



EA

Brush College Road (FAU 7448) from Williams Street to Faries Parkway, City of Decatur and
Macon County, Illinois

ENVIRONMENTAL ASSESSMENT

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

U. S. Department of Transportation
Federal Highway Administration

and

Illinois Department of Transportation

Cooperating Agencies

City of Decatur
Macon County Highway Department
Decatur Township

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Date of Approval

James K. Klein
For IDOT

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Date of Approval

[Signature]
For FHWA

The following persons may be contacted for additional information concerning this document:

Kay Batey
Division Administrator
Federal Highway Administration
3250 Executive Park Drive
Springfield, Illinois 62703
Telephone: 217-492-4640

Roger L. Driskell
Deputy Director of Highways
Region Four Engineer
Illinois Department of Transportation
400 West Wabash
Effingham, Illinois 62401
Telephone: 217-342-3951

The Project involves improvements to a 1.21-mile long section of Brush College Road in Decatur, Illinois, generally between Williams Street on the south and Faries Parkway on the north. The Project will require 4 residential and 10 business relocations, all related to intersection improvements. There will be no impacts to wetlands, farmland or floodplains. The Project will result in *de minimis* Section 4(f) impacts from the loss of 4 spaces from a parking lot owned by the Decatur Park District. Design-phase preliminary site investigations (PSIs) will be required for approximately 42 potential special waste sites.

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SECTION I: INTRODUCTION & PURPOSE AND NEED

1. Introduction

The Project involves improvements to a 1.21-mile long section of Brush College Road, generally between Williams Street on the south and Faries Parkway on the north. Intersection improvements at Williams Street and Faries Parkway will result in roadway changes immediately south of Williams Street and north of Faries Parkway. Major Project components include adding two lanes to Brush College Road between Williams Street and Faries Parkway, replacing the existing underpass at the Norfolk Southern (NS) railroad yard with an overpass, constructing a grade-separated interchange at Faries Parkway to include a crossing of the existing NS rail line at that intersection, adding additional turn lanes at the Williams Street intersection, and adding a traffic signal and turn lanes at the entrance to the Archer Daniels Midland Company (ADM) James Randall Research Center (JRRC). The total length of the Project, including improvements to intersecting roadways, is 2.0 miles. Refer to Figure 1.

The Project is located in Macon County, Illinois, with most of the Project falling within the boundaries of the City of Decatur (2010 population 76,122) and the rest within unincorporated Macon County (Figure 2). Within the Project boundaries, the City of Decatur currently maintains Brush College Road south of Faries Parkway and Faries Parkway west of Brush College Road. Macon County maintains Brush College Road north of Faries Parkway. Macon County also maintains Faries Parkway east of Brush College Road on behalf of Decatur Township. William Street Road (IL 105) is a state route and is maintained by the State of Illinois.

Brush College Road is classified as a "Minor Arterial (Urban)" except for the section south of William Street where it is classified as a "Local Road". Faries Parkway is classified as a "Minor Arterial" west of Brush College Road and as a "Collector" east of Brush College Road. William Street Road is classified as "Other Principal Arterial". The existing intersection of Brush College Road and Faries Parkway is a signalized intersection fully actuated by loops or cameras. The signal is also controlled by train movements on the Norfolk Southern track located on the north leg of the intersection and on the Illinois Central track located on the west leg of the intersection. The existing intersection of Brush College Road and William Street is a signalized intersection fully actuated by loops or cameras. Most of the side streets intersecting Brush College Road are controlled by stop signs.

Existing land use in the Project area includes commercial, residential, and industrial facilities. ADM's West Plant is located at the southwest corner of the Faries Parkway/Brush College Road intersection and the JRRC is located just south of the existing NS rail yard underpass on the west side of Brush College Road. An Ameren substation is located just north of the underpass on the east side of Brush College Road. Brush College Elementary School is located on the west side of Brush College Road just north of the William Street intersection. Single family homes and two churches occupy the land along the east side of Brush College Road from the south side of the underpass to East Cerro Gordo Street. The East End Plaza, which includes a Subway, Brush College Animal Hospital, and Jan's East End Grill is located along the east side of Brush College Road just south of East Cerro Gordo Street. Refer to Figure 3.

2. Purpose and Need

The purpose of the Project is to provide adequate capacity to handle present and future traffic volumes in a safe and efficient manner for the Brush College Road corridor between William Street Road and Faries Parkway, and to increase safety and access for businesses and future industrial development along the Brush College Road corridor.

As discussed below, the Project need is based on:

- Increasing capacity
- Improving safety
- Correcting roadway deficiencies
- Providing system linkage

Increasing capacity. In the early 1990s, the section of Brush College Road north of Faries Parkway was improved to a four lane cross section consisting of two 12-foot through-lanes in each direction and a 12-foot bi-directional left turn lane. Refer to Figure 4A. This improvement done by the Macon County Highway Department and included widening of Brush College Road from Olive Street to Faries Parkway and reconstruction of the Faries Parkway/Brush College Road intersection. Additional lanes were added at the intersection and traffic signals were upgraded.

The portion of the Brush College Road corridor between Olive Street and William Street is restricted to two 11-foot lanes at the underpass at the NS railroad yard (Figure 4B). North and south of the underpass, Brush College Road consists of variable width north-bound and south-bound lanes with a bi-directional left turn lane (Figure 4C). Current traffic volumes show that four lanes are warranted along Brush College Road. Based on IDOT records, the 2010 average daily traffic (ADT) on Brush College Road is 13,900 vehicles. A projected annual 1.25% growth rate was used for the design period, which results in an ADT of 18,950 for the design year, 2035, and the need for four lanes along Brush College Road. The Project traffic analysis showed that under the No Build Alternative, both AM and PM peak hour levels of service (LOS) at all 10 evaluated intersections would be LOS E or F, except for PM LOS at East Logan and East Olive which would be LOS A. The LOS defines how well an intersection is operating and ranges from LOS A (best service; free flow traffic) to LOS F (lowest service; congested conditions). LOS E represents unstable flow and is the second-longest delay category. Generally speaking, intersections operating at, or above, LOS D are considered to be operating at an acceptable level. Intersections operating at LOS E or LOS F are generally considered to be operating at an unacceptable level and are often described as operating at-capacity or over-capacity.

An east-west NS track that services ADM crosses the north leg of the Faries Parkway/Brush College Road intersection. The Decatur Area Transportation Efficiency Study (DATES), relating to improving train and truck traffic flow within the Decatur area, has determined that this crossing is blocked 17.2 hours per week. This blockage time is greater than that of any other crossing in Decatur.

Traffic backups can also be attributed to the operation of the intersection at William Street Road and Brush College Road. The number of turning movements at this intersection during peak morning and evening travel hours requires additional turn lanes.

Improving safety. Current safety concerns are related to the lack/inadequacy of bicycle and pedestrian facilities at the NS rail yard underpass, the at-grade crossing of the NS rail line at the Brush College/Faries Parkway intersection, and added traffic in residential areas resulting from motorists attempting to avoid the congestion on Brush College Road. There are no bicycle facilities at the existing NS rail yard underpass and the walkway at the underpass is narrow and usually covered with mud. Traffic backups make it difficult for employees to exit the ADM JRRC in the evening, and they often seek an alternate exit route behind the research facility that takes them through a residential area.

The Macon County Sheriff's Office provided crash data for the study corridor from 2008 to 2012 with detailed accident reports from 2010 to 2012. Table 1 summarizes the crash data from 2008 to 2012. In total, 100 crashes were reported along the Brush College Road study corridor. During the last five years, more than half of the crashes (57) have occurred at the Faries Parkway intersection. There are no 5% locations along the study section.

Table 1 – Total Number of Crashes (2008 – 2012)

Year	<i>At Faries Parkway</i>	<i>At William Street</i>	<i>At NS Underpass</i>	<i>At ADM Entrance/Marietta</i>	<i>Total</i>
2008	13	9		1	23
2009	5	9			14
2010	13	9		1	23
2011	17	5		1	23
2012	9	7		1	17
Total	57	39	0	4	100

Source: Macon County Sheriff's Office

Table 2 summarizes the details for crashes that occurred from 2010 to 2012. The crash data at the Faries Parkway intersection suggests that some crashes were related to the at-grade train crossings and others to improper lane usage. This data is consistent with survey comments which indicated that it is difficult to merge where Brush College Road narrows to one-lane just south of Faries Parkway.

Table 2 – Summary of Crash Types (2010 – 2012)

Type of Crash	Year			Total	Percentage
	2010	2011	2012		
Faries Parkway Intersection					
Pedestrian	0	0	0	0	0%
Pedacyclist	0	0	0	0	0%
Train	0	0	0	0	0%
Animal	0	2	0	2	5%
Overtuned	1	0	0	1	3%
Fixed Object	0	0	0	0	0%
Other Object	0	1	0	1	3%
Other Noncollision	1	0	0	1	3%
Parked Motor Vehicle	0	0	0	0	0%
Turning	0	4	4	8	21%
Rear End	7	3	2	12	31%
Sideswipe Same Direction	2	1	2	5	13%
Sideswipe Opposite Direction	0	0	0	0	0%
Head On	0	0	0	0	0%
Angle	2	6	1	9	23%
Total Accidents	13	17	9	39	
Injuries	2	4	0	6	15%
Fatalities	0	0	0	0	0%
Wet Accidents	1	1	1	3	8%
Ice/Snow Accidents	2	3	0	5	13%
Night Accidents	1	6	1	8	21%
William Street Intersection					
Pedestrian	0	0	0	0	0%
Pedacyclist	0	1	0	1	5%
Train	0	0	0	0	0%
Animal	0	0	0	0	0%
Overtuned	0	0	0	0	0%
Fixed Object	0	0	0	0	0%
Other Object	1	0	0	1	5%
Other Noncollision	0	0	0	0	0%
Parked Motor Vehicle	0	0	0	0	0%
Turning	4	1	0	5	23%
Rear End	1	1	5	7	32%
Sideswipe Same Direction	0	0	0	0	0%
Sideswipe Opposite Direction	0	0	0	0	0%
Head On	1	1	0	2	9%
Angle	3	1	2	6	27%
Total Accidents	10	5	7	22	
Injuries	1	2	0	3	14%
Fatalities	0	0	0	0	0%
Wet Accidents	3	1	2	6	27%
Ice/Snow Accidents	0	0	0	0	0%
Night Accidents	1	1	0	2	9%

Table 2 (Cont.) – Summary of Crash Types (2010 – 2012)

Type of Crash	Year			Total	Percentage
	2010	2011	2012		
Marietta Street/ADM Research Center Entrance					
Pedestrian	0	0	0	0	0%
Pedacyclist	0	0	0	0	0%
Train	0	0	0	0	0%
Animal	0	0	0	0	0%
Overtuned	0	0	0	0	0%
Fixed Object	0	0	0	0	0%
Other Object	0	0	0	0	0%
Other Noncollision	0	0	0	0	0%
Parked Motor Vehicle	0	0	0	0	0%
Turning	0	0	0	0	0%
Rear End	1	1	1	3	100%
Sideswipe Same Direction	0	0	0	0	0%
Sideswipe Opposite Direction	0	0	0	0	0%
Head On	0	0	0	0	0%
Angle	0	0	0	0	0%
Total Accidents	1	1	1	3	
Injuries	0	0	0	0	0%
Fatalities	0	0	0	0	0%
Wet Accidents	0	0	0	0	0%
Ice/Snow Accidents	0	0	0	0	0%
Night Accidents	0	0	0	0	0%

Source: Macon County Sheriff's Office

Correcting roadway deficiencies. Currently there are single 11-foot wide northbound and southbound lanes at the Norfolk Southern (NS) yard underpass. On each side of the underpass the northbound lane width varies from 11 to 13 feet and the southbound lane varies from 11 to 17 feet (Figure 4B and 4C). There is also a 15 feet-6 inch wide shared left-turn lane north and south of the underpass. Per Figure 32-2D of the IDOT Bureau of Local Roads & Streets (BLR&S) Manual, the desired lane width is 12 feet and the minimum is 11 feet.

The City of Decatur currently uses the Pavement Condition Index (PCI) as a pavement rating system. The PCI rating along Brush College Road between William Street and Logan Street ranges from 76.8 to 77.8 (Fair Condition) and the section from Logan Street to Faries Parkway has a PCI rating of 89.5 (Good Condition).

The 2010 ADT along Brush College Road was 13,900 and the design hourly volume (DHV) was 1,390, using 10% of the ADT. Figure 32-2D of the IDOT BLR&S Manual shows that four lanes are warranted if the DHV is between 1,250 and 2,050. This shows that the current traffic along Brush College Road warrants four lanes. The projected ADT for 2035 is 18,950 and the DHV is 1,900. This DHV still falls within the range of four lanes.

The intersection at William Street is deficient in that it cannot move traffic efficiently through the intersection during peak travel hours. More lanes are required to accommodate the large

number of turning movements on the eastbound and southbound approaches for left turns, and on the westbound approach for right turns.

As part of stakeholder engagement for the Brush College Road improvement study, an online questionnaire was developed in late 2010. Details of the questionnaire can be found in Appendix I. Public responses to the questionnaire included comments about poor drainage at the existing underpass with some noting standing water and ice in the winter. One area with noted drainage problems has been the area of the Illinois Central railroad track located along the west side of Brush College Road. The area drains into a storm sewer located under Brush College Road. In 2011, the storm sewer was found to be about one-half full of silt. The pipe was cleaned out and the drainage has improved in the area of the Illinois Central railroad track. It is likely that the sewer had not been maintained since it was constructed. Although silting of the pipe may happen again due to flooding, the City has indicated that the sewer will be placed on a 10-year cleaning schedule.

System linkage. Brush College Road (FAU 7448) is a minor urban arterial located on the east side of Decatur. It is a major north-south route extending from IL Route 48, just south of Interstate 72, to William Street Road (IL 105) and is the only north-south roadway between William Street and Faries Parkway from IL Route 121 (22nd Street) east to Lake Decatur. Refer to Figure 1. According to the Economic Development Corporation of Decatur and Macon County (EDC), potential industries looking to locate in this area of the City have expressed concern about the lack of a good north-south route. In addition, there are industrial-zoned parcels along Brush College Road with growth capacity. Improving Brush College Road between Faries Parkway and William Street Road will help provide needed north-south system linkage that will facilitate future industrial development along Brush College Road.

SECTION II: AFFECTED ENVIRONMENT TABLE

Environmental Resources/Conditions	Resource/Condition Present?		
	Yes	No	Present But Not Affected
<u>I. Social/Economic</u>			
1. Community Cohesion	X		
2. Environmental Justice and Title VI			X
3. Public Facilities and Services	X		
4. Changes in Travel Patterns and Access	X		
5. Relocations (Business and Residential)	X		
6. Economic Impacts	X		
7. Land Use	X		
8. Growth and Economic Development	X		
9. Pedestrian and Bicycle Facilities	X		
<u>II. Agricultural</u>			
1. Farms and Farmland Conversion		X	
2. Prime and Important Soils		X	
3. Severed/Landlocked Parcels		X	
4. Adverse Travel		X	
<u>III. Cultural Resources (Historic Properties)</u>			
1. Archeological Sites		X	
2. Historic Bridges		X	
3. Historic Districts		X	
4. Historic Buildings		X	

Environmental Resources/Conditions	Resource/Condition Present?		
	Yes	No	Present But Not Affected
IV. Air Quality			
1. Microscale Analysis			
a. Does project add through lanes or auxiliary turning lanes?	X		
b. Has COSIM 3.0 been used?		X	
2. Air Quality Conformity			
a. Is project in a non-attainment or maintenance area?		X	
3. Is project located in a PM 2.5 or PM 10 non-attainment or maintenance area		X	
4. Construction-Related Particulate Matter	X		
5. Mobile Source Air Toxics			X
V. Noise			
1. Is this a Type I project?	X		
a. Noise impacts	X		
b. Does abatement meet feasibility and reasonableness criteria?		X	
2. Is this a Type III project?		X	
VI. Natural Resources			
1. Upland Plant Communities			
a. Does the project impact wooded areas (Trees)?	X		
b. Does the project impact Prairie?		X	
c. Does the project occur within an Illinois Department of Agriculture quarantine area for an invasive species?		X	
2. Wildlife Resources			
a. Does the project area contain Wildlife Habitat?	X		
b. Does the project area contain breeding habitat for neotropical migrant species of birds?		X	
c. Does the project area contain nesting Bald Eagles?		X	
3. Threatened and Endangered Species			
a. Does habitat exist for Federally listed species in the project area?		X	
b. Did the EcoCAT response from IDNR indicate the presence of State-Listed Species in the project area?	X		

Environmental Resources/Conditions	Resource/Condition Present?		
	Yes	No	Present But Not Affected
<u>VII. Water Quality/Resources/Aquatic Habitats</u>			
1. Does the project involve a waterbody?	X		
2. Does the project affect the physical features of a stream?	X		
3. Does the project affect the fish and/or mussels within the stream?		X	
4. Does the project affect either the narrative or numeric water quality standards?		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	
6. Is the stream listed by IEPA as impaired and is it subject to TMDLs?		X	
7. Do the project impacts require mitigation?		X	
<u>VIII. Groundwater Resources</u>			
1. Is groundwater the primary source of potable water in the area?		X	
2. Does the project occur within an area of karst topography?		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	
4. Does the project impact a Wellhead Protection Area?		X	
5. Does the project occur within an area where potable water supply wells are present?	X		
6. Does the project contribute to degradation of the areas Groundwater Quality?		X	
7. Does the project occur within an area designated as a special resources groundwater?		X	

Environmental Resources/Conditions	Resource/Condition Present?		
	Yes	No	Present But Not Affected
IX. Floodplains			
1. Does the project occur within a 100-year floodplain?		X	
2. Does the project occur within the Regulated Floodway?		X	
3. Is a Floodplain Finding required?		X	
X. Wetlands			
1. Does the project impact Wetlands?		X	
2. Do the wetlands have an FQI of 20 or greater?		X	
3. Are the wetlands listed as an ADID Site?		X	
4. Attach the Wetland Impact Evaluation Form to the document		X	
5. Wetlands Finding		X	
XI. Special Waste			
1. Did project pass Level I screening?		X	
2. Did project pass Level II screening?		X	
3. Was a Preliminary Environmental Site Assessment (PESA) required?	X		
a. Is All Appropriate Inquiry (AAI) required?	X		
b. Were REC(s) identified in the PESA?	X		
4. Was a Preliminary Site Investigation (PSI) required?	X		
XII. Special Lands			
1. Section 4(f)			
a. DeMinimis, Programmatic, or Individual	X		
2. Section 6(f)		X	
3. Open Space Lands Acquisition and Development (OSLAD) Act Lands		X	
4. INAI Sites		X	
5. Nature Preserves		X	
6. Land & Water Reserves		X	
XIII. Indirect and Cumulative Impacts			
1. Indirect Impacts	X		
2. Cumulative Impacts	X		

Additional Information	YES	NO
XIV. <u>Environmental Commitments</u>		
<u>Permits/Certifications Required</u>		
1. Does the project require Section 404 Permit(s)?		
a. Is an individual, nationwide, or regional permit anticipated?	X (nationwide)	
2. Will an individual Water Quality Certification from IEPA be required?		X
3. Will a Coast Guard Bridge Permit be required?		X
<u>XV. Public Involvement</u>	X	
<u>XVI. Agency Coordination</u>	X	

SECTION III: ALTERNATIVES

Alternatives were identified, screened and evaluated based on how well each met the purpose and need for the Project, and on engineering, cost and environmental factors.

Alternative alignments. Brush College Road is the only north-south roadway between William Street and Faries Parkway from IL Route 121 (22nd Street) east to Lake Decatur. Refer to Figure 1. North of Faries Parkway, Brush College Road has already been improved to a 4-lane section, with a shared left turn lane. Possible north-south alternative routes that were considered other than using the Brush College Road corridor were screened out early in the process.

New alignments west of Brush College Road were not considered due to the presence of the ADM Research Center and the ADM West Plant. The number of tracks in the NS rail yard that would have to be crossed also increases west of Brush College Road. East of Brush College Road, consideration was given to alignments along James Street, Nickey Avenue, and Lake Shore Drive. These alternates would have significant impacts on single-family residential neighborhoods and would result in a substantial increase in the volume of vehicular traffic and the number of multi-unit vehicles using these streets. The purpose and need of the project would not be met because these alternate corridors would not increase access for business and future industrial development along the Brush College Road corridor. For these reasons, alternatives were confined to the existing Brush College Road corridor between William Street and Faries Parkway.

A shared-use path (bicycle/pedestrian) will be incorporated along the entire length of the Project.

Alternatives for crossing the NS rail yard. For the grade separation at the NS rail yard, both an underpass and an overpass were considered.

Constructing an underpass would require construction of an “advance structure”, just south of the existing underpass, where no tracks are currently located. One or two tracks would then be shifted to the advanced structure so that a portion of the existing underpass could be removed and a new section of underpass constructed in the area previously occupied by the tracks. Refer to Figure 5. This sequence would continue until the entire underpass is completed. It would require multiple track shifts and disrupt NS rail yard operations. Brush College Road would need to be closed to construct an underpass and multiple construction seasons would be required to complete the structure.

Constructing an overpass at the Norfolk Southern rail yard would have less impact to rail operations and the motoring public. A portion of the overpass could be built on an alignment just to the east of the existing roadway. This would allow traffic to be maintained on Brush College Road during construction. Refer to Figure 6. Once the east portion of the overpass is completed, traffic would be shifted to that section and the west half of the overpass would be constructed. Unlike an underpass, an overpass will allow the addition of lanes if additional capacity is required in the future. Environmental impacts would be similar for both alternatives. For these reasons, an overpass is the preferred alternative for a grade separation at the Norfolk Southern rail yard. Refer to Figure 7.

Grade separation at Faries Parkway and NS rail line. Even with a new overpass at the NS rail yard, motorists would still contend with the frequent train blockage at the Faries Parkway

intersection. A NS track running east-west is located on the north leg of the intersection. Train delays at this crossing are the primary cause for traffic congestion. As noted in Section 1.2 above, a model developed for the DATES study determined that the NS crossing at the Faries Parkway intersection is blocked 17.2 hours per week, longer than any other crossing in Decatur. In addition to improving traffic flow, the grade-separated railroad crossing will improve the safety of the intersection. For these reasons, a grade separation at Faries Parkway is proposed. Refer to Figure 8.

Alternatives for interchange configuration at Faries Parkway and NS rail line. Since Brush College Road will already be elevated for the proposed overpass at the NS rail yard, an overpass at Faries Parkway and the east-west NS track was identified as the best option based on engineering and cost considerations. An underpass would be difficult to construct with both an east-west and a north-south track at the intersection. For these reasons, an underpass was screened out.

With the proposed overpass at Faries Parkway and the NS track, a ramp must be provided from Brush College Road to Faries Parkway. Because of constraints at the intersection, to reduce impacts, a ramp located in single quadrant (called a “jug handle”) was identified; all other alternative intersection configurations were screened out based on impacts and/or engineering considerations. For the location of the jug handle, all quadrants except the southeast quadrant were screened out. The northeast quadrant is occupied by St. John’s Lutheran Cemetery and was not considered because of impacts. The northwest quadrant was screened out based on impact, and engineering and cost considerations: In the northwest quadrant, the east-west NS track and north-south Canadian National/Illinois Central track would interfere with ramp touchdown (Figure 3E). Both southern quadrants are occupied by commercial/industrial facilities. Placing a ramp in the existing ADM West Plant would result in major disruption to the facility, over an area much larger than the ramp footprint (Figure 3E). While there are existing businesses in the southeast quadrant, these businesses can be relocated, and the impacts would primarily be limited to the ramp footprint (Figure 3E). For these reasons, the southwest quadrant was screened out and the southeast quadrant was identified as the preferred location for the ramp.

Two alternative configurations were considered for the jug-handle from Brush College Road to Faries Parkway. Alternate 1 includes traffic signals at the top and bottom of the ramp (Figure 8). For Alternate 2, the traffic signals are replaced with multi-lane roundabouts (Figure 9). Traffic models indicate that both options operate well and are similar when considering time of travel through the intersection. However, comments received after the second public meeting for the Project favor Alternate 1. The City of Decatur also expressed safety concerns about constructing Decatur’s first roundabouts in a location with a large amount of truck traffic. For these reasons, Alternate 1, consisting of a ramp with traffic signals, was identified as the preferred alternate.

Alternatives for Williams Street intersection. The intersection at William Street and Brush College Road was also identified as contributing to traffic congestion on Brush College Road. Traffic studies show that additional turn lanes are warranted at the intersection to accommodate the large number of turning movements that occur during peak travel hours. When dual turn lanes are provided, IDOT policy requires that raised medians be placed adjacent to the dual turn lanes. Refer to Figure 3A and 3B.

Additional analysis was also given to the eastbound left-turn movement from William Street to northbound Brush College Road. This was evaluated to determine if a single eastbound left-

turn lane could be maintained or extended as opposed to constructing dual left-turn lanes with a raised median. Based on design year (2035) traffic projections, the eastbound left-turn movement (from William Street to Brush College Road) is projected to be 455 vph during the a.m. peak hour. This left-turn movement exceeds the 300 vph threshold triggering the need to consider dual left-turn lanes. Further analysis showed that if a single left-turn lane is maintained, the approach level of service for the left-turn movement would operate below acceptable operating standards (LOS D and a queue length in the a.m. peak hour would be 400 feet). This would result in long delays and significant backups as motorists waiting to make this turn would likely wait for more than one traffic signal cycle before they could proceed. A single left-turn lane would also negatively impact the overall operation of the entire intersection causing it to operate at LOS E. Under this scenario, the northbound approach would drop to LOS F, the southbound approach would drop to LOS E, and the westbound approach would drop to LOS E. Based on these results, the decision was made to provide eastbound dual left-turn lanes on William Street to accommodate year 2035 traffic projections.

A roundabout was considered at the William Street intersection. Refer to Figure 10. The roundabout was shifted to the south to avoid Spangler Cemetery and the Mobil/Super Pantry located on the north side of William Street Road (IL 105). It was also shifted south to minimize the roundabout diameter and to limit the speed through the roundabout. The grading of the roundabout option would most likely require cutting off the south leg of Brush College Road due to the steep profile grade of the south leg. Pushing the roundabout into the southeast quadrant would require retaining walls. There is a creek flowing through the wooded area in the southeast quadrant, so additional culverts would be needed. The terrain also drops quickly as it approaches the SE corner of the intersection. The roundabout did not have off-setting advantages. Therefore it was eliminated from further consideration.

Traffic signal and turn lanes at Marietta Street. The entrance to the ADM JRRRC is located across from the Brush College Road / Marietta Street intersection. Turning on to Brush College Road can be difficult during evening peak travel hours for motorists exiting the JRRRC. Comments received from ADM employees that work at the facility state that they sometimes use a back entrance, through a residential neighborhood, to avoid the congestion at Brush College Road.

Traffic studies at the Brush College Road / Marietta Street intersection show that a traffic signal is warranted at this location. In addition to the traffic signals, proposed improvements at this intersection include turn lanes and a crossing for the shared-use path. No other alternates were considered at this intersection. Refer to Figure 3C.

No Action Alternative. Under the No Action Alternative, the Project would not be constructed. The No Action Alternative would not meet the need for increased roadway capacity and improved safety, and would not correct the existing roadway deficiencies or provide system linkage.

SECTION IV: IMPACTS, DOCUMENTATION AND MITIGATION

Part I. Socio-economic

1. Community Cohesion

The Project is located in Macon County, Illinois, with most of the Project falling within the boundaries of the City of Decatur (2010 population 76,122) and the rest within unincorporated

Macon County (Figure 2). Most of the housing in the Project area is east of Brush College Road, between Williams Street and the Norfolk Southern Railroad, where there is a fairly large neighborhood of single-family homes. This neighborhood lies just east of the businesses and churches that front the east side of Brush College Road between Williams Street and the Norfolk Southern Railroad. Most of the rest of the Project area is commercial/industrial or institutional.

Community cohesion will be minimally affected. There will be only four residential relocations and the business relocations will not affect major centers of employment. Lanes will be added to Brush College Road, but access will not change except in the vicinity of the new interchange at Faries Parkway, the new overpass at the NS rail yard, and the upgraded intersection at Williams Street. There will be no segmentation, separation or isolation of areas from the existing community due to physical barriers or access change. The new overpass with pedestrian and bike facilities will improve community cohesion by allowing movement over the rail yard.

2. Title VI and Environmental Justice

Title VI

“Groups of ethnic, religious, elderly or handicapped people **are** / **are not** present within the project area. No groups or 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, sex, national origin or religion.”

Environmental Justice

The project area was evaluated in accordance with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, to determine if there is a potential for disproportionately high and adverse impacts to low-income or minority populations.

The Project lies almost entirely within Census Tracts 10 and 11 in Macon County, with essentially all residential areas within Tract 11. Only the part north of Faries Parkway, where there are no residences adjacent to the Project area, lies in Census Tract 21. Based on the U.S. Census Bureau American Community Survey (ACS) 5-year estimates from 2007 to 2011, of the 4,775 residents in Tracts 10 and 11, 75% are white, 21% are black, 1% are Asian, and 3% are in the categories of “other race” or “two races.” Hispanics, which are not considered a separate race, comprise 1% of the population in Tracts 10 and 11. Within the State of Illinois as a whole, the ACS estimates report the following: white, 74%; black, 15%; Asian, 5%; and other, 7%. Hispanics/Latinos of any race comprise 15% of the state population. A smaller scale assessment, focusing on the immediate project area, was done using **EJView**, the USEPA’s online tool for assessing Environmental Justice impacts. Based on 2010 Census data, EJView indicates that of the approximately 227 residents in the immediate vicinity of the Project area, 93% are white, 3% are black, 2% are Asian and 2% are Hispanic. Compared to the State of Illinois as a whole, the percent of minority persons in the immediate vicinity of the Project area is low. The two census tracts that include the residential areas near the Project have a higher percentage of black persons than the state as a whole; however, based on the EJView results, the majority of the black population within these tracts is not in the immediate vicinity of the Project. Based on this information, the Project is not expected to have a disproportionate impact on minority populations.

ACS reports median family incomes of \$30,985 and \$41,534 for Tracts 10 and 11, respectively, for the period 2007-2011. By comparison, the median family income for the State of Illinois is \$69,658. The percent of families with income below the poverty level for the same time period was 18% for Tract 10, 10% for Tract 11, and 10% for the State of Illinois. As noted above, the residential area located adjacent to the Project is in Tract 11. While Tract 11 has a median family income well below that of Illinois as a whole and a poverty level well above, the poverty level is the same as the State of Illinois'. However, the median income in Tract 11 is well below that of the State. The Health and Human Services 2007 and 2011 (the period covered by the poverty data above) Poverty Guidelines for a family of four was \$20,650 and \$22,350, respectively. The 2013 Poverty Guideline for a family of four is \$23,050. Based on this information, the Project is not expected to have a disproportionate impact on families below the poverty level. However, it may have a disproportionate impact on populations above the poverty level but with below-average income, as the median income in the Project area is well below that of the state as a whole. Executive Order 12898 does not provide a definition of "low-income".

Based on the above, the Project is not expected to have a disproportionate impact on minority populations or populations living below the poverty level. In addition, as discussed in the sections that follow, the Project is not expected to have a high adverse impact on any populations.

Based on this demographic information, the analysis of impacts that follows, and field observations of the project area, the Project will / will not result in disproportionately high and adverse impacts to minority or low-income populations.

3. Public Facilities and Services

Brush College Elementary School is located on the west side of Brush College Road, north of Williams Street (Figure 3B and 3C). In 2010, there were 183 students attending the school. Attendance has been declining in recent years due to ADM acquisition of previous mobile home lots north of Faries Parkway. At that time, most students were bussed to the school; approximately 6 or 7 walked and three rode bicycles.

During planning discussions in 2010, school officials noted that the school may be closed in the near future. On February 26, 2013, the school board voted to close the school at the end of the 2012-2013 school year. The students will attend either Hope Academy or Harris Elementary, depending on their geographic location. Hope Academy (2.9 miles from Brush College School) and Harris Elementary (3.5 miles away) will easily have the capacity to absorb the students from Brush College.

In spite of the high likelihood of closure, and also because of the confidentiality of the information, the Project was designed based on the assumption that the school would remain in operation. At this time, it is not known how the property will be used.

Coordination with the school district regarding impacts to Brush College School, which has been on-going since 2010, is included in Appendix I, along with related newspaper articles.

Impacts to a parking lot owned by the Decatur Park District are discussed under Section 4(f) in Part XII.

An Ameren electrical substation and associated lines are located on the east side of Brush College Road between the NS rail yard and Faries Parkway (Figure 3D). Construction of the Brush College Road/Faries Parkway interchange will require relocation of this substation and the associated lines. Coordination with Ameren, including meetings and email correspondence, has been on-going since February 2011 (Appendix I).

There are two churches with associated buildings and parking lots on the east side of Brush College Road north of Williams Street: Wesley United Methodist and Real Life Assembly of God. At the locations of the churches the widening of Brush College Road will be on the west side, resulting in negligible impact to the church facilities on the east. Access to the church facilities will be at the same locations as existing access.

No hospitals or libraries will be affected by the Project.

Other than the access changes described in Section IV.1.4, below, fire, police and ambulance service will not be impacted, except that response times may improve as a result of the increased capacity the Project will provide (Section I.2).

4. Changes in Travel Pattern and Access

Access changes will result primarily from intersection improvements at Brush College Road / Williams Street, the construction of an overpass at the NS rail yard, and the construction of an overpass at Faries Parkway.

As discussed in Section III, dual turn lanes are warranted at the Brush College Road / Williams Street intersection, and are proposed as part of the Project (Figure 10). When dual turn lanes are provided, IDOT policy requires that raised medians be placed adjacent to the dual turn lanes. As shown in Figure 3A and 3B, a number of businesses and residences in the vicinity of the Brush College Road / Williams Street intersection will have right-turn-only access. Using other local roads such as E. Lake Shore Drive, N. Lake Shore Drive, and E. Park Lane will allow access to businesses and residences with right in/right out access after the improvements. Some businesses in the area of the intersection have stated that they do not want raised medians since the medians limit access to their business. The owners of the Mobil – Super Pantry at the northeast corner of William Street and Brush College Road are concerned about a large drop in business since access will no longer be convenient.

The construction of overpasses at the NS Rail yard and at Faries Parkway will eliminate direct access to Brush College Road from E. Grand Avenue, E. Hickory Street, E. Olive Street and the west leg of E. Harrison Avenue (Figures 3C, 3D, 3E, and 3F). Access to E. Logan Street will be available from Brush College Road, but the proposed ramp will not allow direct access from Logan Street to Brush College Road (Figure 3E). Access to Brush College Road from E. Grand Avenue and E. Hickory Street will require travel along James Street to E. Marietta Street. James Street will be extended to Faries Parkway to provide access to those businesses along E. Olive Street and E. Logan Street. (Figure 3G)

East of the proposed Brush College / Faries Parkway interchange, Walston Auto Wrecking will lose access at Faries Parkway but will have access at E. Logan Street (Figure 3E). A new access road will be provided to the area at the northwest corner of Brush College Road and Faries Parkway being developed by ADM (Figure 3F). The parking lot to ADM Bio-products facility will no longer have direct access to Brush College Road but will be connected to the new access road. The proposed changes will eliminate at-grade rail crossings at the west leg of E.

Harrison Avenue and the entrance to the ADM Bio-products facility. A new at-grade crossing will be introduced at the intersection of the new access road and Brush College Road. St. John's Lutheran Cemetery will no longer have access to Brush College Road. A new access road will be provided off of the east leg of E. Harrison Avenue located along the south edge of property currently owned by Pepsi Refreshment Services (Figures 3E and 3F). An internal loop road within the cemetery will be created by connecting the existing roads under the proposed overpass on the west side of the cemetery (Figure 3E).

Construction Impacts. The overpass at the NS rail yard will be constructed in stages, allowing Brush College Road to remain open during most of the construction period. There will be periods when Brush College Road will need to be closed. At those times, motorists will need to use William Street (IL 105), 22nd Street (IL 121) and Faries Parkway. The adverse travel distance is 4.6 miles and the roads are adequate for the detour traffic. William Street is maintained by the State and 22nd Street and Faries Parkway are maintained by the City of Decatur. Due to the width restriction created by the CN track and the cemetery north of Faries Parkway, it is anticipated that the north leg of Brush College Road will need to be closed when the overpass at Faries Parkway is constructed. A detour route would consist of Faries Parkway, 27th Street, and Hubbard Avenue. All streets are maintained by the City of Decatur and are adequate to handle the detour traffic. In fact, grain trucks already use these streets since the initial destination for all grain trucks is a grain probe center located on 27th Street. The City of Decatur has approved the proposed detour.

5. Relocations (Business and Residential)

The Project will require 4 residential relocations, all along Brush College Road between East Grand and East Hickory (Figures 3C and 3D).

Five business relocations plus the acquisition of five vacant former business facilities will be required: four near the intersection of Williams Street and Brush College Road (Figures 3A and 3B), and six at the proposed interchange at Brush College Road and Faries Parkway (Figure 3E). Business relocations and property acquisitions are summarized in Table 3. As shown in Table 3, the displaced businesses represent a total of 25 employees.

S.J. Smith Company is located at 1980 N. Brush College Road, at the southeast corner of the Faries Parkway / Brush College Road intersection. It is the largest employer among the proposed business relocations. A notice regarding the second public meeting was sent to S.J. Smith on 7/9/12. (See Appendix I-C, Page I-C-53) The notice stated that the meeting would focus on proposed improvements to the intersection of Faries Parkway and Brush College Road. No one from S.J. Smith Company attended the public meeting.

S.J. Smith Company was included on the mailing list for letters to affected property owners. The letter was dated 8/1/12 and included an exhibit showing the impacts to the property. (See Appendix I-D, page I-D-6 for the form letter) In response to the letter, a representative from S.J. Smith contacted the City on 8/9/12 and a meeting was scheduled for 8/13/12.

At the 8/13/12 meeting, representatives from S.J. Smith Company informed the City that they were planning to construct a \$1 million facility at the present site and that ground breaking had been scheduled that week. A down payment had already been made for state-of-the-art equipment for the new facility. If relocation assistance was being provided, they identified an industrial park further north on Brush College Road that they would like to consider. On 8/17/13,

a letter was sent to the City of Decatur via email detailing the property improvement project and the estimated cost of \$1.4 M.

In February of 2013, the City informed S.J. Smith Company that they do not have the necessary funds available to proceed with the early acquisition and relocation. In a 2/7/13 email, S.J. Smith Company informed the City that they cannot wait until full funding is obtained for relocation and will proceed with the construction of the new facility at the existing site. The latest estimated cost for the equipment and building is \$1.5 to \$1.75 million. (See Appendix I-D, Pages I-D-36 to I-D-44 for correspondence and meeting minutes)

The City of Decatur will not use advance acquisition for any of the properties until the Phase I work is completed and approved and funds are available for the acquisitions and relocations.

Some of the businesses originally identified as being located on properties designated as total acquisitions are no longer in business. These include SAM Insurance Service, Back to Health Clinic, Stripmasters/Bulldog Bedliners, and Cheap Ass Auto Repair/R.M. Classic Auto Repair.

Table 3 – Business Relocations & Property Acquisitions

Current or Former Business	Number of Employees	Location
B. Chappell Property – IDOT Field Office	Unknown	480 North Brush College Road
SAM Insurance Service (former)	0	3790 East Williams Street
Back To Health Clinic (former)	0	511 North Brush College Road
Lakeview Laundromat	None full-time	515 North Brush College Road
Rendezvous Bar and Grill	5	1880 North Brush College Road
Stripmasters (powdercoating; metal industry) (former)	0	1940 North Brush College Road
Bulldog Bedliners (spray-on truck bed liners) (former)	0	1940 North Brush College Road
S. J. Smith Company (welding supply)	14	1980 North Brush College Road
Cheap Ass Auto Repair/R.M. Classic Auto Repair (former)	0	3915 East Faries Parkway
Pour House (restaurant and bar)	6	3925 East Faries Parkway

Notes: Where numbers other than zero are shown under "Number of Employees", these are based on telephone contact with the business in January 2013. The conclusion of "former" business with zero employees is based on telephone discussion, telephone recording of a number disconnected or out of service, and/or visual observation of the facility.

Relocation assistance will be offered to all occupants of buildings that will be purchased and removed, in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and IDOT's land acquisition Procedures Manual. These policies provide for relocation assistance for both homeowners and renters. Participation under the state and federal policies is without discrimination. Property owners will be paid fair market value for all property purchased. A relocation plan will be developed and submitted prior to the initiation of negotiations to acquire right of way. Approximate property values for the residential relocations were estimated based on the assessed value of the property. The assessed value was found at the Macon County tax assessor's website. A review of homes currently for sale on the real estate websites Zillow.com and Realtor.com indicated that similar housing is available in the area.

6. Economic Impacts

As discussed above in Item 4 and 5, some businesses may be adversely affected by the changes in access as a result of the completed Project, by access change during construction, and/or due to acquisition.

However, the overall economic impact of the Project is expected to be positive as it will relieve congestion and improve overall access to the Project area.

7. Land Use

Land use in the area is primarily commercial/industrial and residential. The Project is not expected to affect land use in the area. While improved access may lead to additional industrial development, there is growth capacity on land currently zoned as commercial/industrial.

8. Growth and Economic Development

The congestion relief and improved access provided by the Project is expected to enhance economic growth and development in the area.

9. Pedestrian and Bicycle Facilities

- Project will cause disruption or permanent changes in pedestrian or bicycle access
- Project will not cause disruption or permanent changes in pedestrian or bicycle access

The underpass on Brush College Road currently limits pedestrian and bicycle movement along Brush College Road. Pedestrian and bicycle facilities will be improved by the addition of a shared-use path along Brush College Road that will extend from a point just south of William Street to the project termination point north of Faries Parkway. The shared-use path will also extend to the project termination points on Faries Parkway and William Street.

Part II. Agricultural

The Project is located entirely within an urban area. No farmland or agricultural operations will be affected by the Project.

Part III. Cultural Resources

- No Historic Properties Affected - See letter from SHPO
- Historic Properties Affected - See below

IDOT made the determination that no historic properties subject to protection under Section 106 of the National Historic Preservation Act of 1966, as amended, will be affected by the Project. The Deputy State Historic Preservation Officer gave concurrence on August 1, 2012 (letter in Appendix II).

1. Archeological Properties

- Project will not affect Archeological Properties
- Project will affect Archeological Properties

A survey of the project area resulted in the detection of no archaeological sites (Appendix II).

2. Historic Bridges

- Project will not affect a bridge listed in the Illinois Historic Bridge Survey
- Project will affect a bridge listed in the Illinois Historic Bridge Survey

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

Part IV. Air Quality

1. CO Microscale Analysis

Project Type:

- Project does not add Through Lanes or Auxillary Turning Lanes
- Project does not involve any sensitive receptors and is not suitable for using COSIM 3.0
- Project is subject to COSIM Pre-screen
- Project is subject COSIM screening analysis

A Pre-Screen carbon monoxide analysis was completed for the proposed project. The results from this proposed roadway improvement indicate that a COSIM air quality analysis is not required, as the results for the worst-case receptor are below the 8-hour average National Ambient Air Quality Standard for CO of 9.0 ppm which is necessary to protect the public health and welfare.

2. Air Quality Conformity

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.

No portion of this project is within a designated nonattainment or maintenance area for any of the air pollutants for which the USEPA has established standards. Accordingly, a conformity determination under 40 CFR Part 93 (“Determining Conformity of Federal Actions to State or Federal Implementation Plans”) is not required.

3. PM2.5 and PM10.0 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

No portion of this project is within a designated nonattainment or maintenance area for any of the air pollutants for which the USEPA has established standards. Accordingly, a conformity determination under 40 CFR Part 93 (“Determining Conformity of Federal Actions to State or Federal Implementation Plans”) is not required.

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 the Department 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

NEPA Compliance Language:

For the Build Alternative carried forward in this EA, the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables (e.g., fleet mix) are the same for each alternative. The VMT estimated for the Build Alternative is slightly higher than that for the No Build Alternative, because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. This increase in VMT would lead to higher MSAT emissions for the preferred action alternative along the highway corridor, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to USEPA's MOBILE6.2 model, emissions of all of the priority MSAT except for diesel particulate matter decrease as speed increases. The extent to which these speed-related emission decreases will offset VMT-related emission increases cannot be reliably projected due to the inherent deficiencies of technical models.

Regardless of the alternative chosen, emissions will likely be lower than present levels in the design year (2035) as a result of USEPA's national control programs that are projected to reduce annual MSAT emissions by 72 percent between 1999 and 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, that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

The additional travel lanes contemplated as part of the project alternatives will have the effect of moving some traffic closer to nearby homes, schools and businesses; therefore, under the Build Alternative there may be localized areas where ambient concentrations of MSAT could be higher than under the No Build Alternative. However, the magnitude and the duration of these potential increases compared to the No Build alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts.

In summary, where a highway is widened, the localized level of MSAT emissions for the Build Alternative could be higher relative to the No Build Alternative, but this could be offset due to increases in speeds and reductions in congestion, which are associated with lower MSAT emissions. Also, MSAT will be lower in other locations when traffic shifts away from them. However, on a regional basis, USEPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

Part V. Noise

Type I Project

Type III Project

Impacts:

Receptors evaluated in the noise study (URS, 2012) and grouped by common noise environment (CNE) are shown in Figures 11 and 12 and summarized in Table 4. Noise levels are reported in decibels, weighted toward frequencies perceptible to the average human ear (A-weighted) (dB(A)). Because the intensity of noise fluctuates with time, noise analyses and regulations are based on an equivalent sound level. This is defined as the steady-state, A-weighted sound level, which contains the same amount of acoustic energy as the actual time-varying, A-weighted sound level over a specified period of time. If the time period is one hour, the descriptor is the hourly equivalent sound level or $L_{eq}(h)$, which is widely used by State highway agencies as a descriptor of traffic noise. Impacted receptors are those with design year noise levels approaching [within one dB(A) of] the levels at which FHWA regulations at 23 CFR 772 require consideration of noise abatement criteria (NAC) or substantially increased noise level > 14 dB(A) over existing levels. For the CNEs where at least one receptor had projected 2035 noise levels approaching the NAC (shown in bold in the table), noise abatement measures were evaluated. No projected noise levels were > 14 dB(A) over existing levels.

Table 4 – Common Noise Environment (CNE)

CNE	Land Use	Activity Category	Number of Impacted Receptors	Noise Level, $L_{eq}(h)$ dB(A)		
				Maximum Change from Existing to 2035 Build	Maximum 2035 Build	NAC
1	Residential	B	0	+3	62	67
2	Cemetery	C	1	+4	67	67
3	School	B	0	+1	62	67
4	Office	E	0	+1	50	72
5	Residential	B	0	0	61	67
6	Cemetery	C	1	-2	67	67
7	Residential	B	0	+3	54	67
8	Residential	B	0	+2	61	67
9	Residential	B	0	+1	58	67
10	Church	C	1	0	67	67
11	Residential	B	2	+2	66	67
12	Church	C	0	+2	64	67
13	Residential	B	0	+2	63	67
14	Restaurant	E	0	+2	68	72
15	Residential	B	9	+2	69	67
16	Residential	B	5	+2	70	67
17	Residential	B	4	+2	69	76

Abatement Evaluation:

Abatement measures were evaluated for the seven CNEs with one or more impacted receptors. The results are summarized in Table 5. For four of the CNEs (10, 11, 15 and 16), abatement was not feasible. For the other three CNEs (2, 6 and 17), abatement is feasible but was predicted to not be cost-effective (and therefore not reasonable) based on the IDOT Highway Traffic Noise Assessment Manual, Section 4.2.1.2 (2011). The allowable noise abatement base value cost is \$24,000 per benefitted receptor, and no adjustments are warranted.

Table 5 – Noise Abatement Evaluation

CNE	Barrier Height, Feet	Barrier Length, Feet	Maximum dB(A) Reduction	Estimated Total Cost	Estimated Cost/ Benefitted Receptor	Conclusion
2	20	660	8	\$330,000	\$165,000	Not cost-effective
6	10	1,600	8	\$400,000	\$400,000	Not cost-effective
10	A continuous barrier, needed to provide required 5 dB(A) reduction, could not be constructed at this location, due to the need to maintain driveway access.					Not feasible
11	A continuous barrier, needed to provide required 5 dB(A) reduction, could not be constructed at this location, due to the need to maintain driveway access.					Not feasible
15	A continuous barrier, needed to provide required 5 dB(A) reduction, could not be constructed at this location, due to the need to maintain driveway access.					Not feasible
16	A continuous barrier, needed to provide required 5 dB(A) reduction, could not be constructed at this location, due to the need to maintain driveway access.					Not feasible
17	11	65	8	\$170,000	\$42,500	Not cost-effective

Likelihood Statement

Based on the traffic noise analysis and noise abatement evaluation conducted, highway traffic noise abatement measures are unlikely to be implemented based on preliminary design.

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 Illinois Department of Transportation Standard Specifications for Road and Bridge Construction as Article 107.35. These will be implemented on the Project.

Part VI. Natural Resources

1. Upland Plant Communities

Impacts

Removal of an estimated 95 individual trees along with an additional 2.15 acres of trees will be required, primarily within the existing ROW of Williams Street at the south end of the Project, with a few isolated trees on ADM property and elsewhere. Tree removal will be done in accordance with IDOT Departmental Policy D&E-18 (September 2002). The Project does not meet the threshold for recommended tree surveys [IDOT BDE 26-17.06(a)].

Proposed Mitigation

Tree replacement will be done in accordance with IDOT Departmental Policy D&E-18. Healthy trees located outside of applicable clear zones should be preserved unless they require removal for safety or drainage of roadside ditches. The goal is to provide at least as many replacement trees as the number removed. If bare root or balled and burlapped trees are used for replacement plantings, a minimum ratio of 1:1 shall be used for the number of trees planted to the number of trees intended to be established. If seedlings are used, a minimum ratio of 3:1 shall be used for the number planted to the number of trees intended to be established.

2. Wildlife Resources

Impacts

Wildlife habitat in the Project area consists of urban roadside grassy vegetation with a few trees. These areas likely provide some habitat for common urban wildlife such as mice, raccoons, robins, seagulls and doves. Some of this habitat is included in the approximately 43.1 acres that will be impacted by the Project.

On November 23, 2012, IDOT transmitted to the City of Decatur the biological and wetland clearance for the Project, indicating no further coordination is required regarding biological and wetland resources. As a result of small changes to the proposed design (Addendum A), an amended request for review of biological resources was submitted in 2012. The biological and wetland sign-offs for Addendum A both occurred on January 2, 2013, and IDOT transmitted the clearance to the City of Decatur on January 8, 2013. The original clearance and the additional

clearance for Addendum A are included in Appendix II. Based on the clearance, no additional consultation regarding wildlife impacts is required.

Proposed Mitigation

No mitigation is needed and none is proposed.

3. Threatened and Endangered Species

A. Federally-listed Species/Habitat

The U.S. Fish and Wildlife Service (FWS) identifies only one federally listed species in Macon County, the threatened eastern prairie fringed orchid (*Platanthera leucophaea*). Habitat for the eastern prairie fringed orchid is mesic to wet prairies, which are not present in the Project area.

The original biological clearance and the clearance for Addendum A, discussed above in Section VI.2 and included in Appendix II, indicate that, based on the results of Illinois' Ecological Compliance Assessment Tool (EcoCAT), consultation was terminated. Based on the published FWS information, the EcoCAT assessment and the biological sign-offs, protected species and/or habitat is not present in the Project area, and the Project would result in no effect on any species protected under the federal Endangered Species Act.

Impacts

- No Effect
- May Effect
 - Informal Consultation
 - Formal Consultation

B. State-Listed Species

The Illinois Department of Natural Resources' online EcoCAT identifies Bewick's wren, a state-listed endangered species, as potentially present in the Project area. The Bewick's wren prefers brushy, scrubby areas, open woodlands, upland thickets and hills, brush piles, hedgerows and fencerows [Illinois Natural History Survey (INHS) 2012]. Breeding evidence has been found in Johnson County (1981), Jefferson County (1983) and Jersey County (1983) (INHS 2012). The INHS does not report evidence of breeding in Macon County (INHS 2012).

IDNR Consultation results

- Closed
 - Date (original, 11-22-2011; Addendum A, 01-02-2013)
- Open

Incidental Take Authorization

Yes

No

Part VII. Water Quality/Resources/Aquatic Habitats

There are no perennial streams or other perennial water bodies within the Project boundaries. The main water body near the Project area is Lake Decatur, an approximately 3,000-acre water supply reservoir on the Sangamon River, located east and south of the Project (Figure 1). The Project is approximately 0.1 mile from Lake Decatur at its nearest points, however, the Project is separated from the lake by other roadways and/or embankments at these locations. There are two intermittent streams that cross Project components.¹ One is in the northeast part of the Project area, and crosses Faries Parkway approximately 0.3 mile east of Brush College Road. It flows east-southeast and drains into Lake Decatur approximately 0.5 mile from the Project boundary. The other is a south-flowing intermittent stream at the south part of the Project. It originates on the JRRC property and passes beneath both Brush College Road and Williams Street before draining to an impoundment approximately 0.1 mile south of the south end of the Project. The impoundment is separated from Lake Decatur by an earthen dam.

Based on the 2012 *IEPA Integrated Water Quality Report and Section 303d List*, Lake Decatur is currently impaired for two designated uses: aquatic life (based on turbidity) and fish consumption (based on the presence of chlordane, mercury and polychlorinated biphenyls [PCBs]). Sources of impairment include dredging, shoreline modification, other recreational pollutant sources, runoff, unknown sources, and atmospheric deposition (mercury). No Total Maximum Daily Loads (TMDLs) have been established.

There are no "Outstanding Resource Waters" designated in accordance with 35 Ill. Adm. Code 303.205 and listed in 35 Ill. Adm. Code 303.206 in the area (none have yet been designated in the state).

Impacts

The major potential construction impacts to surface water quality are sedimentation (total suspended solids) and increased turbidity resulting from soil erosion and transport. Typical operations associated with roadway construction involve clearing, grading, filling and excavation. These activities all increase the erosion potential of surface soil because of the reduction in vegetative cover.

Operation and maintenance impacts result from stormwater runoff from highway surfaces. The increase in impervious area will increase stormwater runoff volumes, which will be controlled by appropriate design.

¹ Based on the U.S. Geological Survey (USGS) 7.5-minute quadrangle topographic map for Decatur, IL (1998).

Proposed Mitigation

Of the current impairments to water quality in Lake Decatur, the only one that could potentially be impacted by roadway construction, operation and maintenance is turbidity. Principles and standards from the 2010 IDOT *Bureau of Design and Environment Manual (BDE)*, Chapter 41, will be used to minimize the Project's potential water quality impacts. As described in BDE Chapter 41, a storm water permit and storm water pollution prevention plan (SWPPP) will be required for the project.

Part VIII. Groundwater Resources

Lake Decatur is the primary water source for the City of Decatur, with a backup well field in DeWitt County, north of Macon County. The Illinois State Geological Survey (ISGS) online database shows a few wells in the area, primarily in the vicinity of the Faries Parkway/Brush College Road intersection. Based on ISGS records, these wells appear to be primarily drawing from a sand and gravel formation approximately 100 feet deep. It is not known whether the wells in the ISGS database are still existing or in use. Except for a well ADM installed on its property in 2006, all wells in the area were installed between 1940 and 1990. A comparison of properties that do not receive water from the City of Decatur and the well locations from ISGS suggests that most of the properties that do not receive city water also do not have a well. A review of the properties that do not have a documentable water source shows that they appear to be either vacant lots, lots with only storage facilities, or salvage yards. There are a few businesses within the proposed footprint of the jug-handle interchange at the southeast corner of Faries Parkway and Brush College Road that may use wells as a water supply. These properties are not on city water, and the ISGS database shows three wells in this area. These businesses will be relocated to construct the interchange.

There are no Sole Source Aquifers, as designated under Section 1424(e) of the Safe Drinking Water Act, within the project area. The Project is not in an area of special resource groundwater as defined in 35 Ill. Adm. Code 620.230.

Impacts

This project will not create any new potential "routes" for groundwater pollution or any new potential "sources" of groundwater pollution as defined in the Illinois Environmental Protection Act (415 ILCS 5/3, et seq.). Accordingly, the project is not subject to compliance with the minimum setback requirements for community water supply wells or other potable water supply wells as set forth in 415 ILCS 5/14, et seq.

Proposed Mitigation

If the water wells within the proposed footprint of the Faries Parkway/Brush College Road interchange still exist, they will be abandoned in accordance with 77 Ill. Adm. Code 920.120.

Part IX. Floodplains

Based on the latest Flood Insurance Rate Map (FIRM) from the Federal Emergency Management Agency (FEMA), there are no floodplains within the Project boundaries.² No floodplains would be affected by the Project. The nearest floodplain extends from Lake Decatur, just south of the Project area.

Floodplain Finding if significant encroachment

- No
 Yes

Part X. Wetlands

The Project will not impact wetlands. The original biological and wetlands clearance and the additional clearance for Addendum A are included in Appendix II.

Part XI. Special Waste

Based primarily on the past and present industrial use of the Project area, two Preliminary Environmental Site Assessments (PESAs) were conducted in 2012. The first PESA included the area along William Street (IL 105) from N. Lake Shore Drive to Houseland Avenue. The second PESA included the area along Brush College Road and Faries Parkway.

The first PESA identified 15 recognized environmental concerns (RECs). These included commercial sites, vacant lots and a cemetery. RECs other than *de minimis* included underground storage tanks (USTs), possible USTs, chemical use, potential chemical use, drums, waste tires, transformers, monitoring wells and spills. A copy of the memorandum from BDE transmitting the final PESA report is included in Appendix III, along with the executive summary of the PESA, which summarizes the 15 sites.

The second PESA resulted in a "Moderate Risk" finding, and 27 sites classified as RECs, environmental concerns (ECs), and/or historical recognized environmental concerns (HRECs). The 27 sites include areas of railroads, salvage yards, an electrical substation, repair garages, former gas stations, vacant lots, a gravel pit, various facilities with existing or former USTs, and various manufacturing facilities. A summary of the sites, from the URS PESA addendum, is included in Appendix III.

Part XII. Special Lands

1. Section 4(f)

- DeMinimis
 Programmatic
 Individual

² FEMA FIRM Map Number 171115C0310D

Parks and certain other properties referred to as “Section 4(f)” lands are protected under the Department of Transportation Act of 1966, as amended. A De Minimis “is one that will not adversely affect the features, attributes, or activities qualifying the park for protection under Section 4(f)” (23 CFR 774.17). FHWA approval of a *de minimis* impact for park land requires the following coordination: 1) public notice and opportunity for review and comment concerning the effects on the property, which can be satisfied in conjunction with other public involvement procedures and 2) written concurrence from the official(s) with jurisdiction over the resource (23 CFR 774.5).

The project would require acquisition of approximately 5,218 square feet of ROW from a parking lot owned by the Decatur Park District, plus a construction easement of 2,978 square feet (Figure 3C). The existing function of the impacted area is a parking lot which serves Brush College Elementary School and provides access for recreational activities on Decatur Park District property. The resulting function of the impacted area will remain for parking. However, the parking lot will have a net loss of 4 spaces. The impacted area is mostly asphalt parking and partially grass. The parking lot entrance will be moved back from the street and repaved with bituminous pavement. A new grass island with curb and gutter and a shared use path will separate the parking area from the roadway. The existing grass area will be converted to partially asphalt parking and concrete sidewalk.

Public notice and the opportunity for public comment were provided by a public meeting held on 7/24/12. The large-scale exhibits presented at the public meeting showed the impact to the park land. Concurrence of no adverse impact was received from the Executive Director of the Decatur Park District on October 2, 2012. On 1/23/13 the FHWA determined that the Brush College Road Project will result in the use of City of Decatur Park District Parking area, a Section 4(f) resource, but made a *de minimis* impact finding for this use stating that it will not adversely affect this resource's activities features and attributes. The *de minimis* impact finding is based upon the impact avoidance, minimization, and mitigation or enhancement measures detailed in the documentation submitted on December 11, 2012. This documentation and the concurrence letter from the Park District is included in Appendix _IV.

2. Section 6(f)

Based on National Park Service records, there are no lands acquired with Land and Water Conservation Act funds (Section 6(f) lands) in or near the Project Area.

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

The only impacted park land is the parking lot discussed under Section 4(f) above. The Decatur Park District has reviewed this and found no records or information that suggests that OSLAD funds have ever been received for the impacted property.

No other impacted land would be potentially eligible for OSLAD funds.

4. Illinois Natural Area (INAI) Sites

Based on records from the Illinois Natural History Survey, there are no INAI sites in or near the Project area. This was confirmed by the biological clearance (Appendix II).

5. Nature preserves

Based on records from the Illinois Nature Preserves Commission (INPC), there are three Nature Preserves in Macon County; however, none are in or near the Project area. This was confirmed by the biological clearance (Appendix II).

6. Land & Water Reserves

Based on published information from the INPC, as of October 2012, there were no registered Land and Water Reserves in Macon County.

XIII. Indirect and Cumulative Impacts

Indirect effects from the Project may result from activities associated with relocation of residences or businesses, in particular the relocation of the Ameren substation. There is no way to know what the impacts of these relocations may be, as these residences and businesses may not know their final relocation plans until after the Project is finalized. Residences and businesses may relocate to existing facilities elsewhere, and impacts would be minimal. However, some may choose to build on a new site, in which case there is potential for impact to farmland and natural resources. The substation is likely to be relocated close to the existing location, and may require additional residential or business relocations. The substation relocation may also result in visual impacts from the relocation of the transmission lines.

The Project is not expected to result in any growth that would impact farmland or natural resources, as the Project area is already developed.

Because air and noise impacts incorporate increased traffic through the design period, the cumulative impacts associated with additional traffic are incorporated into the analyses. Future industrial development in the area may also make some contribution to air and noise impacts.

As discussed throughout Section IV, natural resource impacts from the Project are very small or negligible, and thus would contribute negligibly to cumulative impacts on natural resources.

Environmental Commitments

Meetings were held with representatives from St. John's Lutheran Cemetery. Correspondence can be found in Appendix I. Since cemetery access to Brush College Road will be eliminated, a new access road has been proposed from the east leg of E. Harrison Avenue. (See Figures 3E and 3F) Right of way will be required from Pepsi Refreshment Services in order to construct the new access road. The subject was discussed with representatives from Pepsi Refreshment Services and they did not have any objections to the plan. Meeting minutes can be found in Appendix I.

Since the roadway within the cemetery is only wide enough for a single vehicle, a "loop" road must be maintained for funeral traffic. The loop road will be provided by connecting the two internal roads with a road that will pass under the proposed overpass on the west side of the cemetery.

ADM is developing the northwest quadrant of the Faries Parkway/Brush College Road intersection as part of a new rail yard and a conveyor system. Since the west leg of E. Harrison Avenue will no longer connect to Brush College Road, a new access road is proposed. The

access road will run parallel to Brush College Road and then turn east and connect to Brush College Road just north of the ADM EMG building. (See Figure 3F) In order to eliminate a second at-grade rail crossing, the parking lot for the ADM buildings will also be accessed from the new road.

A preliminary site investigation (PSI) is required if any of the 42 REC, EC or HREC sites identified in the PESAs involve new ROW or easement, railroad ROW, or building demolition/modification. A PSI is also required on any of the sites that involve excavation or subsurface utility relocation or on existing ROW adjoining one of the sites. The PSIs will be conducted during the design phase.

Permits/Certifications Required

The following permits will be required:

- Construction storm water permit under Section 402 of the Clean Water Act; obtained from the Illinois EPA.
- Nationwide permit under Section 404 of the Clean Water Act for intermittent stream crossings; corresponding blanket 401 permit from the Illinois Department of Natural Resources.
- Notification of demolition and renovation permit from the Illinois EPA.
- If the Project requires the removal of underground storage tanks (USTs), a removal permit must be obtained from the State Office of the Fire Marshall.

Public Involvement

Public involvement activities included online surveys for three stakeholder groups plus the community at large; early and frequent coordination with stakeholders directly affected by the Project (e.g., the City of Decatur, businesses, railroads, various city and county support services), and two public meetings. Public involvement activities are detailed in the narrative included in Appendix I. Supporting documentation is also included in Appendix I.

Agency Coordination

Coordination with natural resource agencies was handled through the biological clearance process and coordination with the State Historic Preservation Officer was handled through the cultural resource clearance process (Appendix II). Coordination with city, county and local officials and with the FHWA is included in Appendix I.

SECTION V. COMMENTS

Comments received are included in Appendix I and are summarized in the narrative included in that appendix.

SECTION VI. APPENDICES

Appendix I – Public Involvement Report and Documentation

Appendix II – Clearances: Biological and Cultural

Appendix III – Summary of PESA Findings

Appendix IV – Section 4(f) *de minimis* Documentation

Appendix V – Agency Involvement Documentation