associated wetlands	F, C, T, S, E,WH	Green ash, American elm, Tatarian honeysuckle, common buckthorn, stickseed, common reed	11.7/2.5	None	None
13	Tributary/WOUS/ Wet meadow/ Open water pond/ Forested	F, C, T, S, E,WH	Box elder, common buckthorn, American elm, sugar maple, Missouri gooseberry, Tatarian honeysuckle, green ash, multiflora rose, curly dock, reed canary grass, orange jewelweed, fowl mannagrass, bittersweet nightshade	16.1/2.5	PUBHh,	Artificial Pond #904
16	Wet meadow	F, T, S, E, WH	Silver maple, common horsetail, giant ragweed, prairie cord grass	4.4/1.4	None	None
18	Marsh	F,T, S, E, WH	Narrow-leaved cattail	7.7/2.6	None	None
19	Farmed	F, T, S, E	Corn, barnyard grass	0.0/0.0	None	None
20	Farmed	F, T, S, E	Soybean	0.0/0.0	None	None
23	Wet meadow	F,T, S, E, WH	Box elder, common buckthorn, Tatarian honeysuckle, reed canary grass, common reed	2.9/1.7	None	None
25	Forested wetland/wet meadow	F, WH	Silver maple, American elm common buckthorn, reed canary grass, riverbank grape	4.1/1.7	None	None
31	Forested	F, C, T, S, E,WH	Shagbark hickory, common buckthorn, Tatarian honeysuckle, high bush cranberry	4.9/3.5	None	None

* F = flood control, C = conveyance, T = treatment of surface runoff, S = sediment and nutrient uptake, E = erosion control, WH = wildlife habitat, M = moderation of temperature within the microclimate.

+Isolated is based on professional judgment in the field. The USACE makes all final jurisdictional determinations. Isolated applies to the lack of hydrological connection to a "Waters of the U.S".

Impacts

Longmeadow Parkway will impact eleven wetlands for a total acreage of 4.16 acres (2.37 acres jurisdictional and 1.79 acres isolated) that are summarized in Table 12. The Wetland Impact Evaluation is included in Appendix C.

Proposed Mitigation

- ☐ On-site
- ☐ Off-site
- ☑ Wetland Bank

Description

Considering USACE, Interagency Wetland Policy Act (IWPA), and Kane County mitigation ratios, the total required wetland mitigation is 17.13 acres. Mitigation credits will be purchased from a wetland bank site in Fox River Basin.

The table below summarizes all the wetlands delineated for this project, including type, watershed, jurisdictional status, Floristic Quality Index (FQI), impact, and mitigation ratios. There are three mitigation ratios based on the Clean Water Act, Interagency Wetlands Policy Act and the Kane County ordinance. The highest mitigation ratio out of the three will be used. The highest mitigation ratio has been bolded in Table 12. The total mitigation required is 17.13 acres. The USACE has made final jurisdictional status determinations on all wetlands in Table 12 below per a letter dated June 2, 2014 to KDOT.

Table 12
Total Wetland Mitigation Summary

Site #	Watershed	JD Status	HQAR (Y/N)	Existing Wetland Acreage	Permanent Wetland Impact (Acres)	USACE Mitigation Ratio[1]	IWPA Mitigation Ratio[2]	Kane County Mitigation Ratio[3]	Total Mitigation (Acres)
1B	Kishwaukee	Isolated	N	0.08	0.08	N/A	**3:1**	2:1	0.24
1C	Fox	USACE	N	2.34	0.26	1.5:1	**2:1**	N/A	0.52
2	Fox	Isolated	N	1.69	1.15	N/A	**4:1**	2:1	4.60
3	Fox	Isolated	N	0.30	0.19	N/A	**2:1**	2:1	0.38
4	Fox	Isolated	N	0.17	0.17	N/A	**2:1**	2:1	0.34
7	Fox	USACE	Y	0.56	0.40	**5.5:1**	2:1	N/A	2.20
8	Fox	USACE	N	1.35	0.68	1.5:1	**4:1**	N/A	2.72
11	Fox	USACE	Y	1.36	1.03	**5.5:1**	4:1	N/A	5.67
16	Kishwaukee	Isolated	N	0.35	0.06	N/A	**3:1**	2:1	0.18
20	Fox	Isolated	N	0.48	0.13	N/A	**2:1**	2:1	0.26
31	Fox	Isolated	N	0.03	0.01	N/A	**2:1**	2:1	0.02

Site #	Watershed	JD Status	HQAR (Y/N)	Existing Wetland Acreage	Permanent Wetland Impact (Acres)	USACE Mitigation Ratio[1]	IWPA Mitigation Ratio[2]	Kane County Mitigation Ratio[3]	Total Mitigation (Acres)
				8.71	4.16				17.13

N/A Not applicable

High Quality Aquatic Resources (HQARs) include Advanced Identification (ADID) High Habitat Values (HHV) and High Functional Value (HFV) sites, bogs, ephemeral pools, fens, forested wetlands, sedge meadows, wet meadows, seeps, streams rated Class A or B in the Illinois Biological Stream Characterization Study, streamside marshes, wet prairies, wetland supporting Federal or Illinois endangered or threatened species, and wetlands with a floristic quality index of 20 or greater or mean-C value of 3.5 or greater.

[1] Per the USACE, for non-HQARs the minimum mitigation ratio is 1.5:1, for HQARs the minimum is 5.5:1

[2] Per the IWPA, permanent impacts that are <0.5 acre are to be mitigated at either 2:1 (in-basin) or 3:1 (out-of-basin) and impacts >0.5 acre are to be mitigated at either 4:1 (in-basin) or 5.5:1 (out-of-basin). In-basin mitigation will occur in the Fox River watershed.

[3] Per the Kane County Ordinance, FQI<7=1:1 ratio, FQI>7 but <16= 2:1 ratio, FQI>16 but < 25 = 3:1 ration, FQI>25 is unmitigable. However, mitigation for isolated wetland impacts upon more than one wetland within a site shall meet the standards of highest quality isolated wetland.

Wetland Finding

A wetland finding is required by Executive Order 11990.

Various methods of avoidance and minimization were analyzed for the project, including reducing the typical roadway cross section by reducing lane and median widths. Lane widths were minimized from the standard 12 foot wide lanes to 11 foot wide lanes which minimize impervious surfaces and reduce environmental impact. On the east side of the Fox River, wetland impacts are being reduced through the use of retaining walls or Manufactured Structural Earth (MSE) walls at the bridge abutments and bridge approaches. These walls reduce the footprint of the bridge approach by eliminating the need for bridge cone grading. In addition, culverts at stream crossings are proposed to have natural bottoms or be sumped in cobblestone to maintain a natural substrate. Because of the proximity of the wetlands and WOUS to the proposed corridor alignment, impacts to wetlands and WOUS are unavoidable.

The proposed corridor alignment was shifted to avoid impacts to wetland Sites 1, 1A, 9, 25 and 33. Perimeter erosion control fencing will be placed adjacent to all wetland sites to prevent intrusion beyond the construction limits**.** Construction will be staged as much as possible from upland areas to eliminate mass grading and reduce potential for erosion and sedimentation.

Based on the above considerations, the determination is that there is no practicable alternative to the proposed construction and impact to wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

Part XI. Special Waste

The proposed project will not require any right-of-way or easement from any Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) site. The only Resource Conservation and Recovery Act (RCRA) generator in the project vicinity is Meyer Material Company but there were no violations on file and the area groundwater gradient is parallel to the proposed corridor. Just west of the Meyer Material Company is the

Fox Valley Gun Club with a small arms shooting range located within the proposed corridor. There is a potential for lead contamination at this location.

A Preliminary Environmental Site Assessment (PESA) was conducted as part of the reevaluation. According to the PESA review dated December 18, 2014 prepared by the Illinois State Geological Survey (ISGS), there were five Recognized Environmental Conditions (RECs) and *de minimus* conditions at 34 sites along the project corridor. The Special Waste Review is attached as Appendix D, Page D-2. A Preliminary Site Investigation (PSI) will need to be completed to determine if any of the sites or Right-of-Way (ROW) adjacent to the sites will be impacted with the proposed work and/or if any ROW will be required at any of the locations.

Part XII. Special Lands

Special lands for the north region included the Fox River Trail, FPDKC properties of Algonquin Shores and Fox River Shores, and the Dundee Township Park District Hickory Hills site. The Algonquin Shores Forest Preserve is north of Bolz Road between the Fox River and Williams Street. The Fox River Shores Forest Preserve is south of Bolz Road along both banks of the Fox River to about Lake Marian Road. The Hickory Hills site is located north of Bolz Road between Illinois Route 62 (Algonquin Road) and Illinois Route 25 in unincorporated Kane County. The EIS stated that 2.12 acres of Algonquin Shores/Fox River Shores and 6.64 acres of Hickory Hills would be impacted by the Longmeadow Parkway. Since the EIS, Algonquin Shores has been incorporated into Fox River Shores; it is no longer a separate forest preserve property. The impacts to Hickory Hills remain at 6.64 acres in the reevaluation while the impacts to Fox River Shores increased to 2.96 acres. The IGA between KDOT and Dundee Park District is included in Appendix A, Page A-17. A timeline of the coordination between KDOT and Dundee Park District is included in Appendix A, Page A-45.

New work is proposed at the Buffalo Park Forest Preserve and the Fox River Shores Forest Preserve.

After the ROD was issued, the Brunner Family Forest Preserve was established by the FPDKC. FPDKC worked with the KDOT to jointly plan the Brunner Family Forest Preserve to reserve a corridor within it for the Longmeadow Parkway. Additional temporary work is now proposed within the Brunner Family Forest Preserve.

A letter from KDOT to the Federal Highway Administration detailing the history of the Brunner property is attached as Appendix E and the following exhibits to this letter also are attached and summarized below.

- Exhibit I includes reference to the Final EIS and Section 4(f) Evaluation.
- Exhibit II includes an excerpt from the ROD.
- Exhibit III includes an email regarding the Brunner parcel acquisition.
- Exhibit IV includes an article on the Brunner Farm site.
- Exhibit V includes a letter between KDOT and the FPDKC regarding Algonquin Shores FPDKC and the Brunner parcel.
- Exhibit VI includes an intergovernmental agreement between the County and the FPDKC.
- Exhibit VII includes a letter from the County to Fred Brunner regarding impacts to the Brunner parcel.

- Exhibit VIII includes an affidavit from John Hoscheit (Commissioner and President of the FPDKC) regarding the coordination efforts of the FPDKC with the Longmeadow Parkway project.
- Exhibit IX is the 2030 Land Resource Management Plan and map showing the Longmeadow Parkway alignment.
- Exhibit X is an amendment to the intergovernmental agreement between the County and the FPDKC extending the termination date from January 1, 2005 to January 1, 2010.
- Exhibit XI and Exhibit XII include letters from the County to Suburban Trust and Savings Bank regarding property acquisition.
- Exhibit XIII includes the FPDKC Executive Committee Meeting Minutes.
- Exhibit XIV includes an article regarding the purchase of the Brunner property by the FPDKC.
- Exhibit XV is the resolution establishing the intent of the intergovernmental agreement between the County and the FPDKC.
- Exhibit XVI is the resolution authorizing the execution of an intergovernmental agreement with Kane County
- Exhibit XVII is the warranty deed
- Exhibit XVIII is the Transportation Committee Meeting Minutes dated June 16, 2015.
- Exhibit XIX is the restatement of agreements between KDOT and the FPDKC regarding the Longmeadow Parkway Extended.
- Letters from FHWA to homeowners regarding Section 4(f) concerns
- Buffalo Park Temporary Occupancy Letter

Additional information regarding each of these forest preserves, proposed improvements and impacts are described below.

1. Section 4(f)

Perry-Lathrop property

The Perry-Lathrop property is located along the east side of Illinois Route 31 at 19N045. The project will take approximately 0.23 acres of frontage from the Perry-Lathrop property. This property is considered eligible for inclusion on the National Register of Historic Places and is therefore protected under Section 4(f).

An approximately 40 feet wide strip of land will be taken in front of the Perry Lathrop House. The only impact will be visual and a landscape plan will be developed and submitted for State Historic Preservation Office (SHPO) approval for the area adjacent to the Perry Lathrop property prior to construction. The parcel to the south and east of the Perry Lathrop property, known as the Melva property, will be acquired by the County and transferred to the FPDKC. The Melva property will be transferred to the Forest Preserve District of Kane County and will be maintained in perpetuity as greenspace.

The Illinois SHPO was notified that FHWA intended to make a *de minimis* determination based upon their concurrence with the “no adverse effect” finding. The Illinois SHPO concurred in a letter dated July 7, 2016 (located on Page A-60 in Appendix A).

The FHWA has determined that the use of the Perry-Lathrop property, including the measures to minimize harm described above, will have a *de minimis* impact, as defined in 23 CFR 771.17, on the property.

Buffalo Park Forest Preserve

There is no Section 4(f) use of the Buffalo Park Forest Preserve.

Buffalo Park Forest Preserve, which is owned by the FPDKC, is located just north of the Longmeadow Parkway project limits and is considered a Section 4(f) resource. Buffalo Park Forest Preserve was acquired in the 1980's and is approximately 29 acres. Features, attributes and activities at this preserve that qualify it for protection under Section 4(f) include picnic areas, a loop trail for walking and biking, access to fishing, several parking areas and restrooms. Within the Buffalo Park Forest Preserve is the Raging Buffalo Snowboard Ski Park, woodlands and the Fox River shoreline. The FPDKC is planning to expand the Raging Buffalo Snowboard Ski Park, including additional parking, a new building and a larger snowboarding hill.

Excavation for the Longmeadow Parkway project will create approximately 524,000 cubic yards of excess material that requires disposal. KDOT and FPDKC have worked together on a plan to use the excess material to improve the snowboarding hill within the Raging Buffalo Snowboard Ski Park. In order to move the material to the Raging Buffalo Snowboard Ski Park, a temporary haul road will be constructed in both the Buffalo Park Forest Preserve and the Brunner Family Forest Preserve. This road will be used solely to haul material to the snowboarding hill. A concept plan showing the proposed improvements is located in Appendix E, Page E-100.

The construction activities within the Buffalo Park Forest Preserve are considered a temporary occupancy because it is so minimal that it does not constitute a use within the meaning of Section 4(f). Pursuant to 23 C.F.R. 774.13(d), the following conditions will be satisfied:

(1) Duration will be temporary, i.e., less than the time needed for construction of the project and there will be no change in ownership of the land.
(2) The scope of the work is minor and the magnitude of changes to the Section 4(f) property are minimal.
(3) There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis.
(4) The land will be fully restored and the property will be returned to a condition which is at least as good as that which existed prior to the project; and
(5) There is a documented agreement with the official with jurisdiction over Buffalo Park Forest Preserve. (See Appendix E, Page E-117)

Brunner Family Forest Preserve

There is no Section 4(f) use of the Brunner Family Forest Preserve.

The Brunner Family Forest Preserve is approximately 741 acres and is located adjacent to the Longmeadow Parkway north and south of the corridor, west of the Fox River. This forest preserve was established in October 2008, after the ROD for this project was issued. Features, attributes and activities at this preserve that qualify it for protection under Section 4(f) include a picnic shelter, informational kiosk, fishing access, interpretive signs, parking lot, restrooms and five miles of trails.

A corridor within the Brunner Family Forest Preserve was formally reserved for the Longmeadow Parkway before the forest preserve was established, based on the alignment established in the ROD. The Longmeadow Parkway was a jointly planned transportation facility between FPDKC and KDOT prior to the FPDKC acquiring this land from the Brunner family. The FPDKC closed on the property on October 1, 2008 and right-of-way was transferred to KDOT on April 14, 2009 for the Longmeadow Parkway project. A map showing the location of Longmeadow Parkway within Brunner Family Forest Preserve is included in Appendix E, Page E-28. A complete history of the Brunner Family Forest Preserve acquisition process is attached as Appendix E, Page E-1 through E-78.

Pursuant to 23 CFR 774.11(i), when a property is formally reserved for a future transportation facility before or at the same time a park, recreation area, or wildlife and waterfowl refuge is established and concurrent or joint planning or development of the transportation facility and the Section 4(f) resource occurs, then any resulting impacts of the transportation facility will not be considered a use. Because the Longmeadow Parkway was a concurrent and jointly planned facility with the Brunner Family Forest Preserve, there is not a Section 4(f) use of the Brunner Family Forest Preserve.

A temporary haul road will also be constructed in the Brunner Family Forest Preserve, which was not identified in the EIS. This haul road is outside of the original footprint of what was in the joint agreement and will be used solely to haul material to the snowboarding hill at the Buffalo Park Forest Preserve. The construction activities within the Brunner Family Forest Preserve for the hauling of material to the snowboarding hill are considered a temporary occupancy because it is so minimal that it does not constitute a use within the meaning of Section 4(f). Pursuant to 23 C.F.R. 774.15(d), the following conditions will be satisfied:

(1) Duration will be temporary, i.e., less than the time needed for construction of the project and there will be no change in ownership of the land.
(2) The scope of the work is minor and the magnitude of the changes to Section 4(f) property are minimal.
(3) There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis.
(4) The land will be fully restored and the property will be returned to a condition which is at least as good as that which existed prior to the project; and
(5) There is documented agreement with the official with jurisdiction over Brunner Family Forest Preserve. (See Appendix E, Page E-117)

KDOT plans to plant approximately 7,500 trees on the west side of the Fox River within the Brunner Family Forest Preserve. Sizes, types and densities will be coordinated with the FPDKC.

Fox River Shores Forest Preserve

There is a Section 4(f) use of the Fox River Shores Forest Preserve; however, it qualifies as a *de minimis* impact.

Fox River Shores Forest Preserve, which is owned by the FPDKC, is an approximately 393 acre site located within the Longmeadow Parkway project limits on the east and west sides of the Fox River. It is bordered by the Brunner Family Forest Preserve to the north and the Raceway Woods Forest Preserve to the southwest. Within the Fox River Shores Forest Preserve is the Fox River Trail, woodlands and the Fox River shoreline. There are several features, attributes and activities at this preserve that qualify it for protection under Section 4(f). The Fox River Shores Forest Preserve includes the Fox River Trail bike path running the length of the preserve. There also is a picnic area, shelter, restrooms, fishing and boat launch along the Fox River near the south end of the preserve.

Included as part of the Longmeadow Parkway project are several improvements to the Fox River Trail. A new connection to the Fox River Trail will be provided from Longmeadow Parkway, which will provide a connection across the Fox River, and a connection between both Forest Preserves. This will require 0.9 acres of temporary easement to re-align the trail. A detention pond will be constructed under the proposed Fox River Bridge and just west of the realigned bike path to provide storage for storm water runoff from Longmeadow Parkway. This will enhance water quality within the area. A MSE wall will be constructed where the current Fox River Trail crosses under the proposed Longmeadow Parkway alignment, requiring the trail to be realigned. This will require 2.06 acres of permanent right-of-way from the Forest Preserve property.

This project will result in the use of the Fox River Shores Forest Preserve, a Section 4(f) resource. On May 3, 2015, KDOT published a notice to offer the opportunity for the public to comment on the effects of the project on the protected activities, features, or attributes. The majority of the comments received during this public notice did not pertain to the impacts of the Fox River Shores Forest Preserve improvements. The most prevalent comment relevant to this notice was that the Fox River Shores impacts were adverse enough that this work should not be considered for *de minimis* processing. Other comments included displeasure at the loss of right-of-way at Fox River Shores and the additional disruption of a third forest preserve. In a letter dated May 24, 2016, the FPDKC was notified that FHWA intended to make a *de minimis* impact finding and on June 17, 2016 the FPDKC concurred in writing that the project will not adversely affect the activities, features, or attributes that make the property eligible for Section 4(f) protection. These letters can be found in Appendix E on Page E-124 and Page E-125. The agreement between the KDOT and FDPKC about the right-of-way acquisition in the Fox River Shores Forest Preserve can be found in Appendix E on Page E-79.

FHWA hereby makes a *de minimis* impact finding for this use as it will not adversely affect this resource's features, attributes, or activities that qualify the property for protection under Section 4(f). The *de minimis* impact finding is based upon the impact avoidance, minimization, and mitigation or enhancement measures detailed in the documentation submitted and included in at the end of this document.

2. Section 6(f)

Description

The Hickory Hills site is a Section 6(f) and 4(f) property and is located north of Bolz Road between Illinois Route 62 (Algonquin Road) and Illinois Route 25 in unincorporated Kane County. The EIS stated that 6.64 acres of Hickory Hills would be impacted by the Longmeadow Parkway and determined there were no feasible and prudent alternatives and documented all possible planning to minimize harm to the Section 4(f) resource. The impacts to Hickory Hills remain at 6.64 acres in the reevaluation. The total mitigation for the 6.64 acres is 19.5 acres. The Park District received 4.132 acres in 2006 and 10 acres in 2016. There is currently 5.414 acres pending to be transferred to the Park District. The IGA between KDOT and FPDKC is included in Appendix A, Page A-7.

3. Open Space Lands Acquisition and Development (OSLAD) Act Lands

Description

There are no Open Space Lands Acquisition and Development (OSLAD) lands identified in the EIS and this remains unchanged in the reevaluation.

4. Illinois Natural Area (INAI) Sites

Description

There were no INAI sites identified in the EIS and this remains unchanged in the reevaluation.

5. Nature Preserves

Description

There were no nature preserves identified in the EIS and this remains unchanged in the reevaluation.

6. Land & Water Reserves

Description

There were no land and water reserves identified in the EIS and this remains unchanged in the reevaluation.

Environmental Commitments

Commitments listed in the EIS included the following:

1. As part of the Congestion Management Study, Pace requested the right to review any proposed plans to ensure compatibility with existing or proposed bus service. When Phase 1 plans are developed, Pace will be provided copies of the relevant portion for their input.

2. For all corridors in areas of near surface granular materials, drainage ditch lining shall be used, if drainage ditches are used, to reduce potential for infiltration of spills and other runoff contaminants.

3. Due to the potential presence of River redhorse and the Starhead topminnow, no in stream work in the Fox River shall occur between April 1 and June 30. In addition, a fish survey will be conducted in the summer of 2016 to document the existing habitat in the project area. If any listed fish species are found, IDOT will implement commitments to protect the listed fish in consultation with IDNR.

4. The commitment in the 2002 ROD which states "Prior to the start of construction, a population survey of live, non-invasive mussel species will be conducted in streams to be crossed. In the event that any live specimens of the Elktoe mussel or other non-invasive species are found, a mussel relocation program will be developed in consultation with the IDNR" was written prior to the understanding of the Incidental Take Authorization process which became effective July 17, 2001. Thus, the commitment shall be changed to "A mussel survey will be conducted in the summer of 2016 to determine if any live threatened or endangered mussels exist in the project corridor. If a state listed mussel is found, an Incidental Take Authorization will be required before any in stream work in the Fox River will occur."

5. As plans for the corridor are developed, ongoing coordination will take place with Pace and Metra to ensure the maximum practical inclusion of Travel Demand Reduction (TDR), Operational Management Strategies (OMS), and mass transit extensions and improvements in the project.

6. A system of Stormwater Management ponds will be built to comply with, as a minimum, the Kane County Stormwater Management ordinance and, where feasible, to extend residence time to promote sediment removal and dilute the release of the accumulated deicing agencies. Ponds will be lined to diminish interaction with groundwater.

7. Wetland mitigation for direct impacts will be provided in accordance with the more stringent of the USACE, IDNR and Kane County requirements and policies. Credits from a wetland bank site from the same wetland basin will be purchased before the project is included on a letting.

8. Erosion and Sediment Control during construction shall comply with the requirements of the Kane County Stormwater ordinance. The construction plans for each phase shall have the Erosion and Sediment control plans reviewed by the Kane County Nature Resources Department.

9. Compensatory Storage for fill within the regulatory floodplain will be provided in accordance with the more stringent requirements of the Kane County Countywide Stormwater Ordinance of IDNR-Office of Water Resource (OWR) policies.

10. Coordination will be carried out with SHPO prior to the construction of any corridor where potential archaeological sites exist to allow documentation of the site.

11. Coordination will be carried out with SHPO as plans for the Bolz Road Corridor (Longmeadow Parkway) are developed to allow coordination on minimizing the impacts to the Perry Lathrop property.

Additional commitments that KDOT has agreed to follow since the EIS include the following:

1. In order to assist in ease of movement for the Blanding's turtle, and decrease the likelihood of entrapment in the roadway, the proposed plan has been revised to demonstrate mountable curb and gutter along the entire south leg of the proposed construction limits.

2. KDOT will educate and inform construction crews and all on-site personnel about Blanding's turtle before work begins. The local agency will distribute photos (adult and juvenile) of the species and discuss the site management plan for responding to encounters in a training session and at the preconstruction site meeting. If a turtle is encountered on site, inform crews to immediately stop construction in the surrounding area and contact the appropriate staff at IDNR as listed in the contractor's documents; keeping in mind it is a criminal act to handle a listed species. Personnel on site should watch the turtle until the proper authority arrives to alleviate the situation, keeping at a respectable distance. If the turtle moves, crews should mark the spot it was seen.

3. The project area at Sleepy Hollow Road and Highmeadow Lane (south of Longmeadow Parkway) may contain the route to a nesting site. Therefore, potential harm to transiting turtles is a concern. IDNR recommends limiting work at Sleepy Hollow Road and Highmeadow Lane to between late October and late March, when this species is hibernating, to prevent construction activities from crushing or injuring juvenile or adult turtles.

4. If construction cannot be limited to between late October and late March, exclusionary fencing should be installed along the construction limits at the intersection of Sleepy Hollow Road and Highmeadow Lane. The fencing should be in place from the end of March through October to prevent turtles from entering the construction areas. Daily inspections should occur for the first two weeks and then be maintained weekly throughout the construction period to ensure the exclusionary fencing has been properly installed (dug into the ground) and to check if any turtles are present on either side of the fence.

5. Trenches along the construction limits at the intersection of Sleepy Hollow Road and Highmeadow Lane should be covered at the end of each work day. Before starting each work day, trenches and excavations should be routinely inspected to ensure no turtles (or other amphibians and reptiles) have become trapped within.

6. Trees shall not be cleared from April 1 through September 30 to protect the Northern long-eared bat.

7. Impacts to trees shall be mitigated in accordance with the Tree Mitigation Plan developed for the Longmeadow Parkway project.

8. Instead of providing clay lined ditches as described in Item 2 of the EIS commitments, current BMP's will be provided that allow for infiltration. See Appendix G, Page G-165 for the Errata Sheet to the ROD.

9. Water wells that are within 200-feet of the project will be properly capped and abandoned unless they can be demonstrated that the well is deep, properly cased, and not hydraulically connected to the surface. If the dwelling associated with the water well will remain after construction is completed, the water well will be replaced or another suitable alternative will be provided. The water well will be constructed such that susceptibility to surficial contamination is minimized, for example, by constructing the well in a deeper aquifer.

10. A PSI shall be completed before the project is included on a letting to determine if any of the sites or ROW adjacent to the sites will be impacted with the proposed work and/or if any ROW will be required at any of the locations identified in the PESA.

11. Great horned owls were documented using the nest that is located approximately 800 feet southwest of Karen Drive and Forest Drive. Since the Great horned owl is protected by the Migratory Bird Treaty Act, the tree with the nest shall not be cleared until the young have fledged and the nest is not being used. Per the INHS, the Great horned owl nests between January 1 and May 31.

Permits/Certifications Required

There were no permitting requirements stated in the EIS. The following permits will be required for the Longmeadow Parkway project:

- An Individual Section 404 permit from the USACE including separate Water Quality Certification from the IEPA will be required due to impacts to wetlands and WOUS. This will require review and approval of the soil erosion and sediment control plans from the Kane DuPage Soil and Water Conservation District
- Construction permits from IDNR Office of Water Resources (OWR) will be required for fill placed in the floodway
- A National Pollutant Discharge Elimination System (NPDES) Permit will be required from the IEPA for construction disturbance greater than 1 acre.

Public Involvement

Public involvement occurred during the original EIS. According to the EIS, in May and June of 1993, public meetings were held in the South, Central, and Northern regions of the project area. The purpose of these meetings was to introduce the public and officials to the project and solicit their opinions and insights into the potential corridors. General concerns were expressed about whether the project or any of the corridors are warranted and questions were raised whether there were less intrusive options than building new roads. More specific concerns focused upon intrusion into parklands and impacts to wetlands as well as displacements. The second public meeting was held on February 16, 1994. This meeting was held when consideration was being given to dropping corridors from further study. The purpose of this meeting was to present the corridors with their known impacts so the public could comment before finalizing the recommendations of the draft *Corridor Analysis Document*. In general, a recommendation to discontinue further study of a corridor evoked no negative response. The third series of public meetings were held in May 1995. Separate meetings were held in the North, Central and South

Regions. At these meetings only five corridors that were being advanced for further study were presented. The Bolz Road (Longmeadow Parkway) corridor did not evoke much response. A series of public hearings were held in July 1998 at four locations with Kane County. The North Region hearing was held at the Randall Oaks Golf Club in West Dundee. Much of the commentary at this hearing focused on the Bolz Road Corridor (Longmeadow Parkway), with the majority of comments in opposition to the corridor for a variety of reasons. All public involvement prior to the signing of the ROD is documented in the EIS (Record of Public Hearings, Comments to the Release of the Draft EIS and Responses).

After approval of the EIS and ROD, a Public Hearing was held on March 26, 2009. The purpose of this hearing was to present Longmeadow Parkway as a toll highway facility, thereby using tolls to fund construction of the facility. The toll facility would be an electronic collection and there would be no changes to the geometry as previously proposed. The documentation of this Public Hearing is contained in the "Technical Memorandum for the Fox River Bridge Crossings Final Environmental Impact Statement and Section 4(f) Evaluation" dated November 2009. Other public involvement activities have occurred to clarifying the impacts to individual property owners.

Several public meetings since 1990 have occurred at a variety of locations including municipalities, park districts, schools, libraries, golf clubs and community centers. A summary of public involvement meetings is provided in Appendix F including dates, venues, and topics.

Agency Coordination

Agency coordination occurred during the original EIS. As documented in the EIS, in conformance with the NEPA/404 Process outside coordination was handled within the framework of meetings on the following concurrence points: 1) Purpose and Need, 2) Alternatives Carried Forward, and 3) Selected Alternative. The first scoping meeting was held May 26, 1993. At this meeting the scope of the project with probable range of proposed alternatives and schedule were presented. The second scoping meeting was held on December 1, 1993. The purpose of this meeting was to develop a consensus on the dropping from further evaluation corridors that did not satisfy the purpose and need or those corridors that had unacceptable impacts. Since the USACE was not represented a follow up meeting was held on January 19, 1994. The culmination of these efforts was the final Corridor Analysis Document which reduced the number of corridors under study to five. The corridors to be advanced were reduced to Bolz Road (Longmeadow Parkway), CC&P/Stearns Road, Red Gate, C&NW/Dean Street, and Mooseheart/Illinois Route 56. On March 2, 1995 a meeting was held to seek concurrence on the Purpose and Need statement and to prepare for Concurrence Point 2 by a limited presentation of the corridors still under study. On April 18, 1995 a meeting was held on Concurrence Point 2. The alternatives presented included the No-Build, Congestion Management System (CMS), and each of the proposed build alternative corridors. On April 27, 1995 a follow-up meeting was held with the USACE and USEPA to request a formal response. On July 19, 1995 another meeting was held to attempt to secure closure on Concurrence Points 1 and 2. Concurrence was received from USEPA, USACE, and USFWS with a caveat that it could be rescinded because of new relevant data. The Concurrence Point 3 was held on May 17, 2001. After a presentation on the three remaining corridors (Bolz Road [Longmeadow Parkway], CC&P/Stearns Road, and Illinois 56/Oak Street), the impacts and the proposed mitigation, USFWS, USEPA and USACE agreed that these three could be the selected alternatives.

Since the ROD was signed, agency coordination has continued between Kane County, IDOT, and agencies interested in the proposed project have involved issues regarding sensitive environmental resources and coordination has been on-going with the following agencies:

- Illinois Historic Preservation Agency
    - Coordination included review of impacts resulting from Perry Lathrop House and the Melva property.
- U.S. Army Corps of Engineers
    - Coordination included WOUS and wetland impacts as well as Northern long-eared bat coordination
        - Original Individual Permit (IP) Pre-Application Meeting: 1/7/2014
        - Original IP Submittal: 7/11/2014
        - USACE Public Notice #1: 9/3/2014
        - IP Addendum Meeting: 10/30/2014
        - IP Addendum Submittal: 11/18/2014
        - Joint USACE/USFWS Meeting: 9/22/2015
        - USACE/IEPA Joint Public Notice #2: 12/9/2015
        - Permit currently pending review
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
    - Coordination included review and approval of Tree Mitigation Plan, Northern long-eared bat and Bald eagle concerns.
        - Joint USACE/USFWS Meeting: 9/22/2015
- Illinois Department of Natural Resources
    - Coordination included protection of Smallmouth bass, Blanding's turtle, Starhead topminnow, Slippershell and Spike mussel, Greater and River redhorse
- Illinois Department of Natural Resources – Office of Water Resources
    - Coordination regarding floodway and floodplain impacts
        - Original Submittal: 2/13/2015
        - Public Responses Submitted: 2/15/2016
        - Permit currently pending review
- Illinois Environmental Protection Agency
    - Submittal: 3/27/2015
    - IEPA Public Notice #1:4/17/2015
    - USACE/IEPA Joint Public Notice #2: 12/9/2015
    - Certification currently pending review

A major coordination effort in the reevaluation was devoted to potential Section 4(f) issues involving the FPDKC and the IDNR with regards to the Buffalo Park Forest Preserve, Fox River Shores Forest Preserve, and Brunner Family Forest Preserve. On-going coordination has been provided with the FPDKC and they have been an active participant in the process, including attending internal status meetings. Continued involvement will be required for ROW acquisition.

Besides Kane County, the proposed improvement involves the Villages of Algonquin, Barrington Hills, and Carpentersville. These communities along with the Villages of West Dundee, East Dundee, Gilberts, Huntley, Lake in the Hills, Sleepy Hollow, and McHenry County have been involved in the project throughout its duration.

SECTION V. COMMENTS

Several comments from Section 4(f) and USACE public notices have been received and formal responses are included in Appendix G.

SECTION VI. FIGURES AND APPENDICES

The following figures and appendices are incorporated as part of this Environmental Assessment Reevaluation:

Section 4(f) *De Minimis* for Fox River Shores Forest Preserve

Figures
Figure 1 – Environmental Resource Map
Figure 2 – Range in ADT Values
Figure 3 – Aerial Photographs Comparing Land Use

Appendices
Appendix A – Cultural Resources
Appendix B – Noise Analysis
Appendix C – Natural Resources
Appendix D – PESA Review
Appendix E – Section 4(f) Documentation
Appendix F – Significant Milestones and Public Meeting Summary
Appendix G – Public Comments and Reponses