## ENVIRONMENTAL ASSESSMENT

ROUTE: FAP 326 Illinois Route 47
Section: US Route 14 to Charles Road McHenry County

Job No: P-91-007-09
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Illinois Department of Transportation
District 1

## VOLUME 1

## Environmental Assessment

FAP 326 (Illinois Route 47)
US Route 14 to Charles Road
Woodstock, Illinois
McHenry County
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
Illinois Department of Natural Resources


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This Environmental Assessment (EA) documents the impacts with the proposed action to reconstruct a five-mile section along llinois Route 47 from US Route 14 to Charles Road (Project). The purpose of the Project is to address transportation safety, capacity, access management, pedestrian and bicycle needs, and geometric deficiencies. The existing roadway is primarily one tane in each direction separated by a two-way left-turn lane. The proposed action consists of two through-lanes in each direction separated by a barrier or mountable median. Roundabouts are proposed at five intersections within the project study area. A total of 33.055 acres of permanent right-of-way will be acquired and a total of 15.593 acres of temporary easements are proposed as part of this Project. 0.310 acre of wetlands and 17.90 acres of farmland will be impacted as part of this Project. The proposed improvements will require a total of 10 buildings to be relocated. These buildings include six individual businesses, three residential homes, and two business complexes containing four businesses.

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## ACRONYMS

| AAI | All appropriate inquiry |
| :--- | :--- |
| ADA | Americans with Disabilities Act |
| ADID | advanced identification |
| ADT | average daily traffic |
| BDE | Bureau of Design and Environment |
| BMP | Best Management Practices |
| CFR | Code of Federal Regulations |
| CMAP | Chicago Metropolitan Agency for Planning |
| CMP | Congestion Management Process |
| CNE | Common Noise Environment |
| CRP | Comprehensive Regional Plan |
| CSS | context sensitive solutions |
| CWA | Clean Water Act |
| dB (A) | decibels |
| DCEO | Department of Commerce and Economic Opportunity |
| DOE | Determination of Eligibility |
| DSS | Decent, Safe, Sanitary |
| EA | Environmental Assessment |
| EO | Executive Order |
| EPFO | platantera leucophaea |
| FHWA | Federal Highway Administration |
| FIRM | National Flood Insurance Rate Maps |
| FONSI | Finding of No Significant Impact |
| FQI | Floristic Quality Assessment |
| FTA | Federal Transit Administration |
| GIS | geographic information systems |
| HEI | Health Effects Institute |
| HQAR | high quality aquatic resource |
| HSM | Highway Safety Manual |
| IDNR | Illinois Department of Natural Resources |
| IDOT | Illinois Department of Transportation |
| INAI | Illinois Natural Areas Inventory |
| INHS | Illinois Natural Historical Society |
| IRIS | Integrated Risk Information System |
| ISGS | Illinois State Geological Survey |
| ITS | Intelligent Transportation System |
| LAWCON | Land and Water Conservation |
| LESA | Land Evaluation and Site Assessment |
| LOS | level of service |
| MFR | multi-family residence |
| mph | miles per hour |
| MPO | Metropolitan Planning Organization |
| MSAT | Mobile Source Air Toxics |
| MOU | Memorandum of Understanding |
| NAC | Noise Abatement Criteria |
| NAAQS | National Ambient Air Quality |
| NEPA | National Environmental Policy Act |
| NHRP | National Register of Historic Places |
| NRCS | National Resources Conservation Service |
| OSLAD | Open Space Lands Acquisition Development |
|  |  |


| PESA | Preliminary Environmental Assessment |
| :--- | :--- |
| PM | particulate matter |
| PSI | Preliminary Site Investigation |
| REC | Recognized environmental concern |
| SFR | single-family residence |
| SIP | State Implementation Plan |
| SOV | single-occupancy vehicle |
| SRA | Strategic Regional Arterial |
| TIP | Transportation Improvement Program |
| TWLTL | Two-Way Left-Turn Lane |
| TMA | transportation management areas |
| UP | Union Pacific |
| URA | Uniform Relocation Assistance and Real Property Acquisition Act |
| USDOT | United States Department of Transportation |
| USGS | United States Geological Survey |
| USACE | United States Army Corp of Engineers |
| USEPA | United States Environmental Protection Agency |
| VMT | vehicle miles traveled |
| vpd | vehicles per day |
| WOUS | Waters of the United States |

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### 1.1 INTRODUCTION

### 1.1.1 Description and Location of Project

The Illinois Department of Transportation (IDOT) is managing this Project in partnership with the Federal Highway Administration (FHWA). This Environmental Assessment (EA) is being conducted to assess potential impacts that could result from a proposed widening of Illinois Route 47. Illinois Route 47 is a Strategic Regional Arterial (SRA) and a Class II truck route running north-south through the City of Woodstock and unincorporated McHenry County, Illinois. The limits for this study extend from US Route 14 approximately five miles north to Charles Road. These represent logical termini because US Route 14 is an arterial and a major source of traffic for the corridor. Charles Road, the northern terminus, also is a designated SRA route and represents the northern edge of the urban area beyond which corridor traffic volumes decrease substantially.

US Route 14, the southern terminus, matches an existing Phase I study immediately south of this Project that extends from Reed Road to US Route 14. Illinois Route 47 has two locally recognized alternate names; Eastwood Drive from US Route 14 to Illinois Route 120 and Seminary Avenue from Illinois Route 120 to Ware Road. A Project location map is included in Figure 1.1-1 and Exhibit 1.1-1.

Land use is diverse along the corridor and is split into three distinct sections. The southern section, from US Route 14 to Illinois Route 120, is an urban section with primarily commercial and industrial buildings. In this section, Illinois Route 47 passes under the Union Pacific (UP) Railroad bridge that also carries the Metra UP/Northwest line. The middle section, extending from Illinois Route 120 to Ware Road, is an urban section of primarily residential neighborhoods mixed with commercial, healthcare, and institutional usage.

What is an Environmental Assessment?
An EA is a document prepared for a proposed project under the National Environmental Policy Act. The EA describes the purpose and need for the project, the alternatives considered, the existing socioeconomic and environmental conditions in the project vicinity, and any anticipated impacts on socioeconomics or environmental resources. The EA serves to advise the public and stakeholders on the project and help make a decision as to the desirability of the project.

If the EA determines that there are no significant impacts anticipated from the project, a Finding of No Significant Impact (FONSI) can be issued. If a FONSI cannot be concluded, additional studies or an Environmental Impact Statement may be warranted.


The northern section, from Ware Road to Charles Road, is a rural section with residential and agricultural usage.

Illinois Route 47 is the only continuous north-south route and arterial roadway in the City of Woodstock. It also is one of only three continuous north-south routes in McHenry County. As a result, this roadway is a major component of the local and regional transportation system and is vital to the economic development of the area. In addition to being an important route for through-traffic, the roadway provides local access to businesses and residents fronting the roadway. Commercial business is located in two primary areas in the City of Woodstock. The first area is Woodstock Square, a downtown business district that relies on Illinois Route 47 for access. The second commercial area is along Illinois Route 47 in the southern and middle sections of the corridor.

Although the project study area is located primarily in an urban setting, the roadway crosses or is adjacent to several natural areas. Illinois Route 47 passes over Silver Creek just north of St. Johns Road. Additionally, there are three minor culvert crossings within the project study area and wetland areas along the corridor.

### 1.1.2 History of Project

Illinois Route 47 was first constructed in the 1930s as a two-lane roadway. The UP Railway bridge was constructed in 1936 with a clear opening of 55 feet. A widening project added a center two-way turn lane in the mid-1980s, which expanded the typical section to three lanes from US Route 14 to Ware Road. Over time, various smaller projects incorporated geometric improvements throughout the corridor to accommodate growing capacity needs. The roadway was expanded to two lanes in each direction with a center median from US Route 14 to Catalpa Lane. An additional southbound lane was added from Country Club Road to a point one-quarter-mile south of the intersection, and there are two lanes in each direction with a flush two-way turn lane from Country Club Road north to Calhoun Street.

| Location | Year |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1980 | 1990 | 2000 | 2010 | Percent Growth 1980-2010 |
| City of Woodstock | 11,725 | 14,353 | 19,668 | 24,770 | 111 |
| McHenry County | 86,745 | 183,241 | 260,077 | 308,760 | 256 |

Table 1.1-1 Regional Population Growth 1980 to 2010

The population of the City of Woodstock and McHenry County has continued to grow, as shown in Table 1.1-1. The population of Woodstock increased from 11,725 in 1980 to 24,770 in 2010. This is a growth of 111 percent. The population of McHenry County has grown 256 percent. Traffic volumes on Illinois Route 47 have increased proportionally. Despite localized roadway improvements, traffic delays and congestion negatively impact mobility and safety for roadway users. Because of these deficiencies, the Illinois Department of Transportation (IDOT) initiated a Phase I study of the Illinois Route 47 corridor. Phase II (Design) of the Project is funded. Construction funding for this Project is not included in IDOT's Fiscal Year 2017-2022 Proposed Highway Improvement Program. However, this Project will be evaluated for inclusion in future highway programs.

### 1.1.3 Previous Studies

Previous studies were initiated locally to study the future needs of Illinois Route 47 through the City of Woodstock. A study sponsored by the City of Woodstock in 1995 made several recommendations ultimately incorporating two lanes in each direction throughout the entire corridor with a center flush median from US Route 14 to Ware Road and a raised median from Ware Road to Charles Road. The study concluded the section from Illinois Route 120 to Charles Road would require a three-lane cross section in the interim. However, the study noted traffic volumes would increase and would ultimately require a five-lane cross section. This study also recommended the implementation of access control strategies, various intersection improvements to increase roadway capacity, and replacement of the UP Railway bridge. The IDOT 1995 Strategic Regional Arterial Planning Study for Illinois Route 47 recommended the same measures. An additional study was conducted by the City of Woodstock in 2006. A five-lane cross section was recommended from US Route 14 to Illinois Route 120 and from Ware Road to Charles Road with flush and raised medians, access control, various local improvements, and replacement of the railroad bridge. In this study, a three-lane cross section was recommended through the residential section of the corridor from Illinois Route 120 to Ware Road.

Chapter 2
Purpose and Need

### 2.1 PURPOSE OF THE PROJECT

The purpose of the Project is to address transportation safety, capacity, access management, pedestrian and bicycle needs, and geometric deficiencies.

### 2.2 NEED FOR THE PROJECT

Increased travel demands on Illinois Route 47 are creating safety and operational deficiencies along the immediate roadway and adjacent arterials and intersections. The insufficient capacity of the roadway to manage travel demands creates congestion, limits mobility, hinders safe access to adjacent properties and businesses, and leads to safety issues for motorists, bicyclists, and pedestrians. Pedestrian access to adjacent land and bicycle accessibility through and across the corridor are limited.

The Project was presented for a second time at the June 28, 2011 National Environmental Policy Act (NEPA) 404 Merger Meeting. At this meeting the Project received purpose and need concurrence.

### 2.2.1 Safety Deficiencies

Crash data was collected from IDOT for years 2010, 2011, and 2012. The total number of crashes for the study period was 399, as shown in Figure 2.2-1.


Figure 2.2-1 Total Crashes 2010 to 2012

Figure 2.2-2 describes the 399 crashes by crash type. The predominant crash types for the study period were rear-end (61 percent), turning (17 percent), angle (13 percent), and sideswipe of cars traveling in the same direction (3 percent). Other types of crashes included animal, head-on, sideswipe of vehicles in opposite directions, and fixed objects.


Figure 2.2-2 Total Crashes 2010 to 2012

Rear-end, turning, and angle crashes are usually caused by several factors, such as deficiency in the capacity of the roadway, signal timing issues because of lack of signal modernization, improper design of the roadway leading to incomplete channelization of traffic, lack of barrier medians, and insufficient drainage of the pavement. The lack of capacity on this two-lane roadway, coupled with the numerous entrances, leads to conflicts that result in crashes.

Of the crashes, 75.9 percent occurred during the day and 72.7 percent occurred during clear weather. This indicates that lighting conditions, weather, and wet pavement do not appear to substantially contribute to crashes.

Of the total crashes, 120 ( 30.1 percent) were injury crashes that resulted in 183 injuries. There were no fatalities recorded during the study period; however, there were 10 incapacitating type "A" injuries, which are the most severe injury type that is not a fatality. There were two crashes involving a pedestrian and three crashes involving a bicyclist. The first pedestrian crash occurred during the 11 A.M. hour at the intersection with Lake Avenue and resulted in a reported type "C" injury. The second pedestrian crash occurred during the 8 P.M. hour at the intersection with Judd Street and Irving Avenue and resulted in a type " $B$ " injury. Two bicyclist crashes occurred between the intersections of Lake Avenue and McConnell Drive. Both resulted in type "B" injuries. The first crash involving a bicyclist occurred during the 10 A.m. hour and the second crash involving a bicyclist occurred during the 3 P.m. hour. The third crash involving a bicyclist occurred between Illinois Route 120 and St. Johns Road during the 6 P.M. hour and it also resulted in a type " $B$ " injury.

Figure 2.2-3 presents the number of injuries by severity for all 399 crashes. Some crashes resulted in more than one injury.


The intersection of Lake Avenue and Illinois Route 47 is one of the busiest in the corridor and it experienced an elevated number of crashes. There were 56 crashes within the three-year study period. The majority of crashes at this location were rear-end crashes. Signal timing issues or the permitted turn on red could have been contributing factors. The angle of skew of this intersection also could have been a factor causing reduced visibility that led to crashes.

The high incidence of crashes in the study period indicates that safety is an issue in the corridor. The number of rear-end crashes indicates that high traffic volumes, insufficient roadway capacity, and poor access management may be contributing to crashes.

### 2.2.2 Capacity Deficiencies

This Project is also needed to address capacity deficiencies in the corridor. The 2009 Average Daily Traffic (ADT) varies throughout the corridor carrying 16,300 vehicles per day (vpd) at US Route 14, increasing to 26,200 vpd at Country Club Road, before gradually decreasing to 8,100 vpd at Charles Road. 2009 ADT was used since it is found to be consistent with a more broad historical average.

Projected traffic volumes were generated by the Chicago Metropolitan Agency for Planning (CMAP) for the 2040 design year based on the No-Action scenario (i.e., no capacity improvements, only routine maintenance). These future traffic volumes are expected in the range of 17,000 vpd at US Route 14, increasing to 27,000 vpd at Country Club Road, and decreasing to 16,000 vpd south of Charles Road. A letter from CMAP detailing projected traffic volumes is dated November 14, 2011, and is shown in Appendix A. Updated traffic projections were requested from CMAP in 2015 because of the time elapsed. After comparing the revised traffic projections to the original traffic projections in 2011, it was determined the original traffic projections developed in 2011 were sufficiently accurate to complete a traffic analysis
and develop signal timing. The traffic projections sent by CMAP in a letter, dated October 28, 2015, can be found in Appendix A.

Increasing traffic volumes will lead to traffic congestion and delay. A schematic of the lllinois Route 47 corridor showing the relationship between these ADTs and the operational characteristics of the roadway is shown in Figure 2.2-4.


Figure 2.2-4 2009 and Projected ADT and the Resulting Impact on Congestion and Delay

Figure 2.2-4 shows the ADT of the corridor and its relation to the Level of Service (LOS). The LOS of an intersection rates the operational characteristics of traffic volumes to give a measure of traffic flow. The LOS rating is a scale from $A$ to $F$, with $A$ being optimal free-flow conditions and F indicating the intersection no longer operates properly because demand exceeds capacity. See Figure 2.2-5 for further detail of LOS. Sections between intersections were given a transitional LOS value. For example, LOS C-D indicates the section is between an intersection with LOS C and another intersection with LOS D. This figure shows increasing congestion in the 2040 design year, primarily from Lake Avenue to Ware Road.

## What is Level of Service?

Level of Service (LOS) is a measurement used to describe traffic flow or the amount of congestion a section of roadway experiences. It can be used to determine speed, travel time, and amount of delay, and traffic-related safety issues can be implied. There are six LOS, each given a letter designation. LOS A represents low volumes and higher speeds of traffic associated with free-flowing traffic.

LOS B has stable flow but operating speeds are beginning to be restricted because of traffic conditions.

LOS C still has stable flow but speeds and maneuverability are restricted.
LOS $D$ is the level of service where traffic becomes unstable. There is little freedom to maneuver and there are substantial drops in speed.
LOS E has lower operating speeds, the flow is unstable, and there may be momentary halts in traffic.

LOS F has low operating speeds and traffic often stops, forming vehicle backups.

LEVELS OF SERVICE


Adapted from A Policy on Geometric Design of Highways and Streets. AASHTO. 2001

Figure 2.2-5 Level of Service

A distinct area of concern exists between Lake Avenue and McConnell Road. At this location, Illinois Route 47 passes under the UP Railway bridge, shown in Figure 2.2-6. This section currently carries $24,800 \mathrm{vpd}$ and is projected to have $25,000 \mathrm{vpd}$ in the 2040 design year. The bridge opening may no longer be adequate to accommodate the number of lanes required to handle growing traffic demand. Because there are no other direct north-south routes in the City of Woodstock that cross the


Figure 2.2-6 UP Railway Bridge Over Illinois Route 47 railway, this deficiency contributes to traffic delay at the intersections immediately north and south of the bridge and to the corridor as a whole. The traffic delays and congestion is a problem for emergency response vehicles that need to travel along Illinois Route 47. The nearest alternative crossing is an at-grade crossing on Madison Street, approximately one mile west via Lake Avenue. Expansion of the current roadway could necessitate reconstruction of the bridge. Because this dual-track rail line carries frequent commuter and freight traffic, the railroad bridge must remain open at all times. A temporary "shoo-fly" railroad bridge and track adjacent to the existing tracks may be required for this location.

| Intersection | AM Peak Hour |  |  |  | PM Peak Hour |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2009 |  | 2040 No-Action |  | 2009 |  | 2040 No-Action |  |
|  | Delay (seconds/ vehicle) | LOS | Delay (seconds/ vehicle) | LOS | Delay (seconds/ vehicle) | LOS | Delay (seconds/ vehicle) | LOS |
| US Route 14 | 32.7 | C | 45.7 | D | 35.8 | D | 45.6 | D |
| Lake Avenue | 34.2 | C | 100.8 | F | 41.8 | D | 135.4 | F |
| McConnell Road | 24.8 | C | 56.3 | E | 22.9 | C | 50.0 | D |
| Country Club Road | 32.5 | C | 99.2 | F | 37.9 | D | 131.7 | F |
| Judd Street/ Irving Avenue | 31.9 | C | 136.9 | F | 38.4 | D | 184.2 | F |
| IL Route 120/ McHenry Avenue | 34.6 | C | 53.8 | D | 34.0 | C | 41.4 | D |
| Russel Court | 22.9 | C | 53.7 | D | 20.8 | C | 25.4 | C |

Table 2.2-1 AM and PM 2009 and Future No-Action (2040) LOS and Delay by Intersection

Overall, the existing intersection geometry and 2009 traffic volumes result in intersection LOS ranges from C to D. The 2040 no-action scenario intersection LOS ranges from C to F. A summary of the AM and PM LOS and delay for 2009 and the future no-action scenario at each intersection is provided in Table 2.2-1.

In the PM peak hour, four of the seven intersections currently experience LOS D. By 2040, three of the seven intersections will experience LOS D, and three signalized intersections will experience LOS F. As a result, the future no-action PM peak hour queues and delays become excessive. For example, the northbound queue at Country Club Road and Judd Street/Irving Avenue are both over 4,000 feet. This decrease in LOS indicates excessive traffic congestion and travel times.

### 2.2.3 Access Management

There is generally no access management along Illinois Route 47. This leads to approximately 190 driveways and 31 intersections along the route. Several businesses have multiple, closely spaced entrances serving the same parking lot. Right-in-right-out access points have only been constructed at three driveways throughout the entire five-mile corridor. There is only one side street, East Calhoun Street, where drivers are prevented from turning left onto Illinois Route 47. There are no barrier medians present in the corridor; therefore, left turns are not physically restricted at any point. The high number of access points fosters unprotected mid-block turning, including left turns.

Providing barrier median and using access management strategies reduces the number of conflict points at an intersection. This is illustrated in Figure 2.2-7, which was taken from the Federal Highway Administration (FHWA) brochure Safe Access is Good for Business. As shown in this figure, a three-leg intersection with no access management results in 11 vehicle conflict points while a three-leg intersection restricting left turns out of the side street results in only six vehicle conflict points.

From 2010 to 2012, there were 210 mid-block crashes in the Illinois Route 47 corridor. Of these, 62.4 percent were rear-end or turning crashes. The lack of access management on Illinois Route 47 negatively affects operations and leads to a high incidence of conflicts and, ultimately, crashes.

## What is Access Management?

Access management are safe traffic control methods such as the use of: dedicated right and left turn lanes; efficient distances between traffic signals; efficient distances between driveways; the use of raised medians between lanes; and sufficient sight distance between access points.


Figure 2.2-7 Access Management Reduces Conflict Points

### 2.2.4 Pedestrian and Bicycle Accommodations

The presence of pedestrian facilities varies in this corridor. Exhibit 2.2-1 shows the locations of existing sidewalk and bicycle facilities in the project study area. There are no existing bicycle paths or bicycle accommodations within the corridor. Bicyclists must travel on Illinois Route 47 with its heavy traffic volumes, high truck volumes, and high turning movements. In the south section, there is 5 - to 6 -foot-wide sidewalk on both sides of the road at irregular intervals from Catalpa Lane to Country Club Road. There is no sidewalk from Country Club Road to Illinois Route 120. There are 5 - to 6 -footwide sidewalks on both sides of the road through much of the area from Illinois Route 120 to Ware Road. The noncontiguous nature of pedestrian facilities in the corridor means


Figure 2.2-8 Incomplete Facilities Make Pedestrian Travel Difficult pedestrians must walk through parking lots, along grass parkways, and even on roadway shoulders, as shown in Figure 2.2-8. The intersections of Illinois Route 120 and Russel Court are the only locations with striped pedestrian crossings and pedestrian signals. There are no pedestrian facilities north of Ware Road.

There are several bike and pedestrian generators located along or near the corridor. In addition to the residential and commercial properties immediately adjacent to the roadway, there are several unique land uses with regional significance that generate pedestrian traffic, including the McHenry County Fairgrounds (immediately east of the intersection of Illinois Route 47 and Country Club Road), a Metra train station (approximately 0.4 mile west of Illinois Route 47 in downtown Woodstock), and the McHenry County Government Center Campus (at the intersection of Illinois Route 47 and Ware Road). Other generators include Silver Creek Park (south of St. Johns Road), one learning center at the intersection of Illinois Route 47 and Russel Court, and two schools at the intersection of Illinois Route 47 and Ware Road. Alternate routes to Illinois Route 47 are limited. Potential secondary roads are not continuous and do not provide a direct north-south route to these destinations.

Without improvements, Illinois Route 47's limited pedestrian and bicycle accommodations will remain. Increased motor vehicle traffic will magnify the effect of these deficiencies. It will become more difficult for pedestrians and bicyclists to cross Illinois Route 47 or to use the corridor for travel.

### 2.2.5 Geometric and Design Deficiencies

Geometric and design deficiencies along Illinois Route 47 contribute to safety deficiencies and also to reduced roadway capacity. The overall horizontal and vertical geometrics generally fall within IDOT standards, except as noted in this section.

As detailed previously, there are several skewed intersections in the corridor. IDOT recommends that roadways intersect at an angle within 15 degrees of perpendicular to maintain visibility. IDOT allows a maximum skew of 30 degrees where correcting the skew would be impractical (see Figure 2.2-9).

The six intersections that exceed a 15-degree skew are shown in yellow in Figure 2.2-10: Southview Drive, Lake Avenue, McConnell Road, Country Club Road, Judd Street/Irving Avenue, and McHenry Avenue. The skew of three of these intersections exceeds the maximum 30 degrees: Lake Avenue, Country Club Road, and Judd Street/Irving Avenue. Intersection sight distance is also restricted at the intersection of Judd Street and Irving Avenue because of its irregular alignment and the building at the northwest corner of the intersection.

A vertical curve located just north of Ware Road is the only profile vertical deficiency within the corridor. The recommended intersection sight distance is not achieved because of this curve and the 45 mile per hour posted speed limit.

Illinois Route 47 has had consistent reports of poor drainage between the intersections at Lake Avenue and


Figure 2.2-10 Geometric and Design Deficiencies

McConnell Road. These intersections flood during heavy rain events. Specifically, in the area underneath the UP Railway bridge, water ponds on the roadway and creates a hazard.

These geometric and design deficiencies contribute to mobility, safety, and operational issues, which will only worsen as traffic volumes increase.

Chapter 3-Alternatives

This chapter describes the methodology for the development of alternatives, screening methods used for the evaluation of alternatives, a description of each alternative, and the comparative analysis results that led to the determination of the Preferred Alternative.

### 3.0 DESIGN CRITERIA

Illinois Route 47 is listed as a Strategic Regional Arterial (SRA) within the project study area, which requires specific design criteria (see Table 3.0-1). Illinois Route 47 existing ADT varies from 8,100 vpd at the north end of the project to 26,200 vpd between Country Club Road and Irving Avenue.

Illinois Route 47 has two different roadway classifications within the project study area. From US Route 14 at the south to Ware Road at the north, Illinois Route 47 is classified as an urban corridor, with businesses or residential houses continuous along most of the section. A representative section of the urban SRA along Illinois Route 47 is shown in Figure 3.0-1.

Existing Illinois Route 47 is classified as a rural corridor from Ware Road to Charles Road, with sporadic businesses and residential houses located along the corridor. A majority of the land from


Figure 3.0-1 Illinois Route 47 Urban SRA

SRA design criteria in accordance with IDOT Bureau of Design and Environment (BDE)
Manual, Chapter 46 was used to design Bureau of Design and Environment (BDE)
Manual, Chapter 46 was used to design Illinois Route 47. Ware Road to Charles Road is wetlands or farmland. A representative section of the rural SRA along Illinois Route 47 is shown in Figure 3.0-2. The possibility of converting Illinois Route 47 from a rural cross section to an urban or suburban cross section from Ware Road to Charles Road was evaluated as a part of this project and is further discussed in Section 3.6.3.


Figure 3.0-2 Illinois Route 47 Rural SRA

Table 3.0-1 presents the controlling geometric design criteria items as recommended by the BDE Manual. Criteria is presented for urban, suburban, and rural cross sections because of the varying cross section alternatives from Ware Road to Charles Road.

| Design Criteria | Urban SRA | Suburban SRA | Rural SRA |
| :---: | :---: | :---: | :---: |
| Design Speed Limit | 30 to 40 mph | 45 mph | 60 mph |
| Number of Lanes | 2 or 3 for each travel direction | 2 or 3 for each direction of travel | 2 or 3 for each direction of travel |
| Lane Width | 11' restricted ROW 12 ' desired | 12' | 12' |
| Median Width and Type | 18-22' with concrete barrier 11-14' flush median | 18-30' with concrete barrier <br> 12-14' flush median | $50^{\prime}$ with depressed median <br> $22^{\prime}$ with concrete barrier |
| Profile Grade | 7\% maximum $0.3 \%$ minimum ( $0.5 \%$ desired) | $6 \%$ maximum $0.3 \%$ minimum ( $0.5 \%$ desired) | 4\% maximum $0 \%$ minimum ( $0.5 \%$ desired) |
| Edge Treatment | Curb and Gutter | 10 ' wide shoulder or curb and gutter | 10' wide shoulder |

Table 3.0-1 Illinois Route 47 Geometric Design Criteria

The existing speed limit along Illinois Route 47 varies within the project study area. Illinois Route 47 from US Route 14 to Illinois Route 120 and from Greenwood Circle to Ware Road has an existing posted speed limit of 35 mph . Illinois Route 47 from Illinois Route 120 to Greenwood Circle has an existing posted speed limit of 30 mph . Illinois Route 47 from Ware Road to 0.5 mile north of Ware Road has an existing speed limit of 45 mph , and Illinois Route 47 from 0.5 mile north of Ware Road to Charles Road has an existing speed limit of 55 mph . Illinois Route 47 will maintain existing speed limits from US Route 14 to Ware Road and a design speed of 5 mph greater than the posted speed limit will be used. Multiple proposed posted and design speeds were evaluated as a part of this project and are discussed further in Section 3.6.5.1. A map of the existing speed limits and proposed design speeds along Illinois Route 47 is shown in Figure 3.0-3.


Figure 3.0-3 Existing Speed Limit and Proposed Design Speed Map

### 3.1 ALTERNATIVES DEVELOPMENT PROCESS

The Purpose and Need for this project described in Chapter 2 summarizes the existing Illinois Route 47 deficiencies and demonstrates the need for action. Deficiencies identified in the Purpose and Need include safety, traffic operations, access management, pedestrian accommodations, and geometrics.

Establishment of the project Purpose and Need aided in the identification of project alternatives. Additional input on alternatives resulted from the overall agency and public involvement process described in Chapter 6 using a Context Sensitive Solutions (CSS) project development process. The CSS project development process gathered public input to assist in identification of deficiencies and corridor needs, alternative concepts, and specific project elements. Public input was received from a variety of sources including the Project Study Group, Corridor Advisory Group, public meetings, NEPA/404 merger meetings, one-on-one stakeholder meetings, small group business meetings, and comments received

> What is the National Environmental Policy Act (NEPA)?
> The Federal law, NEPA, requires that FHWA consider the environmental consequences of a project to make a fully informed decision. NEPA prescribes three milestones during a project's study: (1) Purpose and Need, (2) Alternatives to be Carried Forward, and (3) Preferred Alternative. through the project website and mailings. The Illinois Route 47 Corridor Advisory Group comprises many local officials, business owners, adjacent property owners, and other interested persons.

The culmination of this effort combined with the technical evaluation of the Purpose and Need, resulted in the identification of a reasonable range of build alternatives to be considered.

The No-Action Alternative and Build Alternatives developed are presented in the following sections. Included for each alternative is a description of the alternative, its ability to meet the Purpose and Need, the environmental impacts associated with the alternative, and an overview of the initial feedback received from the Corridor Advisory Group on each alternative. Each alternative presents a discussion of the impact to the existing UP Railway bridge or impact to the UP Railway line, as applicable.

## 3.2 "NO-ACTION" ALTERNATIVE

The "No-Action" alternative does not change the existing Illinois Route 47 corridor or other suitable nearby corridors to address the needs of the existing Illinois Route 47. No upgrades would be made to the existing roadway geometry. This alternative focuses on routine pavement maintenance to keep the roadway operational. No right-of-way acquisition would be required from adjacent properties or areas with potential environmentally-sensitive resources. Figure 3.2-1 shows a typical section of the existing roadway corridor.

The "No-Action" alternative will be carried forward, as required by NEPA, to be used as a benchmark for evaluating the benefits and impacts of the build alternatives.

[^0]

Figure 3.2-1 No-Action Alternative Typical Section

### 3.3 CONGESTION MANAGEMENT PROCESS ALTERNATIVE

The provisions of 23 CFR 450.320 place restrictions on the use of Federal funds for projects in Transportation Management Areas (TMAs) designated as nonattainment for carbon monoxide and/or ozone. In these areas, Federal funds may not be programmed for any project that will considerably increase capacity for single-occupancy vehicles (SOVs) unless the project is addressed through a Congestion Management Process (CMP). The CMP is required to provide an appropriate analysis of alternatives to the proposal for adding SOV capacity including all reasonable congestion management strategies. If the analysis demonstrates that other alternatives or congestion management strategies cannot fully satisfy the need for additional capacity and that the additional SOV capacity is warranted, the CMP must identify all reasonable strategies that will maintain the functional integrity of the additional lanes. All identified reasonable strategies must be incorporated into the project. The CMP for each affected TMA is addressed in materials available from the metropolitan planning organization responsible for the area.

Individual projects involving addition of SOV capacity were evaluated, selected, and prioritized in the course of developing the Fiscal Year 2017-2022 Transportation Improvement Program (TIP) and the GO TO 2040 Comprehensive Regional Plan (CRP) for Northeastern Illinois. The Northeastern Illinois CMP is documented via various materials that are available through CMAP. The following are examples of such documentation.

1. Congestion Mitigation Handbook, September 1998.
2. Congestion Management System for Northeastern Illinois, 2006 Annual Status Report.
3. 2040 Regional Transportation Plan for Northeastern Illinois.
4. Arterials and Streets Infrastructure and Operations for Mobility, Access, and Community in Metropolitan Chicago, January 2009.
5. Travel Demand Management, Strategy Paper, March 2009.
6. Congestion Reduction Demonstration for Northeastern Illinois A Proposal for Direct Highway Pricing, Transit, Technology, and Supporting Strategies, December 31, 2007.

The development process for the TIP and CRP constitutes the CMP for Northeastern Illinois. The CMP process documents warranted projects for adding SOV capacity and, where applicable, also documents whether regional or project-specific alternatives, such as transportation demand management measures, high occupancy vehicle measures, transit capital improvements, congestion pricing, growth management, and incident management, would obviate the need for adding SOV capacity. Planned projects resulting from the CMP are documented in the annual CMP status report referenced above. For this project, it has been determined that stand-alone CMP alternatives will not satisfy the project Purpose and Need and, therefore, this undertaking is a warranted project for adding SOV capacity.

Reasonable project-specific CMP strategies including Traffic Operational Improvements, Transit Operational Improvements, non-motorized modes and measures (pedestrian/bicycle), Intelligent Transportation System (ITS), and Access Management, have been incorporated into this project to the extent practicable. Specific strategies incorporated include adding turn lanes, increased turn lane storage capacity, modernized signals, signal interconnects, sidewalk and bicycle accommodations, and barrier medians.

As previously documented, this project results from the CMP for Northeastern Illinois as a warranted project for adding SOV capacity, and all reasonable congestion management strategies have been incorporated into the project to sustain its effectiveness.

### 3.4 BUILD ALTERNATIVES

The general build alternatives considered can be categorized as the existing Illinois Route 47 alignment alternative (Alternative A), bypass alternatives (Alternatives B1 and B2), and one-way couplet alternatives (Alternatives C 1 through C 4 ), as shown in Figure 3.4-1.

CMAP projections show the 2040 ADT averaging $26,000 \mathrm{vpd}$, which is

What is a Build Alternative?
A Build Alternative is one that includes the design and construction of improvements needed to meet the Purpose and Need of the project. generally within the capacity limit for a roadway with two lanes in each direction. For this reason, Illinois Route 47 build alternatives will consider construction of a four-lane roadway. A discussion of the resulting ADT and LOS for each alternative is provided later in this report.

Evaluation of initial alternatives included determining approximate impacts to environmental resources such as wetlands and floodplain areas. Limits of the environmental resources were taken from the McHenry County Geographical Information Systems (GIS) database. If an alternative is carried forward for further investigation, a project alternative-specific environmental survey will be conducted to determine the exact limits of the environmental resources. Figure 3.4-1 shows these delineated areas.


Figure 3.4-1 Illinois Route 47 Full Range of Alternatives with Environmental Resources

A description of each alternative, preliminary impacts, and the associated traffic modeling results are contained in the following sections.

### 3.4.1 Existing Alignment Alternative

### 3.4.1.1 Description of Alternative

The existing alignment Alternative A uses the current Illinois Route 47 corridor for improvements. The alignment compared to the delineated environmental resources is shown in Figure 3.4-2.


Figure 3.4-2 Alternative A Alignment and Environmental Resources

For this alternative, widening was considered along the existing centerline. The existing Illinois Route 47 corridor is characterized by numerous business and residential access points with several properties close to the existing edge of pavement. To avoid impacts, the final centerline location may shift several feet east or west of the existing centerline.

The typical section of the roadway was developed using IDOT's BDE Manual Chapter 46 criteria for SRA routes. The typical section consists of two 11- or 12-foot lanes in each direction separated by a center median.

For the initial build alternative, a proposed typical section consisting of two through-lanes in each direction separated by a 22 -foot center barrier median with curb and gutter running along the outside edge of pavement was selected throughout the length of the project. It was assumed 60 feet of right-of-way would be necessary on each side of the Illinois Route 47 centerline. Traditional channelized intersections were used at all intersections for the preliminary analysis.

Also included in this alternative are provisions for pedestrian and bicycle access along the corridor. Initially chosen accommodations include a 10-foot shared-use path on the east side and a 5 -foot sidewalk on the west side of the roadway. The resulting typical section is shown in Figure 3.4-3.

## What is a Shared-Use Path?

A shared-use path is a multi-use path physically separated from motorized vehicular traffic by an open space or barrier, to be used by pedestrians, bicyclists, and other non-motorized users.

If it is determined the on-alignment alternative should be carried forward for further analysis, subalternatives will be developed for certain features of the alternative. Potential options for the center median vary and can include a 13-foot center two-way left-turn lane (TWLTL) or an 18- or 22 -foot barrier median. Potential typical sections vary and include outside paved shoulders or outside curb and gutter running along the pavement from Ware Road to Charles Road.


Figure 3.4-3 Alternative A Proposed Typical Section

Intersection subalternatives include the possibility of six roundabouts located at the intersections of Lake Avenue, McConnell Road, Judd Street/Irving Avenue, Illinois Route 120, Ware Road, and Charles Road. Because of the similarity between the roundabout and traditional intersection on-alignment alternatives, differences in preliminary impacts were assumed to be negligible for the intersection alternatives.

For the purposes of developing this preliminary alternative, it is assumed all existing posted speed limits along Illinois Route 47 will be maintained and all design speeds along Illinois Route 47 will be 5 mph greater than the posted speed limit. Access management will be implemented for this alternative. Entrances to adjacent properties will be consolidated where feasible with consideration for conversion to right-in/right-out operation at the remaining driveways.

### 3.4.1.2 Preliminary Impacts

Alternative A impacts were determined to compare the associated impacts to the bypass and couplet alternatives. Preliminary impacts for the existing alignment alternative using traditional channelized intersections include right-of-way acquisition of approximately 18.9 acres from 505 parcels, five commercial property relocations, and three residential property relocations.

Total disturbed area within the floodplain for this alternative is 5.8 acres and total wetland area affected is 0.2 acre.

### 3.4.1.3 Initial Public Comments

Preliminary feedback was received from the Corridor Advisory Group on the existing alignment alternative. The Corridor Advisory Group identified positive aspects as barrier median for aesthetic options, increase in roadway capacity, safety improvements, minimizing environmental impacts by using existing right-of-way, less disruption to businesses and region, improvements to skewed intersections and geometry, and pedestrian accommodations. The Corridor Advisory Group identified negative aspects as off-road bicycle accommodations, impacts to right-of-way, potential impacts to parking lots, barrier median limiting access, potential cost of replacing the UP Railway bridge, and truck traffic remaining on existing Illinois Route 47.

### 3.4.2 Bypass Alternatives

### 3.4.2.1 West Bypass (Alternative B1)

### 3.4.2.1.1 Description of Alternative

This alternative begins at the southern project limit and establishes a western bypass around the City of Woodstock. This alignment is designated as Illinois Route 47 and uses the existing alignment of US Route 14 westbound for approximately 3.5 miles, at which point the highway would travel north off US Route 14 establishing a new 0.4-mile connection with existing Lamb Road. The roadway would continue in the northeast direction along Lamb Road for 2.25 miles before using Charles Road to travel 0.78 mile east to match the existing Illinois Route 47. The proposed typical section for the west bypass is similar to the on-alignment alternative, consisting of two 12 -foot lanes in each direction with a 22 -foot center barrier median. It was assumed 60 feet of right-of-way would be required on each side of the new roadway centerline.

The CMAP model shows the western bypass draws traffic and reduces traffic volume on existing Illinois Route 47. For example, between McConnell Road and Country Club Road, the 2040 projected ADT is reduced from 31,000 to 29,000 vpd. However, this projected ADT still greatly exceeds the capacity of the existing roadway. Improvements would still be required to existing Illinois Route 47 to meet the traffic demand.

It is assumed that improvements to Illinois Route 47 also would require 60 feet of right-of-way on each side of the centerline.

The alignment compared to the delineated environmental resources is shown in Figure 3.4-4.


Figure 3.4-4 Alternative B1 Alignment and Environmental Resources

### 3.4.2.1.2 Preliminary Impacts

Preliminary impacts for the west bypass alternative include right-of-way acquisition of approximately 25.5 acres from 42 parcels, one commercial property relocation, and two residential property relocations. This alternative would require a new grade-separated railroad crossing. Work associated with establishing this new grade-separated crossing results in additional impacts to approximately four properties.

Environmental impacts include impacts to the stream crossing, wetland, and floodplain. Total disturbed area within floodplain for this alternative is 0.3 acre, and total wetland area affected is 0.4 acre.

### 3.4.2.1.3 Initial Public Comments

Preliminary feedback was received from the Corridor Advisory Group on the west bypass alternative. The Corridor Advisory Group identified positive aspects including some traffic relief to existing Illinois Route 47, diversion of truck traffic, and a possible new economic development corridor. The Corridor Advisory Group identified negative aspects that included required improvements to existing Illinois Route 47 to accommodate traffic volumes, the City of Woodstock assuming maintenance responsibility for existing Illinois Route 47, negative impacts to businesses because of diverted traffic, the added cost of a second railroad bridge, and a west bypass that would not address the bicycle and pedestrian needs of the existing corridor.

### 3.4.2.2 East Bypass (Alternative B2)

### 3.4.2.2.1 Description of Alternative

This alternative begins approximately 0.15 mile north of the intersection of Illinois Route 47 and US Route 14 and establishes an eastern bypass around the City of Woodstock. The newly designated Illinois Route 47 would travel off the existing roadway alignment to the northeast for 0.3 mile. This new roadway would then continue north for approximately 0.3 mile, crossing the UP Railway with a new grade-separated crossing and matching the existing alignment of Zimmerman Road. The roadway then travels north along Zimmerman Road for 0.5 mile. At Country Club Road, the roadway continues north along a new roadway for approximately 1.15 miles using horizontal curves to avoid impacts to adjacent land users and ultimately aligning with Raffel Road. The roadway continues north along Raffel Road for 1.75 miles before using one mile of reverse curves to realign with existing Illinois Route 47. The proposed typical section for the east bypass also contains two 12 -foot lanes in each direction with a 22 -foot center barrier median. All existing roadways used must be widened. It is assumed 60 feet of right-of-way will be required on each side of the centerlines of all roadways to be constructed/widened. The alignment compared to the delineated environmental resources is shown in Figure 3.4-5.


Figure 3.4-5 Alternative B2 Alignment and Environmental Resources

The CMAP model shows the eastern bypass draws traffic from and reduces traffic volume on existing Illinois Route 47. For example, between Country Club Road and Irving Avenue, the 2040 projected ADT is reduced from 33,000 to $21,000 \mathrm{vpd}$. This alternative provides more congestion relief than the western bypass alternative. However, the projected ADT does exceed the capacity of the existing three-lane roadway. Improvements would still be required to existing Illinois Route 47 to meet the traffic demand.

### 3.4.2.2.2 Preliminary Impacts

Preliminary impacts for the east bypass alternative include right-of-way acquisition of approximately 68.1 acres from 209 properties, four commercial property relocations, and six residential property relocations. A portion of the alignment would require right-of-way from the McHenry County Fairgrounds. A baseball field would need to be acquired from a private high school south of Illinois Route 120. This alternative would require a new gradeseparated railroad crossing between Lake Avenue and McConnell Road. Work associated with establishing this new grade-separated crossing results in impacts to approximately 6 to 14 properties.

This alternative would require two new stream crossings north of Country Club Road. Total wetland area affected for this alternative is 3.1 acres.

### 3.4.2.2.3 Initial Public Comments

Preliminary feedback was received from the Corridor Advisory Group on the east bypass alternative. The Corridor Advisory Group identified positive aspects that include some traffic relief to existing Illinois Route 47 and a possible new economic development corridor. The Corridor Advisory Group identified negative aspects that include required improvements to existing Illinois Route 47 to accommodate traffic volumes, the City of Woodstock assuming maintenance responsibility for existing Illinois Route 47, negative impacts to businesses because of diverted traffic, the added cost of a second railroad bridge, property acquisition, and difficult geometry and impacts at the beginning and end of the bypass.

### 3.4.3 One-Way Couplet Alternatives

Four one-way couplet alternatives were considered. The typical section for this alternative would be different for the two directions of traffic. The newly established northbound leg of traffic would be an urban two-lane cross section, requiring 33 feet of right-of-way on each side of the centerline. Existing Illinois Route 47 would remain three lanes within the one-way couplet limits. All other two-way sections of existing Illinois Route 47 would need to be expanded to two lanes in each direction with a 22 -foot center barrier median requiring 60 feet of right-of-way on each side of the centerline.

The CMAP model generally shows that one-way couplet options split traffic in half and will reduce traffic volume on existing Illinois Route 47. Improvements to existing Illinois Route 47 and the associated impacts could be avoided at various sections when using the one-way couplet alternatives.

A description of each couplet alternative and the associated preliminary impacts is included in the following sections.
3.4.3.1 Southview Drive to North of St. Johns Road (Alternative C1)

### 3.4.3.1.1 Description of Alternative

This alternative begins approximately 0.15 mile north of the intersection of Illinois Route 47 and US Route 14. The highway splits northbound traffic off the existing roadway alignment to the northeast for approximately 0.3 mile. This new roadway then continues north for approximately 0.3 mile, crossing the UP Railway and matching the existing alignment of Zimmerman Road. The roadway then travels north along Zimmerman Road for 0.5 mile. At Country Club Road, the roadway continues north along a new roadway for approximately 0.75 mile using horizontal curves to align with Irving Avenue. The roadway continues north along existing Irving Avenue for 0.25 mile. Irving Avenue is extended northward and to the west of Silver Creek for approximately 0.85 mile before merging back into two-way traffic along existing Illinois Route 47 just north of St. Johns Road. Illinois Route 47 would be widened to two lanes in each direction from north of St. Johns Road to Charles Road. The alignment compared to the delineated environmental resources is shown in Figure 3.4-6.


Figure 3.4-6 Alternative C1 Alignment and Environmental Resources

### 3.4.3.1.2 Preliminary Impacts

Preliminary impacts for one-way couplet Alternative C1 include right-of-way acquisition of approximately 46.9 acres from 143 properties, including the necessary expansion of existing Illinois Route 47 south and north of the couplet. Potential relocations may be necessary for two residential and three business properties. A portion of the alignment would require right-of-way from the McHenry County Fairgrounds, essentially splitting the parcel in two. Two tennis courts and two baseball fields would be acquired from Silver Creek Park. This alternative would require a new grade-separated railroad crossing between Lake Avenue and McConnell Road. Work associated with establishing this new grade-separated crossing would result in additional impacts to approximately 6 to 14 properties.

Total disturbed area within floodplain for this alternative is 7.5 acres and total wetland area affected is 4.1 acres.
3.4.3.2 Southview Drive to North of Ware Road (Alternative C2)

### 3.4.3.2.1 Description of Alternative

This alternative is similar to Alternative C 1 from the southern limit at Southview Drive to Illinois Route 120. North of Illinois Route 120, the northbound lanes of traffic continue east and align with existing Hickory Road. The roadway travels north for 0.7 mile before merging back into two-way traffic along existing Illinois Route 47 just north of Ware Road. Illinois Route 47 would be widened to two lanes in each direction from north of Ware Road to Charles Road. The alignment compared to the delineated environmental resources are shown in Figure 3.4-7.


Figure 3.4-7 Alternative C2 Alignment and Environmental Resources

### 3.4.3.2.2 Preliminary Impacts

Preliminary impacts for one-way couplet Alternative C2 include right-of-way acquisition of approximately 38.7 acres from 134 properties, including the necessary expansion of existing Illinois Route 47 south and north of the couplet. Potential relocations may be necessary for three residential and three business properties. A portion of the alignment would require right-of-way from the McHenry County Fairgrounds, essentially splitting the parcel in two. This alternative would require a new railroad crossing between Lake Avenue and McConnell Road. Work associated with establishing this new grade separated crossing results in additional impacts to approximately 6 to 14 properties.

Total disturbed area within floodplain for this alternative is nine acres and total wetland area affected is six acres.

### 3.4.3.3 Irving Avenue to North of St. Johns Road (Alternative C3)

### 3.4.3.3.1 Description of Alternative

This alternative begins at the intersection of Illinois Route 47 and Irving Avenue. The highway splits northbound traffic along Irving Avenue for 0.45 mile. Irving Avenue is extended northward and to the west of Silver Creek for approximately 0.85 mile before merging back into two-way traffic along existing Illinois Route 47 just north of St. Johns Road. Illinois Route 47 would be widened to two lanes in each direction from US Route 14 to Irving Avenue and from north of St. Johns Road to Charles Road. The alignment compared to the delineated environmental resources is shown in Figure 3.4-8.


Figure 3.4-8 Alternative C3 Alignment and Environmental Resources

### 3.4.3.3.2 Preliminary Impacts

Preliminary impacts for one-way couplet Alternative C3 include right-of-way acquisition of approximately 36.5 acres from 139 properties, including the necessary expansion of existing Illinois Route 47. Potential relocations may be necessary for two residential buildings and one business property. Two tennis courts and two baseball fields would be acquired from Silver Creek Park.

This alternative would require replacement of the existing Illinois Route 47 UP Railway bridge to accommodate the expanded roadway width. This may require a temporary shoo-fly railroad bridge and track adjacent to the existing tracks.

If this work occurs north of the tracks, there are additional possible impacts to five parcels and potential relocations of two businesses. If this work occurs south of the tracks, there are additional possible impacts to 14 parcels and the potential for relocations of 5 businesses.

Total disturbed area within floodplain for this alternative is 9 acres and total wetland area affected is 1.5 acres.

### 3.4.3.4 Irving Avenue to North of Ware Road (Alternative C4)

### 3.4.3.4.1 Description of Alternative

This alternative is similar to Alternative C3 from the southern limit at Irving Avenue to Illinois Route 120. North of Illinois Route 120, the northbound lanes of traffic continue east and align with existing Hickory Road. The roadway travels north for 0.7 mile before merging back into two-way traffic along existing Illinois Route 47 just north of Ware Road. Illinois Route 47 would be widened to two lanes in each direction from US Route 14 to Irving Avenue and from north of Ware Road to Charles Road. The alignment compared to the delineated environmental resources is shown in Figure 3.4-9.

### 3.4.3.4.2 Preliminary Impacts

Preliminary impacts for one-way couplet Alternative C4 include right-of-way acquisition of approximately 28.3 acres from 116 properties, including the necessary expansion of existing Illinois Route 47. Potential relocations may be necessary for three residential and one business property.

This alternative would require replacement of the existing Illinois Route 47 UP Railway bridge to accommodate the expanded roadway width. This may require a temporary shoofly railroad bridge and track adjacent to the existing tracks. If this work occurs north of the tracks, there are additional possible impacts to five parcels and potential relocations of two businesses. If this work occurs south of the tracks, there are additional possible impacts to 14 parcels and the potential for relocation of five businesses.

Total disturbed area within floodplain for this alternative is 10.5 acres and total wetland area affected is 3.4 acres.


Figure 3.4-9 Alternative C4 Alignment and Environmental Resources

### 3.4.3.5 Couplet Initial Public Feedback

Preliminary feedback was received from the Corridor Advisory Group on the one-way couplet alternatives. The Corridor Advisory Group identified positive aspects that include no need to widen the existing Illinois Route 47 UP Railway bridge (Alternatives C1 and C2 only), IDOT continuing to maintain both roadways, relief of traffic on existing Illinois Route 47 (in adjacent one-way areas), increased safety by reducing left turn conflicts and, when compared to other bypass alternatives, the couplet has more access to businesses. The Corridor Advisory Group-identified negative aspects include increased cost for improving two roadways, the cost of a second railroad bridge (Alternatives C3 and C4 only), right-of-way acquisition and cost, complex traffic pattern and resulting adverse travel, negative impact on existing businesses, impacts to local zoning and land use plans, and impacts to environmental areas.

### 3.5 EVALUATION AND SCREENING OF ALTERNATIVES

Alternatives were evaluated for their ability to meet the Purpose and Need of the project. Those that met the Purpose and Need were carried forward for further evaluation. This evaluation consisted of detailed analysis of impacts for each alternative and public feedback on the alternatives. The goal of the analysis was to select a preferred alternative for the project.

A summary of this process is displayed in Figure 3.5-1.


Figure 3.5-1 Alternative Evaluation Process

Level of Service (LOS) is a measurement used to describe traffic flow or the amount of congestion a section of roadway experiences. There are six LOS, each given a letter designation. See Figure 3.5-2 for further detail of LOS.

## LEVELS OF SERVICE




LOSA - Free flow


LOS B - Reasonably free flow

LOS C - Stable flow






LOS D - Approaching unstable flow



LOS E - Unstable Flow


Adapted from A Policy on Geometric Design of Highways and Streets. AASHTO. 2001

Figure 3.5-2 Level of Service Explanation

ADT values and the resulting LOS were used to predict the amount of congestion Illinois Route 47 would experience for the alternatives. The results of the traffic analysis for the no-action alternative are shown in Figure 3.5-3.


Figure 3.5-3 Average Daily Traffic and Level of Service Map

As can be seen in Figure 3.5-3, 2040 LOS for the future no-action varies from C to F . This LOS range is not acceptable for IDOT highways. IDOT guidelines for an urban SRA such as Illinois Route 47 recommend consideration of expansion to a four-lane section when the ADT reaches approximately 16,000 to $18,000 \mathrm{vpd}$ in the design year. The design year for this project is 2040, and parts of the corridor have already surpassed this ADT threshold.

Given the deficiencies of the roadway in its existing condition and continued increases in traffic volume in the future, the "No-Action" alternative is not a viable option to address the Purpose and Need of the corridor. The "No-Action" alternative would result in increased congestion and travel delays and would contribute to decreased safety by increasing the incidence of traffic conflicts. Additionally, this alternative does not address the need for access management, pedestrian and bicycle accommodations, or any of the identified geometric deficiencies.

To determine the effectiveness of each preliminary build alternative from a capacity standpoint, traffic projections were needed. CMAP developed a sub-area traffic model of the Woodstock area. This model was used to develop 2040 ADT volumes for each scenario. The model output shows how each bypass and couplet scenario would affect local and regional traffic patterns, and also shows the feasibility of each bypass to alleviate traffic demand on the existing Illinois Route 47 roadway. The resulting ADTs are shown in Figure 3.5-4.


Figure 3.5-4 Alternative Average Daily Traffic Values

A summary of the preliminary potential impacts of each build alternative is shown in Table 3.5-1. Wetland, floodplain, and stream crossing impacts for the bypass and couplet alternatives were determined using National Wetland Inventory maps. No survey on site was completed for the bypass and couplet alternatives.

|  | Property Impacts |  |  |  | Environmental Impacts |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Alternative | Right-of-Way (acres) | Potential Relocated Residences | Potential Relocated Businesses | Additional Properties Affected by Railroad Work | Wetland (acres) | Floodplain (acres) | Stream Crossings |
| A | 18.9 | 11 | 3 | 5 to 14 | 0.2 | 5.8 | 2 |
| B1 | 25.5 | 3 | 0 | 4 | 0.4 | 0.3 | 1 |
| B2 | 68.1 | 6 | 4 | 6 to 14 | 3.1 | 0.0 | 1 |
| C1 | 46.9 | 2 | 3 | 6 to 14 | 4.1 | 7.5 | 3 |
| C2 | 38.7 | 3 | 3 | 6 to 14 | 6.0 | 9.0 | 3 |
| C3 | 36.5 | 2 | 1 | 5 to 14 | 1.5 | 9.0 | 2 |
| C4 | 28.3 | 3 | 1 | 5 to 14 | 3.4 | 10.5 | 2 |

Table 3.5-1 Impacts Summary Table

As shown in Table 3.5-1, Alternative A requires the least amount of right-of-way to be acquired. Alternative A also has the most potential relocated residences and a high number of potential relocated businesses. Alternative B1 involves the second least amount of right-of-way acquisition. Alternative B1 also involves the least overall property and environmental impacts. Alternatives $\mathrm{B} 2, \mathrm{C} 1, \mathrm{C} 2, \mathrm{C} 3$, and C 4 all involve additional right-of-way acquisition and environmental impacts when compared to Alternatives A and B1.

This existing alignment build alternative (Alternative A) meets the project Purpose and Need. It will increase roadway capacity. Because many of the crashes in the corridor appear to be congestion related, the increased capacity combined with improved access management will likely reduce traffic conflicts and therefore reduce crashes. Pedestrian and bicycle accommodations are included. This alternative also will provide feasible and practical repairs to geometric deficiencies. Therefore, this alternative is recommended to be carried forward.

The bypass alternatives (Alternatives B1 and B2) do not satisfy the Purpose and Need, as traffic congestion and related safety deficiencies on existing Illinois Route 47 would continue. Additionally, designating a bypass route does not address access management, pedestrian and bicycle accommodations, or the geometric needs of the existing Illinois Route 47 corridor. Therefore, this alternative is not being carried forward for further analysis.

Each of the one-way couplet alternatives could satisfy the project Purpose and Need because both existing Illinois Route 47 and the new corridor would be improved. The traffic model showed that traffic congestion and delay would be reduced and, therefore, would improve safety. The existing Illinois Route 47 edge of pavement would be sufficient in the adjacent one-way couplet areas, but work
would be required to implement access management, provide pedestrian accommodations, and address the geometric issues. In discussions with the Illinois Route 47 Corridor Advisory Group, there was no support for the one-way couplet alternatives. While the alternatives meet the Purpose and Need, the lack of support for the one-way couplet alternatives means they will not be carried forward for further consideration.

Based on the above analysis, it is recommended that Bypass Alternatives B1 and B2, and Couplet Alternatives $\mathrm{C} 1, \mathrm{C} 2, \mathrm{C} 3$, and C 4 not be carried forward. Alternative A , the existing alignment alternative with pedestrian accommodations, will be carried forward for further analysis.

### 3.6 FURTHER EVALUATION OF EXISTING ALIGNMENT ALTERNATIVE

As previously discussed, Alternative A, the on-alignment alternative, was the only alternative carried forward for further evaluation. This section of the report evaluates different subalternatives of Alternative A to determine a preferred alternative. Each subalternative consists of two lanes in each direction with a shared-use path on the east side and sidewalk on the west side of Illinois Route 47.

### 3.6.1 Median Selection-US Route 14 to Ware Road

A 13-foot-wide two-way left-turn lane (TWLTL), 18-foot-wide barrier median, and 22-foot-wide barrier median are all possible subalternatives for the median along Illinois Route 47.

A TWLTL consists of a flush pavement median separating travel directions. Illinois Route 47 currently has a TWLTL from US Route 14 to Ware Road. A TWLTL allows vehicles to enter the TWLTL whenever desired and turn left across oncoming traffic to their desired destination. Vehicles can also turn left out of all driveways onto Illinois Route 47. Figure 3.6-1 is a typical section of the TWLTL median alternative.


Figure 3.6-1 TWLTL Alternative Typical Section

Access is not controlled through a TWLTL. This creates an increased number of conflict points along Illinois Route 47. The 11 total conflict points created by a TWLTL are shown in Figure 3.6-2, taken from the FHWA Safe Access is Good for Business pamphlet.


Figure 3.6-2 TWLTL Conflict Points

A barrier median consists of barrier curb with grass or paved median separating travel directions. The purpose of the barrier median is to limit the number of access points, thereby limiting the number of conflict points and potential crash locations. Median breaks would be provided sporadically throughout the corridor at key access locations. Left-turn lane tapers and storage would be provided for these median breaks. Figure 3.6-3 is a typical section of the barrier median alternative.


Figure 3.6-3 Build with Barrier Median Typical Section

Barrier median with median breaks allows vehicles to exit the travel lanes safely and turn left without having to be concerned about oncoming vehicles also using the lane. Barrier median also prevents vehicles out of control from crossing over into oncoming traffic, resulting in decreased predicted number of dangerous head-on collisions. Figure 3.6-4 displays the six total conflict points created by barrier median, as presented in FHWA's Safe Access is Good for Business pamphlet.


Figure 3.6-4 Barrier Median Conflict Points

As the number of conflict points indicates, safety is the major factor when evaluating a barrier median and a TWLTL for a corridor. National, regional, and local studies were conducted comparing the number of crashes at each of these levels for both the barrier median and TWLTL. The findings were used to help evaluate the median alternatives and are summarized in the following.

### 3.6.1.1 Barrier Median Versus TWLTL Crashes-National Level

The FHWA completed a study comparing corridors with barrier median and TWLTLs at a national level and results were included in the Safe Access is Good for Business pamphlet in Exhibit 3.6-1. The FHWA found that increasing the number of access points per mile on a major arterial road increases the crash rate by about 30 percent. The study also found that adding a barrier median where a TWLTL previously existed can reduce the crash rate by approximately 37 percent and the injury rate by approximately 48 percent. Figure 3.6-5 shows the number of crashes reported compared to the number of access points per mile.


Figure 3.6-5 Number of Crashes Compared to Number of Access Points

### 3.6.1.2 Barrier Median Versus TWLTL Crashes-Regional Level

IDOT hired an independent consultant to study the number of crashes reported for different corridors in the Chicagoland region. The study included a total of 13 corridors with similar land use to the Illinois Route 47 project study area. Of the 13 corridors, seven have a TWLTL and six have a barrier median. Crash data from 2009 to 2013 was studied and measured using number of crashes per mile per year. The study found the corridors with barrier median had 72 percent fewer crashes when compared to the corridors with TWLTL and 85 percent fewer crashes involving pedestrians and bicyclists. Table 3.6-1 shows the percent reduction in types of crashes for the barrier median compared to the TWLTL corridors.

| Type | Fatal | A Injury | B Injury | C Injury | PDO | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Percent Reduction for Barrier <br> Median versus TWLTL | 69 | 71 | 71 | 72 | 73 | 72 |

## Table 3.6-1 Regional Barrier Median Crash Reduction

### 3.6.1.3 Barrier Median Versus TWLTL Crashes-Local Level

The Highway Safety Manual (HSM) was used to quantitatively predict the number of crashes per year that would result along Illinois Route 47 from each typical section alternative. Roadway characteristics including ADT, number of driveways, section length, and more were put into the HSM program for several sections of Illinois Route 47 within the project study area for each of the median alternatives. Figure 3.6-6 presents the total number of predicted crashes per year for the 2040 no-action alternative (baseline), 2040 TVLTL, and 2040 barrier median.


Figure 3.6-6 Predicted Crashes Per Year

The total number of predicted crashes resulting in an injury or fatality was also analyzed for the no action, TWLTL, and barrier median alternatives. The predicted number of injury/fatal crashes is shown in Figure 3.6-7.


As Figure 3.6-6 and 3.6-7 show, the predicted no action alternative has the fewest predicted total number of crashes per year, as well as the fewest predicted injury/fatal crashes per year. This is expected because the roadway consists of only one lane in each direction and a lower ADT. However, as discussed previously in this report, the no-action alternative was only carried forward as a baseline to compare other alternatives, but it is not considered a potential alternative because of its inability to satisfy the Purpose and Need.

The predicted total number of crashes and injury/fatal crashes per year for the barrier median alternative is slightly lower than the predicted number of crashes for the TWLTL alternative.

### 3.6.1.4 Barrier Median Selection and Median Break Locations

Because of the results found in the national, regional, and local studies for crashes with each median alternative, it is recommended the barrier median be carried forward as the preferred alternative from US Route 14 to Ware Road. The national and regional studies found fewer crashes occur along corridors with barrier median compared to corridors with TWLTLs and the local analysis predicted a fewer number of crashes along Illinois Route 47 with the proposed barrier median compared to a TWLTL. U-turn bump-outs will be provided at a majority of median breaks to allow passenger cars to U-turn. According to IDOT BDE Manual Chapter 34, the minimum median width for urban barrier medians is 18 feet. A 22-foot median is recommended if many intersections do not need to be signalized. Since several signalized intersections exist along Illinois Route 47, an 18 -foot barrier median is being carried forward as part of the preferred median alternative to meet BDE requirements and minimize right-of-way impacts in the restricted corridor. Meetings were held with the Woodstock Police Department, Woodstock Fire/Rescue District, City of Woodstock, and Woodstock Community School District 200 following the selection of the barrier median as part of the preferred alternative. All agencies understood the reasoning
for proceeding with the barrier median and expressed no critical concerns regarding the barrier median. Minutes from meetings with these agencies can be found in Appendix A.

Selecting median break locations throughout the corridor required maintaining access control along the corridor for safety purposes, accommodating access to busy streets and businesses, and satisfying turn lane development criteria presented in the BDE Manual. Median breaks from US Route 14 to Illinois Route 120 were provided at all major intersections and at select businesses between intersections based on property needs and size and discussions at various meetings with business owners. Median breaks from Illinois Route 120 to Ware Road are provided at select side street intersections based on requested locations from the Woodstock Police Department, Woodstock Fire/Rescue District, and Woodstock Community School District 200. All median break locations have been discussed with City of Woodstock representatives.

### 3.6.2 Intersection Alternatives

Roundabout intersections were evaluated at the following six locations:

> Illinois Route 47 and Lake Avenue
> Illinois Route 47 and McConnell Road
> Illinois Route 47 and Irving Avenue/Judd Street
> Illinois Route 47 and Illinois Route 120
> Illinois Route 47 and Ware Road
> Illinois Route 47 and Charles Road

The intersections of Lake Avenue, McConnell Road, Judd Street/Irving Avenue, and Illinois Route 120 are currently signalized intersections. Ware Road is a minor stop controlled intersection and Charles Road is an all-way stop-controlled intersection. Analysis found that all six intersections should be replaced with the same type of intersection as the existing intersection if roundabouts are not selected. All other intersections within the corridor will also be replaced with the same traffic control as existing except the intersection of St. Johns Road. Signal warrant analysis determined the existing minor leg, stop-controlled intersection will


Figure 3.6-8 Intersection Alternatives Evaluated operate more efficiently as a signalized intersection.

All six intersections are able to act independently, except for the intersections of Lake Avenue and McConnell Road. Because of their proximity, for the Lake Avenue and McConnell Road intersections to operate properly, the two intersections must have the same type of traffic control. Therefore, both intersections must have either roundabouts or traffic signals. A summary of the intersection alternatives is shown in Figure 3.6-8.

In general, roundabouts typically reduce the rate of angle crashes and injury crashes. The lower speeds at which a roundabout operates will likely result in less severe crashes. One study showed that conversion to roundabout control has reduced an average of 39 percent of the total crashes and 76 percent of the injury crashes at 24 intersections studied (From IIHS Status Report Vol. 35, No 5).

Roundabouts also increase the safety of skewed intersections. The intersections of Lake Avenue, McConnell Road, and Judd Street/Irving Avenue all exceed the maximum recommended intersection skew of 15 degrees. Roundabouts help eliminate the skew of the intersection, lowering the sight angle required by drivers. Roundabouts also only require drivers to look in one direction when entering the intersection.

Finally, roundabouts reduce the number of conflict points when compared to a traditional signalized intersection. A traditional signalized intersection has 32 conflict points while a roundabout intersection only has eight conflict points. Figure 3.6-9 shows the conflict points in red for traditional and roundabout intersections.


### 3.6.2.1 Lake Avenue and McConnell Road

Figures 3.6-10 and 3.6-11 show the proposed roundabout and signalized intersection alternatives for the Lake Avenue and McConnell Road intersections. Proposed building relocations are highlighted in pink. A proposed building modification is highlighted in blue and discussed further
in Section 4.2.5. If the signalized intersection design is selected, the existing bridge for the UP Railway over Illinois Route 47 must be replaced. This would require a temporary shoo-fly railroad bridge and track adjacent to the existing tracks. Because of the existing railroad track alignment, the shoo-fly would only be feasible south of the existing track. There are possible impacts to 14 parcels and the potential for relocation of four businesses. This design increases the cost of the construction by approximately $\$ 30$ million. The proposed roundabout alternative allows the existing bridge to remain in place and proposes a pedestrian tunnel to be built east of the roadway bridge to accommodate pedestrians and bicyclists.



LEGEND
PROPOSED SIDEWALK
PROPOSED BUILDING RELOCATION
PROPOSED CROSSWALK
PROPOSED SHARED-USE PATH
PROPOSED BUILDING MODIFICATION

Figure 3.6-11 Lake Avenue and McConnell Road Signals

A summary of the impacts associated with each intersection alternative at Lake Avenue and McConnell Road is shown in Table 3.6-2.

As can be seen in Table 3.6-2, the roundabout alternative at Lake and McConnell requires less right-of-way, fewer relocations, a lower cost, and operates more efficiently. Because of these reasons, the roundabout intersection alternative at Lake Avenue and McConnell Road is being carried forward as the part of the preferred alternative.

| Impact | Roundabout | Signalized |
| :--- | :---: | :---: |
| Right-of-Way (acre) | 2.93 | 5.13 |
| Affected Parcels | 35 | 42 |
| Commercial Relocations | 2 | 4 |
| Commercial Building <br> Modifications | 1 | 0 |
| Residential Relocations | 0 | 2 |
| Wetland Impacts (ac.) | 0.080 | 0 |
| Delay-Lake (seconds)/ <br> LOS | $20.7-\mathrm{C}$ | $37.4-\mathrm{D}$ |
| Delay-McConnell <br> (seconds)/LOS | $11.1-\mathrm{B}$ | $18.5-\mathrm{B}$ |
| Cost | $\$ \$$ | $\$ \$ \$ \$ \$$ |

Table 3.6-2 Lake Avenue and McConnell Road Roundabout Versus Signal Impacts

### 3.6.2.2 Judd Street/Irving Avenue

Figures 3.6-12 and 3.6-13 display the roundabout and signalized intersection alternatives for Judd Street/Irving Avenue.


Figure 3.6-12 Judd Street/Irving Avenue Roundabout


Figure 3.6-13 Judd Street/Irving Avenue Signal

A summary of the impacts associated with each intersection alternative at Judd Street/Irving Avenue is shown in Table 3.6-3.

Table 3.6-3 shows the roundabout intersection alternative at Judd Street/Irving Avenue requires less right-of-way acquisition, fewer property relocations, and

| Impact | Roundabout | Signalized |
| :--- | :---: | :---: |
| Right-of-Way (acre) | 2.16 | 1.84 |
| Affected Parcels | 14 | 15 |
| Commercial Relocations | 1 | 1 |
| Residential Relocations | 0 | 1 |
| Delay (seconds) | $11.1-\mathrm{B}$ | $30.4-\mathrm{C}$ |

## Table 3.6-3 Judd Street/Irving Avenue Roundabout Versus Signal Impacts

 operates more efficiently. For these reasons, the roundabout intersection alternative is being carried forward as part of the preferred alternative.
### 3.6.2.3 Illinois Route 120

The number of left-turning movements and the large roundabout footprint resulted in a roundabout being ineffective at the intersection of Illinois Route 47 and Illinois Route 120. Therefore, the roundabout alternative at this intersection was eliminated from consideration and the signalized intersection is being carried forward as part of the preferred alternative.

### 3.6.2.4 Ware Road

Figures 3.6-14 and 3.6-15 present the roundabout and minor leg stop-controlled intersection alternatives for the intersection of Illinois Route 47 and Ware Road. A signal could not be considered because warrants were not met and the Ware Road proximity to the Russel Court signalized intersection.


Figure 3.6-14 Ware Road Roundabout


Figure 3.6-15 Ware Road Minor Leg Stop Control

A summary of the impacts associated with each intersection alternative at Ware Road is shown in Table 3.6-4.

| Impact | Roundabout | Minor Stop |
| :--- | :---: | :---: |
| Right-of-Way (acre) | 1.15 | 0.83 |
| Affected Parcels | 5 | 5 |
| Relocations | 0 | 0 |
| Delay (seconds) | $16-\mathrm{B}$ | $>300-\mathrm{F}$ |
| Table 3.6-4 Ware Road Roundabout Versus Signal |  |  |
| Impacts |  |  |

The minor stop-controlled alternative at Ware Road operates at LOS F, and is therefore not functional. Although the roundabout alternative requires slightly more right-of-way than the traditional alternative, the roundabout intersection at Ware Road will be carried forward as part of the preferred alternative.

### 3.6.2.5 Charles Road

Figures 3.6-16 and 3.6-17 present the roundabout and all-way stop-controlled intersection alternatives for the intersection of Illinois Route 47 and Charles Road. A signal could not be considered because warrants were not met.


Figure 3.6-16 Charles Road Roundabout


LEGEND

PROPOSED PAVEMENT
PROPOSED GRASS
PROPOSED CURB/MEDIAN

PROPOSED SIDEWALK
PROPOSED CROSSWALK
PROPOSED SHARED-USE PATH

PROPOSED BUILDING RELOCATION

PROPOSED BUILDING MODIFICATION

Figure 3.6-17 Charles Road All-Way Stop Control

A summary of the impacts associated with each intersection alternative at Charles Road is shown in Table 3.6-5.

| Impact | Roundabout | All Way Stop |
| :--- | :---: | :---: |
| Right-of-Way (acre) | 4.1 | 1.2 |
| Affected Parcels | 6 | 4 |
| Relocations | 0 | 0 |
| Delay (s) | $21.4-\mathrm{B}$ | $220-\mathrm{F}$ |

Table 3.6-5 Charles Road Roundabout Versus All-Way Stop Impacts

The all-way stop-controlled alternative at Charles Road operates at LOS F and is therefore not functional. Although the roundabout alternative requires more right-of-way than the traditional intersection alternative, the roundabout intersection at Charles Road will be carried forward as the part of the preferred alternative.

### 3.6.2.6 Summary

A summary of the preferred intersection alternative at each of the intersections discussed is shown in Figure 3.6-18. All other existing intersection control along the corridor will remain the same as existing.


Figure 3.6-18 Preferred Intersection Alternatives

### 3.6.3 Detailed Alignments-US Route 14 to Ware Road

A majority of the Illinois Route 47 corridor and side streets use the existing alignment as the proposed alignment design. This section discusses two locations where the proposed alignment does not follow the existing alignment.

### 3.6.3.1 Illinois Route 47 at Illinois Route 120

Illinois Route 47 is on a horizontal curve as it intersects with Illinois Route 120. The existing alignment radius is approximately 573 feet. This tight horizontal curve limits sight distance at the intersection and requires superelevation. The horizontal curve radius was increased to 818.5 feet, increasing the sight distance and eliminating the need for superelevation. The proposed alignment also eliminates the need to relocate one residential property at the northwest corner of the intersection and one residential garage located at the southwest corner of the intersection. Figure $3.6-19$ shows the proposed Illinois Route 47 at Illinois Route 120 intersection.


Figure 3.6-19 Illinois Route 47 at Illinois Route 120

### 3.6.3.2 Greenwood Avenue

The existing west leg of Greenwood Avenue intersects Illinois Route 47 approximately 30 feet south of where the east leg intersects Illinois Route 47 at Greenwood Circle. This offset complicates the intersection geometry, particularly for vehicles attempting to go straight through Greenwood Avenue/Circle. Realigning the east leg of Greenwood Circle to the south was initially considered. However, this realignment would require relocation of the Mobil gas station located at the southeast corner of the intersection. Therefore, the project team investigated the possibility of realigning the west leg of Greenwood Avenue to the north to better align with Greenwood Circle. This realignment was carried forward as part of the preferred alternative.

Realignment of the west leg of Greenwood Avenue results in the proposed roadway being shifted closer to the Schneider, Leucht, Merwin, and Cooney Funeral Home located at the northwest corner of the intersection and impacts its parking lot. The funeral home owners requested the roadway remain as far as possible from the building. A taper is provided through the intersection with Illinois Route 47 and 11-foot lanes were used along Greenwood Avenue to minimize impacts to the funeral home. Figure 3.6-20 shows the proposed Illinois Route 47 at Greenwood Avenue intersection.


Figure 3.6-20 Greenwood Avenue

### 3.6.4 Cross Section Modifications

The preferred alternative consists of two 12-foot lanes in each direction. Lane widths were modified at two locations along the corridor to accommodate sight constraints and reduce impacts. Although the BDE Manual recommends 12 -foot lanes along urban corridors, if right-of-way is restricted, the BDE does allow 11 -foot lanes. The 10-foot shared-use path width along the east side of Illinois Route 47 was also reduced to an 8 -foot width at two locations. Locations where lane widths other than 12 feet are proposed are presented in the following.

### 3.6.4.1 UP Railway Bridge

Because the roundabout alternative was selected as part of the preferred alternative at Lake Avenue and McConnell Road, the UP Railway bridge running over Illinois Route 47 will not be replaced. The railroad bridge has a 52 -foot clear width for Illinois Route 47. Providing the corridor typical section of four 12-foot lanes and standard B-6.24 curb and gutter requires 53.2 feet of clear width, which is not available. The typical section under the bridge consists of two 11 -foot through-lanes in each direction. Providing this lane configuration also allows for a 2-foot clearance on each side from the face of curb to the railroad bridge abutment. As discussed in Section 3.6.2.1, a new tunnel underneath the UP Railway will be constructed east of the existing railroad bridge to accommodate the proposed 10-foot shared-use path.

Illinois Route 47 from Judd Street to Christian Way is a narrow urban section of the corridor with several residential houses and commercial properties. To minimize the number of relocated residential houses and reduce the right-of-way impacts associated with the improvements, all lane widths will be reduced to 11 feet in this section. Sidewalk located on the west side of Illinois Route 47 will begin at the back of curb and increase to a 7 -foot width. These changes to the cross section reduce the permanent right-of-way width by 5 feet.

### 3.6.5 Alternatives from Ware Road to Charles Road

Illinois Route 47 from Ware Road to Charles Road is located at the north end of the project and is approximately 1.3 miles in length. The existing roadway consists of one 12 -foot lane in each direction with no median. A 1 -foot-wide hot-mix asphalt shoulder and 8 -foot-wide aggregate shoulder run along each side of the travel lanes. The existing posted speed limit south of Ware Road is 35 miles per hour ( mph ). The existing posted speed limit from Ware Road to approximately 0.5 mile north of Ware Road is 45 mph . The existing posted speed limit from approximately 0.5 mile north of Ware Road to Charles Road is 55 mph . This speed limit continues north of Charles Road for approximately seven miles. Three horizontal curves exist between Ware Road and Charles Road. They meet the current design speed criteria of 45 mph without the need for superelevation. The three curves do not meet the current design criteria for a 55 mph design speed.

Current land use from Ware Road to Charles Road is primarily agricultural. Future land use is anticipated to be zoned residential at a density of up to three units per acre in accordance with the City of Woodstock 2008 Comprehensive Plan. There are a few existing residential homes and businesses on each side of the road in this section.

Four delineated wetland sites, Sites $8,9,11$, and 12, exist on the west side of Illinois Route 47 between Ware Road and Charles Road. Wetland Sites 11 and 12 are classified as high functioning wetlands. All four of the wetland sites will be impacted by the proposed improvements, regardless of which speed limit alternative is chosen. The severity of the impacts is dependent on the chosen speed limit and its corresponding cross section. A deep water aquatic habitat pond is located approximately 100 feet south of Cooney Drive and is considered to be Waters of the United States (WOUS) regulated by the U.S. Army Corps of Engineers. Impacts to the pond are dependent on the chosen speed limit and its corresponding cross section.

### 3.6.5.1 Speed Limit/Design Speed Alternatives from Ware Road to Charles Road

A speed study not related to the Illinois Route 47 Phase I Study was conducted on April 9, 2014. A total of 400 spot speeds around IDOT District 1 were collected and analyzed. The results of the spot speed analysis along Illinois Route 47 north of Ware Road yielded a prevailing speed of 50.5 mph in the 45 mph posted speed limit section and a prevailing speed of 52.5 mph in the 55 mph posted speed limit section. The speed study recommended a 50 mph posted speed from Ware Road to Charles Road. A transitional posted speed limit section would be required between the 35 mph speed limit area south of Ware Road and the 50 mph speed limit area north of Ware Road because the difference is greater than 15 mph .

Three alternatives were considered for the posted and design speed limits between Ware Road and Charles Road. These alternatives are explained in detail following.

### 3.6.5.1.1 Alternative 1-Match Existing Posted and Design Speeds

The first speed limit alternative is to proceed with the existing posted speed limits used in the corridor. This consists of a 45 mph posted speed limit ( 50 mph design speed) from Ware Road to 0.5 mile north of Ware Road and a 55 mph posted speed limit ( 60 mph design speed) from 0.5 mile north of Ware Road to Charles Road. The 55 mph posted speed from 0.5 mile north of Ware Road to Charles Road would require a rural cross section. The typical section for this alternative developed according to Rural SRA design criteria (BDE Chapter 46) consists of two 12-foot lanes in each direction, 10-foot paved outside shoulders, 4 -foot paved median shoulders, and a 50 -foot-wide depressed median. Ditches would be required for stormwater detention, conveyance, and water quality purposes. Horizontal and vertical curves would be lengthened and adjusted to meet this design criteria.

The increased roadway width would result in increased impact (when compared to Speed Alternatives 2 and 3 ) to an additional 0.021 acre ( 900 square feet) of wetlands, the full acquisition of one residential property, grading within 6 feet of one residence, and creating substandard driveways throughout the section. This alternative would require the most right-of-way from current property owners and would impact the most wetlands.

### 3.6.5.1.2 Alternative $2-45$ to 50 mph Posted Speed, 50 mph Design Speed

The second alternative consists of a 45 mph posted speed limit ( 50 mph design speed) from Ware Road to 0.5 mile north of Ware Road and a 50 mph posted speed limit ( 50 mph design speed) from 0.5 mile north of Ware Road to Charles Road. These posted and design speed limits match the recommendations of the speed study.

The typical section for this alternative is two 12-foot lanes in each direction and a 22 -foot-wide median with M-4.24 curb and gutter along the median perimeter. Typical section elements at the outside edge of pavement can vary and will be discussed further if this alternative is carried forward.

The required clear zone for suburban SRA routes with the projected ADT volumes of this corridor is 18 to 20 feet according to BDE Manual Figure $38-3 A$. The proposed median is wider than the required clear zone, allowing drivers to regain control of a vehicle that has left the traveled way.

Three horizontal curves would require superelevation to prevent the need to realign the existing horizontal alignment. The curve beginning at Station $290+97.61$ would be superelevated 2.1 percent, the curve at Station $307+09.63$ would be superelevated 3.5 percent and the curve at Station $320+74.54$ would be superelevated 2.6 percent. The currently proposed vertical curves would be lengthened to provide proper stopping sight distance within the corridor.

The amount of right-of-way required and amount of wetlands impacted is less than Alternative 1 and greater than Alternative 3 .

### 3.6.5.1.3 Alternative 3-45 mph Posted Speed, 50 mph Design Speed

The third alternative consists of a 45 mph posted speed limit ( 50 mph design speed) from Ware Road to Charles Road. This speed limit is lower than the recommendations of the speed study conducted. This would not meet the current state statutes for determining and posting speed limits.

The typical section for this alternative would be two 12-foot lanes in each direction and a 22 -foot-wide raised median with B-6.24 curb and gutter along the median perimeter and at the outside edge of pavement. Intermittent ditches behind the back of curb and back of path would also be included for storm sewer outlets and water quality best management practices (BMPs).

A 45 mph speed limit would not require superelevated horizontal curves between Ware Road and Charles Road. The existing vertical curves meet the design criteria for 45 mph speed limits.

This alternative would require the least amount of right-of-way to be acquired and impact the least amount of wetlands. However, the speed limit proposed would be lower than the prevailing speed limit found during the speed study.

### 3.6.5.1.4 Speed Limit/Design Speed to be Carried Forward

Based on the findings presented above, Speed Alternative 2, consisting of a 45 mph proposed posted speed limit ( 50 mph design speed) from Ware Road to 0.5 mile north of Ware Road and a 50 mph proposed posted speed ( 50 mph design speed) from 0.5 mile north of Ware Road to Charles Road was carried forward as the preferred alternative. This alternative matches the recommendations provided in the speed study. This alternative also has significantly less right-of-way and wetland impacts when compared to Speed Alternative 1.

### 3.6.5.2 Typical Section Alternatives from Ware Road to Charles Road

Three different typical section alternatives were considered for the section along Illinois Route 47 from Ware Road to Charles Road. This typical section alternative evaluation was completed to select the alternative that best meets the needs of the Illinois Route 47 section, satisfies design criteria, and minimizes impacts to the surrounding environment. All three typical section alternatives are shown in Exhibit 3.6-2 and include two 12-foot lanes in each direction and a 22-foot-wide median with M-4.24 curb and gutter. Typical sections of all three alternatives are shown in Figure 3.6-2. When the typical section alternatives were developed, it was assumed the roadway would be constructed with Hot-Mix Asphalt pavement. However, it has since been determined that Portland Cement Concrete pavement will be used throughout the corridor. This revision in the typical section does not affect the typical section alternative analysis. Impacts associated with each alternative and selection of the preferred alternative follow the alternative descriptions.

### 3.6.5.2.1 Alternative 1-Smallest Footprint, Closed Drainage System

The first typical section alternative consists of a closed drainage system. The typical section includes a 10 -foot paved outside shoulder and Type M-4.24 curb and gutter outside the paved shoulder on each side. On the west side of lllinois Route 47 and behind the mountable curb and gutter, a ditch is proposed with 1:4 foreslope, a 4 -foot ditch bottom, and a 1:3 backslope. No sidewalk or sidewalk shelf is included on the west side of Illinois Route 47. On the east side of Illinois Route 47 behind the mountable curb, a 6 -foot swale, a 10 -foot shared-use path behind the swale, and a full drainage ditch behind the path is proposed. The proposed ditch has a $1: 4$ foreslope, a 4 -foot ditch bottom, and a $1: 3$ backslope. Storm sewer is proposed along a significant portion of the roadway. This alternative has a small footprint compared to Alternative 3 and similar footprint to Alternative 2.

### 3.6.5.2.2 Alternative 2-Smallest Footprint, Open Drainage System

The second typical section alternative consists of an open drainage system and small corridor footprint. The typical section includes a 10 -foot paved outside shoulder with no outside curb and gutter. On the west side of Illinois Route 47 behind the paved shoulder, a ditch is proposed with 1:4 foreslope, a 4 -foot ditch bottom, and a 1:3 backslope. No sidewalk or sidewalk shelf is included on the west side of Illinois Route 47. On the east side of Illinois Route 47 behind the paved shoulder, a drainage ditch is proposed. The proposed ditch has a 1:4 foreslope, a 4 -foot ditch bottom, and a 1:3 backslope. Behind the drainage ditch, a 10 -foot shared use path is proposed. A small swale is proposed behind the path to collect any offsite water prior to draining over the path into the roadway drainage ditch. For this alternative, the corridor consists of an open drainage system where feasible. Sporadic storm sewer will be required to maintain positive drainage to the detention basins within the section.

### 3.6.5.2.3 Alternative 3-Largest Footprint, Open Drainage System

The third typical section alternative consists of an open drainage system and large corridor footprint. The typical section includes a 10 -foot paved outside shoulder with no outside curb and gutter. On the west side of Illinois Route 47 behind the paved shoulder, a ditch is proposed with 1:6 foreslope, a 4 -foot ditch bottom, and a 1:3 backslope. Behind the ditch on the west side of Illinois Route 47, a 5 -foot sidewalk shelf is included to accommodate future development and sidewalk along the section. A small swale is proposed behind the sidewalk shelf to collect any offsite water prior to draining over the shelf into the roadway drainage ditch. On the east side of Illinois Route 47 behind the paved shoulder, a drainage ditch is proposed. The proposed ditch has a 1:6 foreslope, a 4 -foot ditch bottom, and a 1:3 backslope. Behind the drainage ditch, a 10 -foot shared use path is proposed. A small swale is proposed behind the path to collect any offsite water prior to draining over the path into the roadway drainage ditch. For this alternative, the corridor consists of an open drainage system where feasible. Sporadic storm sewer will be required to maintain positive drainage to the detention basins within the section. This alternative matches the footprint presented in the BDE manual for the given design speed of 50 mph .

### 3.6.5.2.4 Typical Section Alternative Impacts and Preferred Alternative Selection

Impacts within the section were determined for each of the three alternatives. Impacts for each of the alternatives are shown in Table 3.6-6.

| Alternative | Right-of-Way <br> (Acres) | Wetlands <br> (Acres) | Relocations |
| :---: | :---: | :---: | :---: |
| 1 | 13.51 | 0.27 | 0 |
| 2 | 12.68 | 0.23 | 0 |
| 3 | 17.20 | 0.44 | 0 |

Table 3.6-6 Typical Section Alternative Impacts - Ware Road to Charles Road

As shown in Table 3.6-6, impacts associated with Alternatives 1 and 2 are similar, while impacts associated with Alternative 3 are relatively higher. This was expected based on the elements included in each typical section. Based on impacts associated with each alternative, the design criteria for the section, and the future anticipated use of the section, it was agreed that Alternative 2 would be carried forward as the preferred alternative. Following the selection of Alternative 2 as the preferred alternative, the small swale on the east side of Illinois Route 47 proposed behind the shared-use path was removed to further reduce environmental/right-of-way impacts.

### 3.6.5.3 Proposed Alignment from Ware Road to Charles Road

A proposed alignment, not following the existing centerline alignment, was also developed from 425 feet north of Ware Road to 3,530 feet north of Ware Road. The purpose of the proposed alignment is to further reduce impacts to environmentally sensitive areas such as buildings and wetlands. At the south end of the section, the proposed alignment is east of the existing centerline alignment. The offset varies from 0 feet to 12 feet. This alignment reduces impacts to Wetland Site 8 . Approximately 1,765 feet north of Ware Road, the proposed alignment is west of the existing alignment for approximately 340 feet. The offset varies from 0 feet to 3 feet. The proposed alignment could not differ from the existing alignment in this area because of the residential houses located near the roadway on each side of Illinois Route 47. From 2,105 feet north of Ware Road to 3,530 feet north of Ware Road, the proposed alignment is again east of the existing alignment. The offset varies from 0 feet to 13 feet. This alignment reduces impacts to the two commercial businesses located on the west side of Illinois Route 47.

### 3.7 IDENTIFICATION OF THE PREFERRED ALTERNATIVE

Based on the alternative analysis discussed in this chapter, Alternative A (the on-alignment alternative) is being carried forward as the preferred alternative. The preferred alternative also includes barrier median from US Route 14 to Ware Road and roundabouts at Lake Avenue, McConnell Road, Judd Street/Irving Avenue, Ware Road, and Charles Road. The preferred alternative will consist of a rural cross section from Ware Road to Charles Road with mountable curb median and outside shoulders. Exhibit 3.7-1 shows the Preferred Alternative plan view drawings and Exhibit 3.7-2 shows the Preferred Alternative typical sections.

### 4.1 INTRODUCTION

The project study area was inventoried for environmental resources. The Environmental Inventory Map, shown in Exhibit 4.1-1, identifies the sensitive natural areas in the project study area. Sensitive natural areas include nature preserves, ponds, wetland sites, parks, and streams. Resources potentially impacted by the proposed action or that require discussion pursuant to applicable laws and regulations are addressed in this chapter.

Table 4.1-1 is a summary of environmental resources and indicates whether a specific resource is present or not present in the project study area. The table also indicates whether present resources are impacted. The remainder of Section 4 discusses each specific resource.

| Environmental Resources/Conditions | Resource/Condition Present? |  |  |
| :---: | :---: | :---: | :---: |
|  | Yes | No | Present But Not Affected |
| I. Social/Economic |  |  |  |
| 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 |  |  |
| II. Agricultural |  |  |  |
| 1. Farms and Farmland Conversion | X |  |  |
| 2. Prime and Important Soils | X |  |  |
| 3. Severed/Landlocked Parcels |  | X |  |
| 4. Adverse Travel |  | X |  |
| III. Cultural Resources (Historic Properties) |  |  |  |
| 1. Archeological Sites |  | X |  |
| 2. Historic Bridges |  | X |  |
| 3. Historic Districts |  | X |  |
| 4. Historic Buildings |  | X |  |
| Table 4.1-1 Environmental Resources/Conditions Table |  |  |  |


| 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 4.0 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 area contain 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. Does habitat exist for Illinois listed species in the project area? |  |  | X |

Table 4.1-1 Environmental Resources/Conditions Table (cont.)

|  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| Environmental Resources/Conditions |  | Resource/Condition Present? |  |

Table 4.1-1 Environmental Resources/Conditions Table (continued)

| Environmental Resources/Conditions | Resource/Condition Present? |  |  |
| :---: | :---: | :---: | :---: |
|  | Yes | No | Present But <br> 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 FQl of 20 or greater? |  |  | X |
| 3. Are any of the wetlands listed as an ADID Site? |  |  | X |
| 4. Wetlands Finding | X |  |  |
| XI. Special Waste |  |  |  |
| 1. Did project pass Level I screening? |  | X |  |
| 2. Did project pass Levell I 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 required? | X |  |  |
| XII. Special Lands |  |  |  |
| 1. Section 4(f) |  |  |  |
| a. De Minimis, Programmatic, or Individual |  | X |  |
| 2. Section 6(f) |  |  | X |
| 3. OSLAD Act Lands |  | X |  |
| 4. INAI Sites |  |  | X |
| 5. Nature Preserves |  | X | X |
| 6. Land and Water Reserves |  | X |  |
| XIII. Indirect and Cumulative Impacts |  |  |  |
| 1. Indirect Impacts | X |  |  |
| 2. Cumulative Impacts | X |  |  |

Table 4.1-1 Environmental Resources/Conditions Table (continued)
$\left.\begin{array}{|l|c|c|c|}\hline \begin{array}{l}\text { Additional Information }\end{array} & \text { Yes } & \text { No } & \begin{array}{c}\text { Present But } \\ \text { Not Affected }\end{array} \\ \hline \text { XIV. Environmental Commitments } \\ \text { Permits/Certifications Required }\end{array}\right)$

Table 4.1-1 Environmental Resources/Conditions Table (cont.)

### 4.2 SOCIOECONOMIC

### 4.2.1 Community Cohesion

The project study area of Illinois Route 47 (Illinois Route 47) is in Woodstock, Illinois, located at the center of McHenry County, and are part of the Greater Chicago Metropolitan Area. The 2010 Census determined that the City of Woodstock had a population of 24,770. The 2012-2016 U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates determined that the City of Woodstock has a population of 25,232 .

Land use along the Illinois Route 47 corridor is mixed between commercial, industrial, and residential zones. The majority of the residential neighborhoods are located along Illinois Route 47 between Illinois Route 120 (Illinois Route 120), and Ware Road. Currently, Illinois Route 47 within the project study area divides the City of Woodstock into east and west sides. The existing corridor is characterized by limited pedestrian facilities, particularly the lack of crossings at signalized intersections, to connect adjacent neighborhoods across Illinois Route 47. Presently, subdivisions have multiple ways of entry and exit where vehicles are permitted to perform both left- and right-hand turns onto Illinois Route 47. Known residential subdivisions and their populations are shown in Table 4.2-1.

There are no significant physical barriers that exist within the project study area. A railroad bridge exists just south of McConnell Road with the roadway traveling underneath, which will be discussed in greater detail in Section 4.4.2. This structure is not expected to be a physical barrier. Illinois Route 47 crosses Silver Creek south of Birch Road and crosses a tributary to Silver Creek south of Cooney Drive. Although the proposed improvements in this area maintain the general alignment, widening the roadway will require replacement of these box culverts, but will not inhibit traffic flow.

The proposed improvements will not divide or isolate the community or surrounding neighborhoods. Constructing sidewalks and a shared-use path along the corridor will serve to connect adjacent neighborhoods and facilitate community cohesion.

| Subdivision | Population |  |
| :--- | :---: | :--- |
| Oakwood Hills Subdivision | 15 | Edgewood Drive and Southview Drive |
| Centerville Plaza | 20 | South Eastwood Drive |
| Country Club Hills Subdivision | 124 | Country Club Road to Leah Lane |
| Emerson Lofts Subdivision | 99 | North Seminary Avenue and Church Court |
| Todd School Subdivision | 119 | North Seminary Avenue and McHenry Avenue |
| Fuller \& Wheats | 504 | Todd Avenue to North Street |
| Mansfield (North Woodstock) | 526 | Christian Way to Greenwood Circle |
| Spring City Subdivision | 562 | Greenwood Avenue to Todd Avenue |
| Greenwood Place Circle | 91 | North Seminary Avenue to Greenwood Circle |
| Woodstock Senior Apartments | 69 | Spring Creek Lane |
| Greenwood Park Subdivision | 1,239 | Greenwood Avenue to Terry Court |
| Creekside at St. Johns | 50 | North Seminary Avenue and St. Johns Road |
| Fox Meadows Subdivision | 146 | West Meadow Avenue to Terry Court |
| Meadows Subdivision | 25 | Wheeler Street to Ash Avenue |
| Greenwood Meadows Subdivision | 202 | Terry Court to Joseph Street |
| Northwood Estates | 81 | Peach Tree Lane to West Melody Lane |
| Todd Woods Subdivision | 561 | St. Johns Road to Ware Road |
| Sonatas Subdivision | 11 | Ware Road to Verdi Street |
| Justice Hill Subdivision | 111 | Illinois Route 47 to Cooney Drive |

Source: 2010 Census Bureau
Table 4.2-1 Subdivisions and Their Populations

### 4.2.2 Title VI and Environmental Justice

### 4.2.2.1 Title VI

Title VI (Civil Rights Act of 1964) prohibits discrimination against people based upon age, handicap, color, sex, national origin, and race. Distribution of the elderly and disabled population was taken from the 2010 Census Data for the project study area, the City of Woodstock, and Illinois, collectively. This data was supplemented by 2012-2016 U.S. Census Bureau, 2012-2016 American Survey 5-Year Estimates for the city of Woodstock and state of Illinois. Population data is included in Table 4.2-2.

|  | Total <br> Population | Elderly <br> Population | Percent <br> Elderly | Disabled <br> Population | Percent <br> Disabled |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Poble <br> Area | 8,639 | 901 | 10.43 | $\mathrm{~N} / \mathrm{A}$ | $\mathrm{N} / \mathrm{A}$ |
| 2010 Woodstock | 24,770 | 2,500 | 10.1 | 2,792 | 11.1 |
| 2016 Woodstock | 25,232 | 2,347 | 9.3 | 2,810 | 11.1 |
| 2010 Illinois | $12,830,632$ | $1,603,829$ | 12.5 | $1,199,762$ | 10.2 |
| 2016 Illinois | $12,851,684$ | $1,719,667$ | 13.4 | $1,376,858$ | 10.7 |

Source: Census Bureau
Table 4.2-2 Elderly and Disabled Population

On the east side of Illinois Route 47, the project study area was found to have an elderly percentage of population of 26.1 percent from Country Club Road to Greenwood Avenue and 18.9 percent from Ware Road to Charles Road. On the west side of Illinois Route 47, the project study area was found to have an elderly percentage of population of 25.1 percent from US Route 14 to Lake Avenue, and 20 percent from Ware Road to Charles Road. A total of 21.64 acres of permanent right-of-way is proposed to be acquired as part of the project within these sections.

The project study area and the City of Woodstock have a smaller percentage of elderly population compared to the State of Illinois and a slightly higher percentage of disabled persons. The elderly population is mainly concentrated in the areas with nursing homes and assisted care facilities, which are shown in the Environmental Resource Map in Exhibit 4.2-1. The City of Woodstock has five nursing homes, three of which are located along the Illinois Route 47 within the project study area and have a combined capacity of 250 residents. There is no specific data about the locations of the disabled population within the project study area. All practical and feasible measures will be considered to not negatively impact the elderly population. Proposed sidewalk and shared-use paths compliant with the Americans with Disabilities Act (ADA) are part of this entire project, including the frontage of the nursing homes. Permanent right-of-way will be required at the frontage of the nursing homes along Illinois Route 47. No nursing homes will be relocated as a part of the project.

No religious minorities were found within the project study area. According to the City of Woodstock's website, Woodstock has one Zen Buddhist place of worship, one Mormon place of worship, one Christian Science church, one Assembly of God church, one Roman Catholic church, and one Greek Orthodox church. None of these places of worship are located within the project study area.

Based on the census data available and the current land uses adjacent to Illinois Route 47, groups of ethnic, religious, elderly, and handicapped people are present within the project study 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.

### 4.2.2.2 Environmental Justice

The project study area was evaluated in accordance with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, to determine whether there is a potential for disproportionate and adverse impacts to low-income or minority populations. The 2010 Census indicates that residents of the project study area are 77.12 percent white, 4.36 percent black, 1.94 percent Asian, and 32.7 percent Hispanic. The median family income for the project study area is $\$ 57,120$. The 2010 US Census Data Poverty Guidelines states the median income for a family of four is $\$ 22,314$. Based on the demographic information of the project study area, this Project does not contain a low-income population.

The Racial and Ethnic Minority Population Map shown in Exhibit 4.2-2 displays the percentage of minorities throughout the corridor.

There is a high concentration of minorities between McConnell Road and Country Club Road and intermittent sections of Illinois Route 47 between Country Club Road and Ware Road.

The project study area has a higher percentage of ethnic minorities than the City of Woodstock, but the percentage is lower than the state as a whole. All practical and feasible measures will be considered to not disproportionately affect the minority population.

Frontage right-of-way is required from a majority of the properties along Illinois Route 47 within the project study area because of roadway widening and pedestrian accommodations. In total, right-of-way is required from 151 commercial properties, 100 single-family residential properties, 16 agricultural properties, 13 governmental/institutional properties, 11 multi-family residential properties, and 3 industrial properties. This totals 294 properties. In general, 12 feet of permanent right-of-way is required on the west side along Illinois Route 47, and 19 feet of permanent right-of-way is required on the east side along Illinois Route 47. The 19 feet of right-of-way on the east side of Illinois Route 47 is needed as a result of the shared-use path that will be built and located on the east side of Illinois Route 47. The 12 feet of right-of-way on the west side of Illinois Route 47 is needed as a result of the sidewalk that will be built and located on the west side of Illinois Route 47. The shared-use path is proposed on the east side of Illinois Route 47 because of the narrow residential parkway on the west side of Illinois Route 47 from Illinois Route 120 to Russel Court and pedestrian generators on the east side of Illinois Route 47 such as Bates Park and the McHenry County Fairgrounds. Public facilities near the project study area are discussed further in Section 4.2.3. As shown in the Racial and Ethnic Minority Population Map, a larger percentage of minorities are located on the west side of Illinois Route 47 compared to the east side.

The project study team surveyed the owners of the displaced properties along the corridor to determine how many are minority owned. Out of those who responded, two were found to be minority and one declined to answer. No public entities that primarily serve a minority or lowincome population will be relocated as a part of this Project.

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

Several outreach methods were utilized in an attempt to increase participation for the project, including input from minority and low-income populations. A project website was created with the ability to submit comments/questions and view Project-related documents. Other outreach methods included public meetings, one-on-one meetings at the request of an individual, and small group meetings. Information regarding upcoming meetings was made available via the project website, a project mailing list, flyers at public facilities, newspaper articles, and door-to-door invitations. Certified mail invitations to the Public Hearing will be sent to all property owners who will relocated as a part of the Project. Relocated properties are discussed further in Section 4.2.5.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, reinforces the concept of Title VI and the Civil Rights Act and extends the legislature to low-income populations.

### 4.2.3 Public Facilities and Services

Public facilities and services, including churches, schools, public areas, and police and fire protection, are shown in the Environmental Resource Map found in Exhibit 4.2-1 and in Table 4.2-3.

Major community facilities along the project study area are schools and government buildings that are located at the intersection of Illinois Route 47 and Ware Road. The schools are a part of Public School District No. 200. The district has a total enrollment of 5,735 and is responsible for 1,065 teaching jobs, according to the Department of Commerce and Economic Opportunity (DCEO). The schools generate considerable bus and vehicular traffic before and after school hours.

The City of Woodstock is the county seat of McHenry County. The Government Center is located on Ware Road toward the north end of the project study area. The McHenry County Government Center is responsible for providing 1,200 jobs in the City of Woodstock according to the DCEO. Traffic to and from the McHenry County Government Center is present during working-day hours.

Bates Park (originally known as Silver Creek Park) is a 23 -acre park located on the east side of Illinois Route 47 between East Beech Avenue and Maple Avenue. The park includes restrooms, a playground, basketball courts, and softball and baseball fields. The park is bordered by Silver Creek, which is adjacent to the Silver Creek Conservation Area.

The McHenry County fairgrounds are located on Country Club Road two blocks east of Illinois Route 47. The fairgrounds host major entertainment events that draw large crowds and considerable vehicular traffic.

The public buildings and community facilities within the project study area and the associated impacts are listed in Table 4.2-3.

| Public/Community Facility | Address | Impact |
| :---: | :---: | :---: |
| US 14 to Country Club Road |  |  |
| McHenry County Farm Bureau | 1102 McConnell Road | Frontage |
| Woodstock Bible Church | 770 East Kimball Avenue | None |
| Woodstock Police Department | 656 Lake Avenue | None |
| Raintree Park | 320 East South Street | None |
| Kingdom Hall | 1320 Catalpa Lane | None |
| US Post Office | 1050 Country Club Road | None |
| Country Club Road to Ware Road |  |  |
| Woodstock Fire Department | 435 East Judd Street | None |
| Clay Academy | 112 Grove Street | Left in and out access removed at Grove Street |
| Woodstock Christian Church | 1132 North Madison Street | Frontage, east entrance from Greenwood Avenue removed. |
| Calvary Baptist Church | 1903 North Seminary Avenue | Frontage |
| Verda Dierzen Early Learning Center | 2045 North Seminary Avenue | Frontage |
| Northwood Middle School | 2121 North Seminary Avenue | Frontage, Left in and out access removed at north entrance |
| Mary Endres Elementary | 2181 North Seminary Avenue | Frontage, Left in and out access removed at north entrance |
| Challenger Learning Center | 222 East Church Street | None |
| Olson Park | Intersection of Bagley Street and Clay Street | None |
| McHenry County Fairgrounds | 1051 Country Club Road | None |
| Free Methodist Church | 934 North Seminary Avenue | Frontage, Loss of 3 parking spaces |
| Bates Park | 1550 North Seminary Avenue | Temporary easement to construct path |
| McHenry County Courthouse | 2200 North Seminary Avenue | Frontage |
| McHenry County Government Center | 2200 North Seminary Avenue | Frontage |
| McHenry County Health Department | 2200 North Seminary Avenue | Frontage |
| McHenry County Administration | 667 Ware Road | None |
| Woodstock Early Learning Center | 350 Christian Way | None |
| St. John's Lutheran Church | 401 St. Johns Road | Frontage, Loss of 14 parking spaces, west entrance from St. Johns Road removed at owner's request |
| Marian Central Catholic High School | 1001 McHenry Avenue | None |
| Ware Road to Charles Road |  |  |
| First Presbyterian Church | 2018 North Illinois Route 47 | None |
| Source: City of Woodstock website |  |  |
| Table 4.2-3 Public Facilities/Services |  |  |

Impacts to public and community facilities involve obtaining proposed right-of-way or temporary grading easements from their frontages and occur in three project census tract areas. Three parking spaces are proposed to be removed from the Free Methodist Church because of roadway widening. The Free Methodist Church currently has approximately 68 parking spots. Fourteen parking spaces are proposed to be removed from St. John's Lutheran Church. St. John's Lutheran Church currently has approximately 103 parking spots. A retaining wall is proposed along the east side of Illinois Route 47 near St. John's Lutheran Church to minimize impacts. All median openings accommodate passenger car U-turn movements. No permanent right-of-way will be taken from Bates Park. Bates Park is further discussed in Section 4.13. No public facilities are anticipated to be relocated. As part of the Land Acquisition process, IDOT will determine whether the loss of 14 parking spaces would require relocation of St. John's Lutheran Church.

### 4.2.4 Changes in Travel Pattern and Access

The preferred alternative will include a barrier median and will only permit left turns at designated median breaks. Left-turn lanes will be used at major entrances, intersections, and other designated locations. If a median break is not provided at a given location, a right-in/right-out option will be the proposed access for parcels along the corridor. After completion of the Project, traffic patterns for drivers will change, as will access along Illinois Route 47. The Illinois Route 47 corridor will continue to be the main thoroughfare for the City of Woodstock, but left-turn movement restrictions will increase U-turn movements and adverse driving distances for some along the corridor. Access management by using a median increases the flow of traffic along a roadway and typically reduces the number of crashes. The greater the flow of traffic, the higher the vehicle capacity, and the greater number of drivers traveling past businesses along Illinois Route 47 within the project study area. Individuals who previously avoided Illinois Route 47 because of congestion may begin using this corridor.

The turning bays and median openings will allow drivers to safely perform U-turns to access businesses and driveways on the opposing side of the roadway. According to the FHWA, studies have shown that a median break U-turn is approximately 25 percent safer than a left turn onto a corridor. The study also shows that drivers approve of the safer roads and will change driving and shopping habits. New and safer travel routes will be achieved through the proposed improvements.

Many properties along the corridor have several driveways to enter and leave the property. The proposed design reduces the number of driveways at many properties. Decreasing the number of driveways along Illinois Route 47 will increase the flow of traffic and decrease the number of crash conflict points.

The preferred alternative includes roundabouts at the intersections of Illinois Route 47 with Lake Avenue, McConnell Road, Judd Street/Irving Avenue, Ware Road, and Charles Road. Roundabouts are typically safer than traditional intersections. According to the project study team's analysis, the five proposed roundabouts yield a better LOS than the traditional intersection alternative.

Northwood Middle School, Verda Dierzen Early Learning Center, and Mary Endres Elementary School are all located along the west side of Illinois Route 47 near Russel Court and Ware Road. Meetings were held with the Woodstock Community School District 200 (School District) to discuss the proposed improvements and learn more about the School District's bus operations. Representatives from the School District also were included in the Corridor Advisory Group (Corridor Advisory Group). The School District currently has bus stop locations along Illinois Route 47 that will likely remain following Project completion. However, during construction there may be temporary delays to traffic similar to existing
conditions. The School District does use Illinois Route 47 for bus routes but designs its routes to minimize left turns due to congestion. Proposed median break locations were discussed with the School District to maximize bus route efficiency. The School District understood the reasoning for proposing a barrier median and was supportive of the roundabout intersections. School buses will be able to navigate the roundabout intersections. Minutes from meetings with the School District can be found in Appendix A.

Meetings were held with the Woodstock Police Department and Woodstock Fire/Rescue District to discuss the Project, particularly the barrier median and roundabouts. Both agencies were supportive of the barrier median and roundabout intersections due to their increased safety. Proposed median break locations were discussed with the agencies and finalized based on streets commonly used by the agencies. Agency vehicles will be able to navigate the roundabout intersections. Minutes from meetings with these two agencies can be found in Appendix A.

Two Pace Bus (Pace) routes use Illinois Route 47 and include stops along Illinois Route 47. No future bus routes are proposed for the project study area. Meetings were held with Pace representatives to discuss the Project and impacts to the bus routes. Pace buses will be able to navigate the roundabout intersections. Pace requested six concrete loading pads be included as a part of the Project between the proposed sidewalk/shared-use path and the proposed back of curb. They will be located at current Pace bus stop locations. Pace also requested a larger PCC pad with overhead shelter be constructed behind the shared-use path near the McHenry County Housing Authority to replace the existing Pace shelter that will be impacted as a part of this Project. All pads and the one shelter requested are being included as part of the preferred alternative. Minutes from meetings with Pace can be found in Appendix A.

The nearest Metra stop to the project study area is located approximately 1800 feet west of the Project, at the intersection of Illinois Route 120 and N Benton Street in Woodstock. The preferred alternative will not impact the existing Metra stop.

After the Project is complete, pedestrian and bicycle travel will increase because of the addition of a shared-use path and sidewalk. Currently, there is no adequate sidewalk or on-road facilities to accommodate pedestrian and bicycle traffic along the entire corridor.

During construction of Illinois Route 47, disruptions to traffic patterns will occur, particularly for business adjacent to Illinois Route 47.

### 4.2.5 Relocations (Business and Residential)

The proposed action will require the acquisition of right-of-way from the frontage of properties along the corridor. The transportation improvements will require a total of 10 buildings on 9 properties to be relocated. Seven of these buildings will need to be taken completely because they will no longer be functional after the transportation improvements. These properties include two businesses, two business complexes occupied by four total businesses, and three residential homes. The remaining three properties requiring building relocations will still be functional and will allow the buildings to be rebuilt at a different location on the property. All three of these buildings are commercial businesses. The proposed action will also require one commercial building modification.

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and the IDOT Land Acquisition Procedures Manual will be followed. All housing resources are available to all relocates without discrimination. Housing of last resort will be provided if necessary.

According to the Uniform Act of 1970 (49 CFR 24), Decent, Safe, and Sanitary (DSS) housing must be available prior to requiring those effected by the Project to leave their existing dwelling. DSS residential properties of various sizes within the project study area were identified by the Department in accordance with relocation planning procedures under 49 CFR 24.205 and can be found in Exhibit 4.2-3. Relocated residents and businesses may be able to relocate within the City of Woodstock along Illinois Route 47 if they so desire.

### 4.2.5.1 Business Relocations:

Mambo Car Wash is located at 1100 McConnell Road in Woodstock at Station $137+50$ RT. The property is currently owned by DLIT Holdings, Inc. The property has a total lot area of approximately 52,167 square feet ( 1.20 acres). Mambo Car Wash currently has approximately four full- and part-time employees and eight parking spaces. The entire building is proposed to be acquired because the building is in conflict with the jacking pit necessary to construct the pedestrian tunnel underneath the UP Railway bridge. The property will no longer be functional once the necessary land is acquired because the property is proposed to be used as a detention basin. The property owner is aware of the proposed property relocation and supports the property relocation.

Dwight's Auto Body is located at 999 South Eastwood Drive in Woodstock at Station 140+00 RT. The property is currently owned by Chamberlain Associates, Inc. The property has a total lot area of approximately 31,564 square feet ( 0.72 acre). Dwight's Auto Body currently has approximately eight full- and part-time employees and 20 parking spaces. The owner of the property has requested that only the westernmost part of the building, which is the portion that is in conflict with the proposed improvements, be removed as part of the Project. The owner desires that the remaining portion of the building not in conflict not be removed. Because the westernmost part of the building being removed should not affect the structural integrity of the building or the property's functionality, the remaining portion of the building is proposed to remain in place and ownership of the property will remain with Chamberlain Associates, Inc.

Gas Cap Fuels is located at 401 South Eastwood Drive is located in Woodstock at Station $160+00$ RT. The property is currently owned by LGP Realty Holdings, LP and has a total lot area of approximately 29,128 square feet ( 0.67 acre). Gas Cap Fuels currently has approximately five full- and part-time employees. Gas Cap Fuels currently has eight vehicle fueling pumps located on the west side of the property and a convenience store located on the east side of the property. The fuel pumps and fueling station awning are in conflict with the proposed shared-use path on the east side of Illinois Route 47. As a result, the eight fuel pumps will be acquired and removed as part of the Project. The convenience store and the parking adjacent to the building located on the east side of the property will not be impacted by the Project. The property will remain functional once the necessary land is acquired.

A vacant commercial building is located at 641 East Judd Street in Woodstock at Station 185+00 LT. The property is currently owned by James Helin and Clifford Heverly. When the current owners purchased the property, they were aware of the proposed improvements and associated impacts to the property. The property has a total lot area of approximately 5,122 square feet ( 0.12 acre) and has approximately five parking spaces. The entire building will need to be acquired because the building is in conflict with the proposed pavement and shared-use path and the property will no longer be functional once the necessary land is acquired.
A. Hartlett \& Son, Inc. Heating and Cooling is located at 406 North Eastwood Drive in Woodstock at Station 192+00 RT. The property is currently owned by Thomas Hartlett and has a total lot area of approximately 73,500 square feet ( 1.69 acres). A. Hartlett \& Son, Inc. Heating and Cooling currently has approximately 14 full- and part-time employees, two parking spaces, and a dirt area behind the building that can be used for additional parking. The building is in conflict with the proposed grading behind the shared-use path on the east side of Illinois Route 47. The entire property will not be acquired. After the right-of-way is acquired and the building is removed, the property will be functional. A building can be built within the new property limits. The property owner has been informed of the proposed improvements and supports the idea of constructing a new building within the new property limits.

Two small business complexes are located at 1212 and 1214 North Seminary Avenue in Woodstock at Station 231+00 RT. The property is currently owned by Andrew Roy Lago. Four businesses currently occupy the complexes: Robert T Evens Law, Botanica La Milagrosa, Sunderlage Insurance, and X-Vaganza Hair Studio. Several sections of the complexes are currently vacant. The four businesses combined have approximately 10 full- and part-time employees. The property has approximately 36 parking spaces. The entire complex will need to be acquired because the buildings are in conflict with the proposed shared-use path and curb on the east side of Illinois Route 47 and a detention basin is proposed on this property. The property will no longer be functional for a business once the necessary land is acquired.

### 4.2.5.2 Residential Relocations:

A residential house is located at 404 Center Street in Woodstock at Station 197+00 RT. The property has a total lot area of approximately 5,203 square feet ( 0.12 acre). The entire residential dwelling and parcel will need to be acquired due to impacts incurred by the proposed shared-use path on the east side of Illinois Route 47. The property will no longer be functional once the necessary land is acquired.

A residential house is located at 511 North Eastwood Drive in Woodstock at Station 197+50 LT. The property has a total lot area of approximately 1,927 square feet ( 0.04 acre). The entire residential dwelling and parcel will need to be acquired due to impacts incurred by the proposed sidewalk and grading on the west side of Illinois Route 47. The property will no longer be functional once the necessary land is acquired.

A residential house is located at 302 McHenry Avenue in Woodstock at Station 200+00 RT. The property has a total lot area of approximately 7,247 square feet ( 0.17 acre). The entire residential dwelling and parcel will need to be acquired due to impacts incurred by the proposed shared-use path on the east side of Illinois Route 47.

### 4.2.5.3 Commercial Building Modifications:

The 3 Brothers Restaurant is located at 1220 South Eastwood Drive in Woodstock at Station 129+00 LT. The property is currently owned by 3 Brothers Restaurant. The property has a total lot area of approximately 29,051 square feet ( 0.67 acre). 3 Brothers Restaurant currently has approximately 35 full- and part-time employees and 32 parking spaces. The front entrance awning of the building is in conflict with the proposed sidewalk. One-on-one meetings were held with representatives of 3 Brothers Restaurant on August 21, 2014, January 17, 2017, and

October 19, 2017. The purpose of the meetings was to update the owners on the status of the Project, explain the property acquisition process, and answer any questions they had regarding the process. The project study team also met with the City of Woodstock to discuss the proposed impacts to the building. Both the City of Woodstock and the property owners requested the building not be relocated as part of the Project. The preferred alternative consists of removing the existing front entrance awning of the building and allowing the rest of the building to remain in place. The proposed sidewalk will be located approximately two feet from the existing building that remains after the awning removal. During land acquisition, if it is determined the impacts to the building or costs associated with the building modifications are too large, the entire building will be relocated.

### 4.2.6 Economic Impacts

The City of Woodstock is home to local businesses and major corporations. Examples of business types along the Illinois Route 47 corridor include shopping centers, chain restaurants, gas stations, and specialty healthcare offices.

The addition of access control along the corridor will increase safety for customers who are exiting and entering the businesses. Right-ins and right-outs will be used, restricting left-turning movements in an attempt to decrease turning crashes and rear end collisions that are currently common along Illinois Route 47. Other changes in access were discussed in greater detail in Section 4.2.4.

Tax revenue loss is likely to occur because of the amount of land that will be taken. Sales tax revenue loss is likely to occur during construction because of road detours and difficulty accessing properties along the corridor. However, the construction is only temporary. Businesses along past projects similar to the Illinois Route 47 widening project have reported a return of customers and business after completion of the projects.

As discussed in Section 4.2.5, three businesses and two business complexes occupied by five businesses are proposed to be completely taken in the preferred alternative.

Widening the corridor results in parking spaces for businesses being diminished or relocated to the extent possible. A list of businesses and the quantity of lost parking caused by the Project improvement can be found in Table 4.2-4. In total, 34 properties have a change in the number of parking spaces. There are 221 parking spaces being removed, an average of approximately 6.5 spaces per business.

| Property | Property Address | Number of <br> Parking Spaces <br> Lost |
| :--- | :--- | :---: |
| US 14 to Country Club Road |  |  |
| Rosati's Pizza | 1652 South Eastwood Drive | 3 |
| Vacant | 1648 South Eastwood Drive | 10 |
| Bull Valley Ford Mercury | 1460 South Eastwood Drive | 32 |
| Woodstock Furniture | 1280 South Eastwood Drive | 4 |
| Yamaha | 1000 South Eastwood Drive | 2 |
| Vaughans Family Restaurant | 790 South Eastwood Drive | 10 |
| Best Western Woodstock Inn | 990 Lake Ave | 19 |
| Napoli's Pizza Place | 930 Lake Avenue | 8 |
| Bob's Woodstock Motel | 930 Lake Avenue | 2 |
| Colonial Antique Mall Restoration | 890 Lake Avenue | 12 |
| Center | 2104 South Eastwood Drive | 3 |
| Murphy's Flooring | 2020 South Eastwood Drive | 1 |
| Woodstock Farm and Lawn Center | 1175 South Eastwood Drive | 8 |
| Marco's Auto | 995 South Eastwood Drive | 1 |
| Turn Key Digital | 1295 South Eastwood Drive | 10 |
| Woodstock Auto Body | 501 South Eastwood Drive | 4 |
| Citgo | 681 South Eastwood Drive | 2 |
| Goodyear | 677 South Eastwood Drive | 2 |
| Cost Cutters | 669 South Eastwood Drive | 2 |
| Dental Center | 667 South Eastwood Drive | 2 |
| Quiznos Subs | 665 South Eastwood Drive | 2 |
| Pro Nails Spa | 651 South Eastwood Drive | 2 |
| Family Dentistry of Woodstock | 717 South Eastwood Drive | 5 |
| State Farm | 713 South Eastwood Drive | 5 |
| Universal Cash Express | 709 South Eastwood Drive | 5 |
| Nails 2000 | 701 South Eastwood Drive | 5 |
| Domino's Pizza | 401 South Eastwood Drive | 4 |
| Gas Cap Fuels |  | 2 |

Table 4.2-4 Impacted Parking Spaces

| Property | Property Address | Number of Parking Spaces Lost |
| :---: | :---: | :---: |
| Country Club Road to Ware Road |  |  |
| Great Lakes Credit Union | 180 South Eastwood Drive | 6 |
| Matrix IV | 610 East Judd Street | 4 |
| Bott's Parts | 315 North Eastwood Drive | 3 |
| Beef Village | 1125 North Seminary Avenue | 2 |
| RD Signs | 1143 North Seminary Avenue | 1 |
| RDS Cycling | 1143 North Seminary Avenue | 1 |
| Calligraphy Studio | 1143 North Seminary Avenue | 1 |
| Schneider Leucht Merwin \& Cooney Funeral Home | 1211 North Seminary Avenue | 16 |
| Artistica Wave Beauty Salon Universal Travel | 1317 North Seminary Avenue 1317 North Seminary Avenue | 1 |
| Wisted's Super Market | 330 North Eastwood Drive | 2 |
| McHenry County Housing Authority | 1018 North Seminary Avenue | 3 |
| Free Methodist Church | 934 North Seminary Avenue | 3 |
| Farmers Insurance Boe Hanlin \& Emery Group LLC McHenry County USBS Assoc. | 1216 North Seminary Avenue | 1 |
| Michel J Mcnerney Attorney at Law | 1320 North Seminary Avenue | 2 |
| Crossroads Care Center | 309 McHenry Avenue | 11 |
| Mapletree Apartments | 1917 Sheila Street | 12 |
| St. John's Lutheran Church | 401 St. Johns Road | 14 |
| Ware Road to Charles Road |  |  |
| None | - | - |
| Total Stalls Impacted | - | $\underline{221}$ |

Table 4.2-4 Impacted Parking Spaces (Continued)

### 4.2.7 Land Use

Current land use along the Illinois Route 47 corridor is shown in Table 4.2-5.

Current land usage along Illinois Route 47 consists of residential homes, commercial businesses, light manufacturing industries, and agriculture. The City of Woodstock Zoning Map can be found in Exhibit 4.2-4. The Land Use Map can be found in Exhibit 4.2-5.

US Route 14 to Lake Avenue is zoned mainly as commercial with a manufacturing/industrial district at

| Type of Land Use | Land Use Percentage |
| :---: | :---: |
| Agriculture | 38.3 |
| Parks/ Resource Conservation | 3.0 |
| Resource Conservation Corridor | 5.3 |
| Neighborhood Development | 0.0 |
| Civic | 3.8 |
| Central Business District | 0.0 |
| Industrial | 0.0 |
| Commercial | 49.6 |
| Commercial, Industrial, and Office Mixed Use | 0.0 |
| Source: Woodstock Land Use Map |  |
| Table 4.2-5 Existing Land Use Along the Project Study Area |  |

the southeast corner of Illinois Route 47 and Lake Avenue. Businesses along this route include car dealerships, car repair centers, professional offices, and fast food chains.

Lake Avenue to Country Club Road is zoned for commercial businesses, multi-family residential, and one parcel of light manufacturing. Businesses along this portion of the corridor include grocery stores, major retail, banks, and one trucking business.

Land use along Illinois Route 47 between Country Club Road and Illinois Route 120 is zoned as a commercial district consisting of service and retail, offices, and shopping centers. There are single- and multi-family homes near the south end of the Illinois Route 120 and Illinois Route 47 intersection.

Illinois Route 120 to St. Johns Road is a mix of commercial shopping centers, elderly care, offices, and single- and multi-family homes.

The land use between St. Johns Road to Ware Road along Illinois Route 47 consists mainly of single-family residential homes on the west side and mixed commercial businesses on the east side. There is a middle school located west of the intersection of Ware Road and Illinois Route 47. The McHenry County Government Center and other related offices are located directly east of the intersection.

North of Ware Road is primarily open space, agricultural farm land, and farm houses. There is one neighborhood of single family homes east of the Illinois Route 47 and Cooney Drive intersection that has access to Illinois Route 47.

The majority of existing land adjacent to Illinois Route 47 falls within an urbanized classification. After completion of the project, the land use adjacent to Illinois Route 47 could change depending on Woodstock's coordination with local agencies. Right-of-way will be acquired from the frontage of residential areas, decreasing property values, and may be converted to another land use in the future. It is expected that the area on the west side of Illinois Route 47 north of Ware Road will be developed in the future. The proposed roundabout at the intersection includes a west leg to accommodate this future growth.

### 4.2.8 Growth and Economic Development

The 2010 population for the City of Woodstock is 24,770 , which is 22.9 percent higher than the 2000 population of 20,151 (United States Census 2012). This increase is greater than the 3.3 percent increase in growth of the State of Illinois' population between 2000 and 2010. Improving the roadway and welcoming more travelers also allows for future growth.

After the Illinois Route 47 Project has been completed, there will still be opportunity for growth in the number of businesses adjacent to the corridor. Traveling on the road will be safer and pedestrian and bicycle traffic will increase as a result of the improved safety. The proposed sidewalk and shared-use path will encourage pedestrians to use the corridor and allow them to reach businesses they were unable to access before the improvements.

### 4.2.9 Pedestrian and Bicycle Facilities

This Project will cause temporary disruptions and a permanent change in pedestrian and bicycle access but will improve these accommodations upon Project completion. There are existing sidewalks along Illinois Route 47 in intermittent locations. There are only striped crosswalk facilities located at the intersections of Illinois Route 47 and Illinois Route 120 and Illinois Route 47 and Russel Court. Exhibit 2.2-1 shows the locations of sidewalk within the project study area. Table 4.2-6 illustrates the breakdown of existing sidewalk along Illinois Route 47 in the project study area.

| Limits | Sidewalk <br> Present Left <br> Side (Y/N) | With Sidewalk <br> (Percentage) | Sidewalk <br> Present Right <br> Side (Y/N) | With Sidewalk <br> (Percentage) |
| :--- | :---: | :---: | :---: | :---: |
| US Route 14 to Lake Avenue | Y | 42.1 | Y | 39.5 |
| Lake Road to McConnell Road | N | --- | Y | 48.1 |
| McConnell Road to Country Club Road | Y | 26.8 | Y | 65.8 |
| Country Club Road to IL Route 120 | N | --- | Y | 40.4 |
| IL Route 120 to St. Johns Road | Y | 60.7 | Y | 82.3 |
| St. Johns Road to Ware Road | Y | 19.3 | Y | 94.5 |

Table 4.2-6 Existing Sidewalk Limits

Figure 4.2-1 illustrates both the existing and proposed trails. There are currently no on- or off-road bicycle facilities along Illinois Route 47. There are bicycle facilities near the corridor at the northeast section along Ware Road and Raffel Road, as shown in Figure 4.2-1. The City of Woodstock has a comprehensive bicycle plan that includes bicycle paths along Illinois Route 47. The City also plans to develop additional parks and recreation areas in Woodstock and along Illinois Route 47 that are known as generators, places that encourage bicycle travel and serve as destinations for bicycle users.

In 2009, the Northeastern Illinois Regional Greenways and Trails Plan envisioned a network of continuous greenway and trail corridors providing recreational and transportation opportunities for nearby communities according to CMAP.

An existing primary regional trail is located south of McConnell Road to connect with a proposed regional trail along US Route 14 extending northwest along Illinois Route 120. The Dean Street Trail is proposed to cross the primary regional trail and Illinois Route 47, and to run along Country Club Road. The trail will extend east along Bull Valley Road connecting into an existing regional trail and the existing Prairie Trail.


Source: Chicago Metropolitan Agency for Planning
Figure 4.2-1 Existing and Proposed Trails

Proposed improvements will include construction of a 5 -foot-wide sidewalk on the west side of Illinois Route 47 from US Route 14 to Ware Road. The sidewalk will typically be offset 3 feet from the back of curb. Where the sidewalk is required to be located at the back of the curb because of right-of-way constraints or obstructions, the sidewalk is widened to 7 feet. Existing sidewalk will be replaced on side roads within the construction limits. High-visibility pedestrian crosswalks will be provided on the side streets at all intersections. On the east side of Illinois Route 47, a 10-foot-wide shared-use path will be constructed the entire length of the Project. The path will be offset 5 feet from the face of the curb. The splitter islands of roundabouts will provide a place of refuge for pedestrians crossing the intersections.

A pedestrian tunnel is proposed east of the roadway bridge to cross under the UP Railway between Lake Avenue and McConnell Drive.

Constructing sidewalks and a shared-use path improves community cohesion and provides easier access to businesses.

### 4.3 AGRICULTURAL

### 4.3.1 Farms and Farmland Conversion

IDOT and the Natural Resources Conservation Service (NRCS) use the Land Evaluation and Site Assessment (LESA) to assess the viability of agricultural land for continued agricultural production when such land may be affected by state and federal projects. The results of the LESA evaluation are provided on the NRCS's Farmland Conversion Impact Rating Form AD-1006, included as Appendix B. The NRCS evaluates the quality (productivity of the soils that will be affected), and the llinois Department of Agriculture rates site-specific factors, including:

1. The amount of agricultural land required.
2. The proximity of the land to be acquired to existing highway right of-way.
3. Off-site land required for borrow materials and wetland mitigation.
4. Creation of severed parcels, uneconomical remnants, landlocked parcels, and adverse travel.
5. Relocations of rural residents and farm buildings.
6. Whether highway design standards will be used that minimize impacts to agricultural land.
7. LESA scores of 0 to 175 points indicate a low rating of protection, scores of 176 to 225 indicate a moderate rating for protection, and scores of 226 to 300 indicate the land should be retained for agricultural use and an alternative alignment should be considered. The higher the LESA score, the more viable the farmland is for long-term agricultural use.

County zoning maps indicate that the majority of McHenry County is zoned agricultural, except within municipalities. McHenry County's Agricultural Conservation Easement and Farmland Protection Program includes the following objectives for agricultural protection and preservation: Providing farmland owners with new options for the preservation of farms and not coercing farmers to sell land to developers for future improvements. However, because this program is not currently funded, the program does not affect this Project. The McHenry County Farm Bureau does not have an ordinance or program related to farmland that affects this Project. Communication with McHenry County and McHenry County Farm Bureau can be found in Appendix C.

The area between Ware Road and Charles Road is unincorporated McHenry County and is classified as agricultural land. The total area of adjacent farmland within the project study area is approximately 389 acres that is actively used for farming purposes. According to the CMAP Memorandum, the agricultural area within the project study area is within a subzone considered for farmland protection.

The primary land use in the project study area is an urban developed area with the majority of agricultural land use located north of the Illinois Route 47 and Ware Road intersection. In 2007, the number of farms in McHenry County was 1,035. Between 2002 and 2007, the number of farms increased 19 percent;
however, farm acreage per farm decreased 22 percent. Corn and soybeans are the dominant crops accounting for 87 percent of the total farmed area and total farm revenues. Remaining agricultural land uses include forage, wheat for grain, and nursery stock. Livestock operations account for 19 percent of the total farm revenue in McHenry County.

Table 4.3-1 presents farm characteristics for McHenry County. In McHenry County, the most common farm size is 10 to 49 acres with 375 farms in this range.

|  | McHenry County |
| :--- | :---: |
| Total number of farms (2007) | 1,035 |
| Total acres in farms (2007) | 215,584 acres |
| Average size of farm in acres (2007) | 208 acres |
| Cropland as percent of total farmland | 92.2 percent |
| Farm revenues (000 dollars in 2007) | $\$ 156,524,000$ |
| Corn (percent of total revenue) | 64.5 percent |
| Soybeans (percent of total revenue) | 22.2 percent |
| All livestock and products (thousands of dollars in 2007) | $\$ 29,898$ |
| Cattle and calves (percent of total revenue) | 7.4 percent |
| Hogs and pigs (percent of total revenue) | 3.2 percent |
| Other livestock and products (percent of total revenue) | 1.7 percent |

Source: 2007 Census of Agriculture, USDA 2009
Table 4.3-1 Farm Characteristics for McHenry County

The preferred alternative requires permanent right-of-way acquisition of 17.90 acres of land currently used for farming purposes. All the farmland impacts are to frontage property on Illinois Route 47 between Ware Road to Charles Road in unincorporated McHenry County. Because of the size of the existing farms within the project study area, it is not anticipated that impacting 17.90 acres of farmland will substantially affect farming operations or land use for any individual property. No farm residences or buildings will require relocation because of the Project. No centennial or sesquicentennial farms will be impacted as a part of this Project.

Farms will continue to operate; however, these impacts will reduce total revenue to existing operations. Because farm production is an important source of total revenue generated in McHenry County, the reduction in farm acreage may temporarily reduce total County farm revenue. However, future development in the County may offset the losses in overall County revenues.

An e-mail was sent to NRCS on November 8, 2017, stating that farmland will be converted to non-agricultural use. The proposed Project was given a LESA score of 161, indicating a low rate of protection. Because the Project was designed to acquire the least possible amount of land to meet the safety needs of the public, the IDOA determined that the Project complies with IDOT's Agricultural Land Preservation Policy and Illinois; Farmland Preservation Act. No further coordination will be necessary with NRCS because the Project impacts less than 10 acres of farmland per linear mile per Other Exemptions of the Farmland Protection Policy Act, 7 CFR 658, Part 523.11 (E)(1). Any farmland converted to transportation use will be reported to the Illinois Department of Agriculture.

### 4.3.2 Prime and Important Soils

The Code of Federal Regulations (CFR) Title 7, Volume 6, Section 657.5(a) defines prime farmland as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses. Prime farmland has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to acceptable farming methods. To be considered prime farmland, the land does not have to be cleared; however, it cannot be urbanized, paved, or permanently under water.

McHenry County is composed of over 60 percent prime farmland (United States Department of Agriculture, NRCS, Soil Data Mart, 2009). A total of 146,597 acres of prime farmland exist in McHenry County. A map of the locations of prime farmland based on soil data within the project study area can be found in Exhibit 4.3-1. Only land north of Ware Road is included in the Prime Farmland Map because no farmland is located along the corridor south of Ware Road. Some areas are prime farmland at all times and others are only prime farmland when drained. The 86.37 percent of farmland that will be converted by the preferred alternative from agricultural use is classified as prime farmland.

There are no unique farmland soils in Illinois.
Farmland of statewide importance is land other than prime farmland that is considered valuable for the production of food, forage, and oilseed crops (CFR Title 7, Volume 6, Section 657.5 (c)). Important farmland includes prime farmland soils with steep slopes or eroded farmland (CFR Title 7, Volume 6, Section 657.5 (c)). McHenry County is composed of 14 percent important farmland.

Highly erodible soils are determined by slope and include soils with slopes of four percent or greater. These soils typically occur near streams and areas with changes in topography. Highly erodible soils are located near the tributary south of Cooney Drive. Soil erosion control measures at the banks of the creek will be implemented to minimize sedimentation in the creek.

### 4.3.3 Severed/Landlocked Parcels

There will be no severances, landlocked parcels, or uneconomic remnants. The agricultural land loss represents 0.0075 percent of the total land in farms for the entire county.

### 4.3.4 Adverse Travel

All farmland within the corridor is north of Ware Road. Roundabouts are proposed at the intersections of Illinois Route 47 with Ware Road and Charles Road. The roundabouts are designed to be traversable for farming equipment.

### 4.4 CULTURAL RESOURCES

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

There are no historic properties in the Project area, and therefore there are no properties subject to protection under Section 106 of the National Historic Preservation Act of 1966. Letters related to the cultural clearance of the Project can be found in Appendix A. The Environmental Survey Request limits are included in Exhibit 4.4-1.

### 4.4.1 Archeological Properties

$\sqrt{V}$ Project will not affect Archeological Properties
「 Project will affect Archeological Properties

### 4.4.2 Historic Bridges

$\sqrt{V}$ Project will not affect a bridge listed in the Illinois Historic Bridge Survey
Г Project will affect a bridge listed in the lllinois Historic Bridge Survey

A UP Railway bridge runs over Illinois Route 47 between Lake Avenue and McConnell Road. This bridge was built in 1935 and is approximately 65 feet long. The bridge is not included in the National Registry of Historic Places (HRHP). The roadway beneath the bridge has two lanes of traffic delineated by a painted median. The proposed design will not affect the bridge in any major way. The proposed roadway cross section consists of two lanes in each direction separated by a painted median beneath the bridge. Minor enhancements can be done to the bridge as a part of this Project.

### 4.4.3 Historic District

V Project will not affect a Historic District
$\Gamma$ Project will affect a Historic District

### 4.3.4 Historic Buildings

## V Project will not affect any Historic Buildings

$\Gamma$ Project will affect Historic Buildings

A memo from the IDOT Cultural Resources Unit, dated March 8, 2012, identified eight potentially historic properties within the project study area. The memo was later amended in a letter from the Cultural Resources Unit, dated May 18, 2015, which identified seven properties potentially eligible for the NRHP within the project corridor following a more detailed review as a result of Addendum $A$ to the Environmental Survey Request. Because of the potentially eligible classification of the properties, a Determination of Eligibility (DOE) was completed for the Project on September 18, 2015. In a letter, dated January 29, 2016, State Historic Preservation Office concurred with the DOE that all the resources
previously identified were deemed ineligible for the NRHP and therefore no historic properties were affected as part of the Project. An additional letter confirming the findings was sent on September 16, 2016. This concurrence completed the necessary cultural resource coordination for the Project. Letters related to the cultural clearance of the Project can be found in Appendix A. No mitigation is necessary as part of this Project.

### 4.5 AIR QUALITY

Information included in this section were obtained from:

1. National Ambient Air Quality Standards
2. BDE Manual Chapter 26

### 4.5.1 Carbon Monoxide Microscale Analysis

## Project Type:

「 Project does not add Through Lanes or Auxillary Turning Lanes
$\sqrt{ } / \sqrt{2}$ Project does not involve any sensitive receptors and is not suitable for using COSIM 4.0
Г Project is subject to COSIM Pre-screen
$\Gamma$ Project is subject COSIM screening analysis

In accordance with the IDOT-IEPA Agreement on Microscale Air Quality Assessments for IDOT Sponsored Transportation Projects, this Project is exempt from a project-level carbon monoxide air quality analysis because the highest design-year approach volume is less than 5,000 vehicles per hour or 62,500 ADT.

### 4.5.2 Air Quality Conformity

Project Type:

Г Project is outside of Nonattainment or Maintenance Area
Г Exempt Project in Nonattainment or Maintenance Area
V Project is within a portion of a Nonattainment or Maintenance Area where CMAP is the MPO
Г Project is within a Nonattainment or Maintenance area served by an MPO other than CMAP
Г Project is within a Nonattainment or Maintenance area not served by an MPO
$\Gamma$ Regionally Significant Non-Federal project within a Nonattainment or Maintenance Area.

The National Ambient Air Quality Standards (NAAQS), established by the United States Environmental Protection Agency (USEPA), set maximum allowable concentration limits for six criteria air pollutants. Areas in which air pollution levels persistently exceed the NAAQS may be designated as "nonattainment." States where a nonattainment area is located must develop and implement a State Implementation Plan (SIP) containing policies and regulations that will bring about attainment of the NAAQS. Areas that have
been designated as nonattainment, but that have attained the NAAQS for the criteria pollutants associated with the nonattainment designation, will be designated as maintenance areas.

All areas of Illinois currently are in attainment of the standards for four of the six criteria pollutants: carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead.

For the 8-hour ozone and particulate matter (PM) ${ }_{2.5}$ standards, Cook, DuPage, Kane, Lake, McHenry, and Will Counties, the Aux Sable and Goose Lake Townships in Grundy County, and Oswego Township in Kendall County have been designated as nonattainment areas. Jersey, Madison, Monroe, and St. Clair Counties in the St. Louis area also have been designated as moderate nonattainment areas for the 8-hour ozone standard. In addition, Madison, Monroe, St Clair, and Baldwin Township in Randolph County are nonattainment for $\mathrm{PM}_{2.5}$.

The Lake Calumet area and Lyons Township in Cook County have been designated as maintenance areas for the $\mathrm{PM}_{10}$ standard. In addition, Oglesby and several adjacent townships in LaSalle County, and Granite City and Nameoki Townships in Madison County have been designated as maintenance areas for the $\mathrm{PM}_{10}$ standard. All other areas of Illinois currently are in attainment for the ozone and $\mathrm{PM}_{10}$ standards.

This Project is included in the FY 2014-2019 TIP endorsed by the Metropolitan Planning Organization Policy Committee of CMAP for the region in which the Project is located. Projects in the TIP are considered to be consistent with the 2040 regional transportation plan endorsed by CMAP. The Project is within the fiscally constrained portion of the plan.

On October 9, 2014, the FHWA and the Federal Transit Administration (FTA) determined that the 2040 regional transportation plan conforms with the SIP and the transportation-related requirements of the 1990 Clean Air Act Amendments. On October 9, 2014, the FHWA and the FTA determined that the TIP also conforms with the SIP and the 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 SIP and the transportation-related requirements of the 1990 Clean Air Act Amendments.

The TIP number for this Project is 11-06-0018.

### 4.5.3 $\mathrm{PM}_{2.5}$ and $\mathrm{PM}_{10}$ Nonattainment and Maintenance Areas

## Project-Type

## 「 Exempt Project

$\sqrt{V}$ Nonexempt project that is not an Air Quality Concern
「 Nonexempt project that is an Air Quality Concern
This Project is not an air quality concern under 40 CFR 93.123(b)(1). Because the Project does not have a significant number of or a significant increase in diesel vehicles, it has been determined that the Project will not cause or contribute to any new localized $\mathrm{PM}_{2.5}$ or $\mathrm{PM}_{10}$ violations or increase the frequency or
severity of any $\mathrm{PM}_{2.5}$ or $\mathrm{PM}_{10}$ violations. USEPA has determined that such projects meet the Clean Air Act's requirements without any further hot-spot analysis.

### 4.5.4 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 study area. The potential air quality impacts will occur only while construction work is in progress and when conditions are appropriate.

The potential for fugitive dust emissions typically is associated with 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 winds.

The Department's Standard Specifications for Road and Bridge Construction (2012) includes 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 situation. Techniques that may warrant consideration include such measures 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, PM air quality impacts.

### 4.5.5 Mobile Source Air Toxics (MSAT)

Project-Type:
$\ulcorner$ Project is exempt
$\Gamma$ Project has no meaningful potential MSAT effects
$\sqrt{ }$ P Project has low meaning potential MSAT effects and is one of the following types below:
$\checkmark$ A minor widening project
$\Gamma$ A new interchange connecting an existing roadway with a new roadway
「 A new interchange connecting new roadways
$\Gamma$ Minor improvements or expansions to intermodal centers or other projects that affect truck traffic

「 Project has high potential MSAT effects

Most air toxics are formed from human-made sources resulting from burning fossil fuels for energy production, transportation, and food processing. The EPA is the main regulator of the 189 air toxins defined by the Clean Air Act of 1990.

For each build alternative carried forward in this Environmental Assessment, 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 each of the build alternatives carried forward 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 and a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates from increased speeds. According to USEPA's MOVES 2010b model, the priority MSAT emissions decrease as speed increases.

Because the estimated VMT under each of the build alternatives carried forward are nearly the same, varying by less than two percent, it is expected there would be no appreciable difference in overall MSAT emissions among the various alternatives. Also, regardless of the alternative chosen, 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 annual MSAT emissions by more than 80 percent between 2010 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 project 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 each Build Alternative carried forward there may be localized areas where ambient concentrations of MSAT could be higher under certain Build Alternatives than the No-Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along the expanded roadway sections that would be built at major signalized intersections under the on-alignment alternatives. However, the magnitude and the duration of these potential increases compared to the No-Action alternative cannot be reliably quantified from the 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 carried forward could be higher relative to the No-Build Alternative, but this could be offset by increases in speeds and reductions in congestion, which are associated with lower MSAT emissions. Also, MSAT will be lower in other locations from which traffic shifts. 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 they are currently.

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts from 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.

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 it has specific statutory obligations with respect to hazardous air pollutants and MSAT. The USEPA continually assesses 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." The IRIS can be accessed through the USEPA website. Each report contains assessments of noncancerous and
cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning possibly an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEl 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 are 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.

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 builds 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 timeframe because such information is not available. The results produced by the USEPA's MOBILE6.2 model, the California Environmental Protection Agency's Emfac2007 model, and the USEPA's Draft MOVES2009 model in forecasting MSAT emissions are highly inconsistent. Indications from the development of the MOVES model are that MOBILE6.2 significantly underestimates diesel PM emissions and significantly overestimates benzene emissions. Regarding air dispersion modeling, an extensive evaluation of USEPA's guideline CAL3QHC model was conducted in a National Cooperative Highway Research Program study, available through the USEPA website, which documents poor model performance at ten sites across the country where intensive monitoring was conducted plus an additional seven with less intensive monitoring. The study indicates a bias of the CAL3QHC model to overestimate concentrations near highly congested intersections and to underestimate concentrations near uncongested intersections. The consequence of this is a tendency to overstate the air quality benefits of mitigating congestion at intersections. Such poor model performance is less difficult to manage for demonstrating compliance with NAAQS for relatively short timeframes than it is for forecasting individual exposure over an entire lifetime, especially given that some information needed for estimating 70-year lifetime exposure 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.

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 HEl. 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. The USEPA and the HEI have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the USEPA, as provided by the Clean Air Act, to determine whether more stringent controls are required 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 a "safe" or "acceptable" level of risk for emissions from a source, which is generally no greater than approximately 100 in 1 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 1 million from 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 1 million. In some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in 1 million. In a June 2008 decision, the United States Court of Appeals for the District of Columbia Circuit Court 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.

Because of the limitations in the methodologies for forecasting 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.

### 4.6 NOISE

## V Type I Project

Г Type III Project

### 4.6.1 Impacts

Pursuant to 23 CFR 772, FHWA "Procedures for Abatement of Highway Traffic Noise and Construction Noise" the proposed Project is a Type I Project requiring traffic noise to be studied.

A traffic noise study has been conducted to evaluate traffic noise for the Illinois Route 47 proposed improvements. The traffic noise study evaluated a total of 32 representative receptors located within 32 Common Noise Environments (CNE). A CNE is a group of receptors within the same noise category that are exposed to similar noise sources and traffic noise levels. For developed land use categories, a representative receptor was chosen for each CNE. The selected representative receptor was generally chosen as the closest receptor to Illinois Route 47, and therefore the worst-case traffic noise condition. Figure 4.6-1 lists the locations of the 32 CNEs and their locations.

## Figure 4.6-1 Noise Receptor Locations



Figure 4.6-1 Noise Receptor Locations (Continued)


Figure 4.6-1 Noise Receptor Locations (Continued)


Figure 4.6-1 Noise Receptor Locations (Continued)


A traffic noise impact occurs on a project when predicted build noise levels approach, meet or exceed the Noise Abatement Criteria (NAC) listed in Table 4.6-1 or when the predicted noise levels are substantially higher than the existing noise level.

| Activity <br> Category | Leq(h) | Evaluation <br> Location | Activity Description |
| :--- | :--- | :--- | :--- |
| A | 57 | Exterior | Lands on which serenity and quiet are of extraordinary significance and <br> serve an important public need and where the preservation of those <br> qualities is essential if the area is to continue to serve its intended <br> purpose. |
| B | 67 | Exterior | Residential. |
| C | 67 | Exterior | Active sport areas, amphitheaters, auditoriums, campgrounds, <br> cemeteries, day care centers, hospitals, libraries, medical facilities, <br> parks, picnic areas, places of worship, playgrounds, public meeting <br> rooms, public or nonprofit institutional structures, radio studios, <br> recording studios, recreation areas, Section 4(f) sites, schools, <br> television studios, trails and trail crossings. |
| D | 52 | Interior | Auditoriums, day care centers, hospitals, libraries, medical facilities, <br> places of worship, public meeting rooms, public ornonprofit institutional <br> structures, radio studios, recording studios, schools, and television <br> studios. |
| E | 72 | Exterior | Hotels, motels, offices, restaurants/bars, and other developed lands, <br> properties or activities not included in A-D or F. |
| F | --- | --- | Agriculture, airports, bus yards, emergency services, industrial, logging, <br> maintenance facilities, manufacturing, mining, rail yards, retail facilities, <br> shipyards, utilities (water resources, water treatment, electrical), and <br> warehousing. |
| G | --- | --- | Undeveloped lands that are not permitted. |

Table 4.6-1 Noise Abatement Criteria - Hourly Weighted Sound Level

Based on the FHWA regulations, State Highway Authorities are allowed to establish the noise level determined to approach the NAC and the increase in noise levels determined to be a substantial increase. IDOT has established the following criteria, in the IDOT Highway Traffic Noise Assessment Manual 2017 Edition, to define the occurrence of a traffic noise impact.

- Design year (typically 20 years into the future) traffic noise levels are predicted to approach, meet, or exceed the NAC, with approach defined as 1 decibel (dB)(A) less than NAC; or
- Design year (typically 20 years into the future) traffic noise levels are predicted to substantially increase ( $15 \mathrm{~dB}(\mathrm{~A})$ or greater) over existing noise levels.

The existing noise levels range from 51 decibels (dB)(A) at R12 and R16 to $67 \mathrm{~dB}(\mathrm{~A})$ at R13 and R17. The projected 2040 No-Action traffic noise levels range from $51 \mathrm{~dB}(A)$ at $R 16$ to $68 \mathrm{~dB}(A)$ at $R 13$ and

R22. Generally, receptor noise levels increase approximately 0 to $4 \mathrm{~dB}(\mathrm{~A})$ from the existing scenario to the No-Action scenario from an increase in traffic volumes.

The projected 2040 Build traffic noise levels range from $54 \mathrm{~dB}(\mathrm{~A})$ at $R 16$ to $72 \mathrm{~dB}(A)$ at $R 13$. Generally, receptor noise levels increase between $1 \mathrm{~dB}(\mathrm{~A})$ to $5 \mathrm{~dB}(\mathrm{~A})$ from the existing scenario due to an increase in traffic volumes and roadway widening. Nine receptor locations (R6, R9, R10, R13, R14, R17, R20, R21, and R22) approach, meet, or exceed the FHWA NAC, and therefore warrant a noise abatement analysis. In addition to traffic noise levels approaching the NAC, a noise abatement analysis is warranted if traffic noise levels increase more than $14 \mathrm{~dB}(\mathrm{~A})$ between the existing and build scenarios at a receptor, regardless if the NAC is approached. None of the receptors meet this criteria as the largest increase is $5 \mathrm{~dB}(\mathrm{~A})$. CNEs and predicted noise impacts are summarized in Table 4.6-2.

| Receptor / CNE | Receptor Type 2 | Activity Category/ Noise Abatement Criterion (dB(A)) | Distance from Existing IL Route 47 Centerline (ft) | Existing Noise Level, dB(A) | 2040 NoAction Noise Level, dB(A) | 2040 Build Noise Level, $\mathrm{dB}(\mathrm{A}) 1$ | Increase in Build Noise Levels over Existing Noise Levels, dB(A) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | SFR | B/67 | 99 | 60 | 61 | 61 | 1 |
| 2 | SFR | B/67 | 117 | 56 | 59 | 58 | 2 |
| 3 | Church | B/67 | 230 | 59 | 63 | 64 | 5 |
| 4 | SFR | B/67 | 217 | 60 | 64 | 65 | 5 |
| 5 | SFR | B/67 | 111 | 56 | 60 | 60 | 4 |
| 6 | Civic | C/67 | 110 | 62 | 64 | 66 | 4 |
| 7 | School | C/67 | 261 | 56 | 59 | 61 | 5 |
| 8 | Adult Daycare | E/72 | 171 | 60 | 61 | 64 | 4 |
| 9 | SFE | C/67 | 71 | 65 | 66 | 69 | 4 |
| 10 | SFR/MFR | C/67 | 78 | 64 | 65 | 68 | 4 |
| 11 | Church | C/67 | 214 | 56 | 57 | 58 | 2 |
| 12 | Church | C/67 | 356 | 51 | 52 | 55 | 4 |
| 13 | SFR | B/67 | 58 | 67 | 68 | 72 | 5 |
| 14 | MFR | B/67 | 109 | 63 | 64 | 67 | 4 |
| 15 | Park | C/67 | 245 | 56 | 57 | 60 | 4 |
| 16 | Church | C/67 | 327 | 51 | 51 | 54 | 3 |
| 17 | Restaurant | E/72 | 50 | 67 | 67 | 70 | 3 |
| 18 | SFR | B/67 | 109 | 62 | 62 | 64 | 2 |
| 19 | Restaurant | E/72 | 110 | 61 | 61 | 63 | 2 |
| 20 | MFR | B/67 | 80 | 64 | 64 | 66 | 2 |
| 21 | SFR | B/67 | 86 | 65 | 66 | 67 | 2 |
| 22 | SFR | B/67 | 82 | 66 | 68 | 68 | 2 |
| 23 | MFR | E/72 | 180 | 58 | 59 | 59 | 1 |
| 24 | SFR/MFR | E/72 | 132 | 59 | 61 | 61 | 2 |
| 25 | Fairgrounds | E/72 | $89^{2}$ | 59 | 60 | 60 | 1 |
| 26 | Restaurant | E/72 | 199 | 59 | 60 | 61 | 2 |
| 27 | Restaurant | E/72 | 60 | 65 | 65 | $68^{3}$ | 3 |
| 28 | Restaurant | E/72 | 142 | 59 | 59 | 63 | 4 |
| 29 | MFR | B/67 | 191 | 58 | 58 | 62 | 4 |
| 30 | Restaurant | E/72 | 84 | 65 | 65 | $68^{3}$ | 3 |
| 31 | Restaurant | E/72 | 147 | 64 | 64 | $66^{3}$ | 2 |
| 32 | Restaurant | E/72 | 103 | 62 | 62 | 65 | 3 |

Table 4.6-2 CNEs and Predicted Noise Impacts

1. Boldface indicates the noise levels approach, meet or exceed the NAC in the 2040 Build condition
2. SFR = Single-Family Residence; MFR = Multi-Family Residence

### 4.6.2 Noise Abatement Analysis

IDOT policy identifies general criteria that must be met before a noise barrier shall be recommended for implementation. These include the following:

- Noise barriers shall be evaluated to address the identified traffic noise impacts;
- Noise barriers shall be feasible (can be built and can achieve the traffic noise reduction feasibility criterion of at least $5 \mathrm{~dB}(\mathrm{~A})$ for at least two impacted receptors);
- Noise barriers shall achieve the noise reduction design goal of at least $8 \mathrm{~dB}(\mathrm{~A})$ for at least one benefited receptor (Reasonableness Criterion 1);
- Noise barriers shall be cost effective (i.e., may not exceed the allowable noise abatement cost) (Reasonableness Criterion 2); and
- Noise barriers shall be deemed desired by the benefited receptors (Reasonableness Criterion 3).

Noise walls were considered feasible noise abatement measures at two locations (R9 and R10) of these nine locations since each provides at least a $5 \mathrm{~dB}(\mathrm{~A})$ traffic noise reduction at two impacted receptors.

With regard to reasonableness, noise walls would provide at least an $8 \mathrm{~dB}(\mathrm{~A})$ traffic noise reduction for at least one benefited receptor at R9 and R10. However, based on the evaluations of CNE 9 and CNE 10, the noise walls would not be economically reasonable since the estimated cost per benefited receptor exceeds the average adjusted allowable cost per benefited receptor, as shown in Table 4.6-3.


An overall noise abatement summary table is provided as Table 4.6-4.

| Noise Impacted <br> Receptor/CNE | Feasibility | Reasonability | Noise Wall To Be <br> Implemented |
| :---: | :---: | :---: | :---: |
| 6 | No | - | No |
| 9 | Yes | No | No |
| 10 | Yes | No | No |
| 13 | No | - | No |
| 14 | No | - | No |
| 17 | No | - | No |
| 20 | No | - | No |
| 21 | No | - | No |
| 22 | No | - | No |

Table 4.6-4 Noise Abatement Summary Table

Based on this noise analysis, no noise walls would be feasible and reasonable for this project. Therefore, highway traffic noise abatement measures are not likely for the proposed Illinois Route 47 project based on preliminary design. If the project's final design is different from the preliminary design, IDOT will determine if revisions to the traffic noise analysis are necessary. A final decision on noise abatement will not be made until the project's final design is approved and the public involvement processes is complete.

### 4.6.3 Undeveloped Areas Traffic Noise Coordination

Undeveloped areas were reviewed to determine whether there are any existing permits for development. According to the City of Woodstock Department for Community and Economic Development, a proposed retail site is being processed through permitting. The proposed development is located on the east side of Illinois Route 47 between McConnell Road and Country Club Road in an existing commercial area. According to the McHenry County Planning and Development Department, there are no plans for development in unincorporated areas at this time. While the existing land use is agricultural with scattered residential north of Ware Road, the future land use is primarily zoned for residential along Illinois Route 47 with commercial zoning centered at the intersection with Charles Road.

Traffic noise levels were estimated for undeveloped areas to determine the distance from the roadway under the 2040 Build condition for which the activity Category B or C NAC ( $67 \mathrm{~dB}(A)$ ) or Category E NAC ( $72 \mathrm{~dB}(\mathrm{~A})$ ) is approached for the appropriate land use. Therefore, the $66 \mathrm{~dB}(\mathrm{~A})$ noise level contour was estimated for undeveloped activity category $B$ and $C$ land uses and the $71 \mathrm{~dB}(A)$ noise level contour was estimated for undeveloped activity category E land uses. Coordination with local officials having jurisdiction over adjacent lands within the project study area will occur before the Public Hearing to present the results of the traffic noise study.

### 4.6.4 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 would at some time experience perceptible construction noise from implementation of the proposed improvements. To minimize or eliminate the effect of construction noise on these receptors, mitigation measures have been incorporated into the
currently adopted IDOT Standard Specifications for Road and Bridge Construction, Article 107.35, Construction Noise Restrictions.

Construction methods to be used for proposed improvements are considered and determined in the final engineering design with the preparation of contract drawings and specifications. Depending on the construction methods and potential for construction noise impacts, there are several potential abatement options that might be considered if they are warranted.

### 4.6.4.1 Construction Staging

Options for minimizing noise impacts during construction could include installation of temporary barriers, such as temporary walls, stockpiles of materials, equipment enclosures for noisy equipment such as shields or heavy curtains, routing construction equipment away from identified sensitive receptors, or operating equipment as far from any identified sensitive receptors as is feasible and practical.

### 4.6.4.2 Sequence of Operations

Options for minimizing noise impacts could include scheduling and conducting louder construction operations during the day and not during the night, when people are much more sensitive to noise, or conducting multiple loud operations at one time. The total noise level from multiple activities would not substantially increase the overall noise level. Its effect is that it would reduce the total duration of that noise level in the defined area.

### 4.6.4.3 Alternative Construction Methods

Options for minimizing noise impacts include the evaluation of alternative pile driving methods as this is a major noise contributor and can generate vibration complaints. The project could also consider quieter demolition methods or pavement removal methods, such as using special muffler systems, shields (such as structural barriers), or enclosing equipment (such as portable curtains).

### 4.7 NATURAL RESOURCES

### 4.7.1 Upland Plant Communities

Land use data within the project study area was obtained from United States Geological Survey (USGS) and is included in Exhibit 4.2-5. The highest percentage of land cover is Developed, low intensity ( 29.2 percent) and agricultural/cultivated crops (28.4 percent). Less than one percent of the project study area is classified as forest. USGS defines Developed, low intensity land as areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20 to 49 percent of total cover. These areas most commonly include single-family housing units.

A botanical survey conducted by the Illinois Natural History Survey (INHS) in 2011 identified two prairie sites located near the project study area. The first prairie site is a Dry Gravel Prairie site within the UP Railway right-of-way, approximately 1,750 feet west of Illinois Route 47. This habitat was extremely small ( 0.02 acre) and highly degraded (grade C- to D), with a FQI of 14.3 ( 11.2 with adventives). Diversity in this remnant community was low.

The second prairie site is a Dry-mesic Prairie consisting of two small sections along the UP Railway, approximately 1,500 feet east of Illinois Route 47. A narrow section of this remnant ( 0.02 acre) is on the north side of the railroad tracks, while a larger portion ( 0.1 acre) is on the south side. Both areas were highly degraded (grade C- to D), with a combined FQI of 16.3 (14.0 with adventives). Neither prairie site located near the project study area will be impacted as part of this Project.

Survey, identification, and a health study of trees were performed in 2010 along the project study area. The review found approximately 1,600 trees along the lllinois Route 47 corridor. The most common species of trees along the corridor include Honey Locust (11 percent), Green Ash (8 percent), Blue Spruce (7 percent) and Box Elder (7 percent). Trees surveyed were found to be in a typical condition and of typical to above-average form. Of the 1,600 trees found along the lllinois Route 47 corridor, 1,260 trees will be impacted as a part of this Project.

Noxious weeds and invasive species are plants that are not native to the project study area. Approximately 21 percent of trees found in the tree survey are considered invasive species. The most common invasive trees were Siberian Elm and Norway Maple trees making up 14 percent of all invasive trees found within the project study area. If noxious weeds/invasive species are found adjacent to construction areas, precautions will be taken to ensure the Project does not result in noxious weed and/or invasive species impacts to sensitive areas. IDOT has procedures and requirements regarding soil and seed qualities to prevent placing or spreading noxious weeds. If species are found that are on the IDOT List of Species Under Management, the species will be exterminated.

The Division of Highways recognizes the important functions and values that trees contribute to the roadside environment such as aesthetic/wildlife values, sight screening of objectionable views, windbreaks for open rural areas, shading for urban heat reduction, and air quality enhancement.

Widening the roadway will result in several hundred trees being removed. The highest percentage of trees being removed are Green Ash and Honey Locust, neither of which are native to the area. No forested blocks of trees greater than 20 acres in size are being removed. Trees will be replaced in accordance with IDOT Departmental Policy D\&E-18, which requires all trees along state highways be protected and preserved to the fullest extent possible consistent with standards of highway safety. Where trees must be removed, the Division of Highways shall pursue

| Diameter of <br> Removed Tree | Replacement <br> Trees |
| :--- | :--- |
| 4 inches | 2 trees at $21 / 2$ inches |
| 5 to 6 inches | 3 trees at 2 inches |\(\left|\begin{array}{ll}4 trees at 2 inches or <br>

3 trees at 21 / 2 inches\end{array}\right|\)

Source: McHenry County Subdivision Ordinance
Table 4.7-1 Tree Replacement opportunities for providing replacement trees.

The McHenry County subdivision ordinance has a tree replacement plan for various diameters of tree removal that must be replaced with a specific number and diameter of trees. These values are indicated in Table 4.7-1.

Trees prohibited from being used as replacement trees due to their invasive nature include Box Elder, Norway Maple, Silver Maple, Tree of Heaven, Russian Olive, Autumn Olive, Ash species, Honey Locust, Red Cedar, Poplar species, Common Buckthorn, Glossy Buckthorn, Black Locust, Bald Cypress, Arbor Vitae, and Siberian Elm.

The City of Woodstock enacted a Good Neighbor Program outlining general guidelines and requirements for planting new trees (City of Woodstock website). Planting new trees in the public right-of-way is allowed for certain species of trees because it can add value to homes, but must be approved by the City of Woodstock before planting. Trees are anticipated to be planted in new locations consistent with the guidelines outlined in the Good Neighbor Program. Sight distance will be considered so new trees do not adversely affect travelers.

The following restrictions apply:

1. J.U.L.I.E. should be contacted before excavation.
2. Planting trees near streetlights should be avoided.
3. Trees should be at least 6 feet from the back of curb and 100 feet away from an intersection.
4. Evergreen trees should not be planted within the public right-of-way.

All existing vegetation not being removed will be protected and pruned for safety and equipment clearance during the construction phase. Trees and shrubs may also be preserved with fertilizer nutrients, but measures must be considered so fertilizer nutrients do not run off into existing waters.

Forests are a large and important environmental resource in Illinois. Forests provide a considerable economic contribution, providing timber, employment, outdoor recreation, protection of soil and water resources, and habitat for many plant and animal species. Wildlife within forested areas may consist of white-tailed deer, common raccoon, and various species of birds, and a variety of other species.

In Illinois, a Memorandum of Understanding (MOU) between the Illinois DNR and IDOT requires IDOT to determine whether an alignment bisects or fragments forested areas greater than 20 acres. No forested areas greater than 20 acres will be impacted as a part of this Project.

### 4.7.2 Wildlife Resources

According to the USGS North American Breeding Bird Survey, the Union breeding bird survey route runs along Charles Road at Illinois Route 47. The birds included in this route are primarily European starlings, American robins, common grackles, and red-winged blackbirds. The birds on the Union route are commonly found in crops and pastures.

Vehicle accident data was collected along Illinois Route 47 with the intention of locating areas with high animal to vehicle crashes. The area between Ware Road and Charles Road is rural and is dominated by cultivated crops, forest, and grassland cover. The Illinois Comprehensive Wildlife Conservation Plan and Strategy states the white-tailed deer has a large population in Illinois and the deer are becoming more tolerant of proximity to people, which then results in more animal to vehicle accidents and crop damage.

Data was collected from 2010 through 2012 regarding the location of vehicle to animal accidents along Illinois Route 47. It was determined that, during the project study period, there were four vehicle to animal crashes. There were no injuries resulting from these crashes. One vehicle to animal crash occurred between the intersection of Illinois Route 120 and St. Johns Road. The other three vehicle to animal crashes occurred between Ware Road and Charles Road. The three vehicle to animal crashes between Ware Road and Charles Road account for 75 percent of all crashes in the section. The crash rate for the section between Ware Road and Charles Road is far below the critical crash rate for similar sections.

### 4.7.3 Threatened and Endangered Species

The Federal Endangered Species Act protects species of plants and animals that are threatened or endangered within the United States. The Illinois Endangered Species Protection Act protects species of plants and animals that are listed under the Federal act plus additional plants and animals. Both acts provide for the conservation of threatened and endangered species and the ecosystems upon which they depend. 17 Illinois Administrative Code (IAC) Part 1075 requires consultation for the protection of statelisted species.

### 4.7.3.1 Federally-listed Species/Habitat

A list of endangered or threatened proposed and candidate species, and proposed and designated critical habitats that could be present within McHenry County from the United States Fish and Wildlife Service was used to identify possible species in the project study area. A threatened species is one that is likely to become endangered in the near future. An endangered species is any species in danger of becoming extinct. A letter, dated December 16, 2013, was sent from the Illinois Department of Transportation central office to the District summarizing these findings and can be found in Appendix A. The preferred habitat of federally-listed species was cross referenced with the characteristics of the project study area.

It was determined that there may be suitable habitat for the northern long-eared bat. Since the trees in the project study area are mostly urban residential landscape trees, the suitability of habitat for this species is low and there are no records of the northern long-eared bat in the vicinity of the project study area. Therefore, it was concluded there is no effect on the northern long-eared bat.

Wetland No. 18 within the project study area had an FQI above 20 and a mean C over 3.5, thus providing potential habitat for platanthera leucophaea, the Eastern Prairie Fringed Orchid (EPFO). A botanical survey was conducted in August 2011 and a survey specific to EPFO was conducted in 2012 and no EPFO was found. Therefore, it was concluded EPFO is not within the project study area and there is no effect on EPFO.

A botanical survey conducted in August 2011 identified four prairie sites near the project study area. None of these prairie sites will be impacted as a part of this Project and therefore, there is no effect.

Correspondence from the U.S. Fish and Wildlife dated September 21, 2017 states "There are no critical habitats within your project area under this office's jurisdiction." This correspondence can be found in Appendix A.

Impacts

V No Effect
Г May Effect
Г Informal Consultation
$\Gamma$ Formal Consultation

### 4.7.3.2 State-Listed Species

A botanical survey for the Helianthus giganteus was conducted due to proximity of nearby records. No Helianthus giganteus were found at the time of the botanical survey and it was determined Helianthus giganteus is not present and there is no effect.

A survey was conducted for Blanding's Turtle within the project study area in September 2017 due to the proximity of nearby records. A marsh with suitable habitat for the Blanding's Turtle is located along Charles Road approximately 0.65 mile west of Illinois Route 47. This suitable habitat is approximately 0.44 mile outside the Project limits. Therefore, there is no effect on Blanding's Turtle.

Because there are no impacts to the marsh areas identified in the Project botanical survey, it is concluded that there is no effect on nesting of the Least Bittern.

This Project has no effect on the lowa Darter.

```
V Closed
```

$\Gamma$ Open
Incidental Take Authorization
$\ulcorner$ Yes
Species -
$\sqrt{v}$ No

### 4.8 WATER QUALITY/RESOURCES/AQUATIC HABITATS

The Wetland Science program from the INHS conducted a Wetland Delineation Report resulting in the identification of streams and ponds within the Illinois Route 47 project study area. The delineation was performed at four locations to determine the type, quality, and function of each site.

Table 4.8-1 summarizes the streams and ponds within the project study area that are considered Waters of the United States (WOUS). In accordance with the Wild and Scenic Rivers Act (16 U.S.C.1271-1287), no streams within the project study area are part of the National Wild and Scenic Rivers System or under study for designation to the system.

| Site <br> No. | Site <br> Name | Community <br> Type | Size Within Project <br> (acres) | NWI <br> Code | Waters <br> Type |
| :---: | :---: | :---: | :---: | :---: | :---: |
| W1 | East Branch Silver <br> Creek | Stream | 0.02 | U | RPW |
| W2 | Unnamed Tributary <br> to Silver Creek | Stream | 0.04 | PEMCd | RPW |
| W3 | Silver Creek | Stream | 0.05 | PEMC | RPW |
| W4 | Deepwater Aquatic <br> Habitat | Deepwater <br> Aquatic <br> Habitat | 0.53 | POWGx | RPW |
| W5 | Ditch | Ditch | 0.12 | U | RPW |

Table 4.8-1 Waters of the US Site Summary

These locations are specified on the Water Resources Map, Exhibit 4.8-1.
The East Branch of Silver Creek crosses under Illinois Route 47 approximately 200 feet south of Birch Road through a 7 -foot-wide by 8 -foot-tall box culvert. The East Branch of Silver Creek is a permanent body of water that has an approximate 4.36 -square-mile watershed and is 62 linear feet wide. The Illinois Department of Natural Resources (IDNR) does not classify the stream as a biologically significant stream, nor did it receive an integrity or diversity rating. The East Branch of Silver Creek is a portion of the West Nippersink Creek Watershed area and there are neither riffles nor pools present. Approximately 0.02 acre of the site will be impacted as a part of this Project. Impacts are necessary to widen the roadway to the proposed cross section, remove the existing box culvert, construct a new, longer, 16 -foot-wide by 9 foot tall box culvert, and complete necessary grading.

An unnamed tributary to Silver Creek crosses Illinois Route 47, approximately 100 feet south of Cooney Drive. The tributary is approximately 58 feet wide. The IDNR does not classify it as a biologically significant stream and it has neither a stream integrity nor a diversity rating. In addition, no riffles or pools exist in the tributary. The tributary is a High Quality Aquatic Resource (HQAR) and Advanced Identification (ADID) site. It is a portion of the West Nippersink Creek Watershed area. The culvert carrying the unnamed tributary underneath Illinois Route 47 has a drainage area of 6.48 square miles. Approximately 0.006 acre of the site will be impacted as a part of this Project. Impacts are necessary to widen the roadway to the proposed cross section, remove the existing box culvert, construct a new, longer culvert, and complete necessary grading.

Silver Creek is primarily located along either side of Charles Road, approximately 375 feet east of Raycraft Road. It is approximately 107 feet wide and is a portion of the West Nippersink Creek Watershed area. The culvert carrying Silver Creek underneath Charles Road has a drainage area of 15.4 square
miles. Silver Creek is classified as a permanent body of water with a stream integrity and diversity rating of $D$. IDNR states that integrity ratings are based on a letter scale from $A$ to $E$, with $A$ being the highest integrity. No riffles or pools are present, and the IDNR classifies it as a significant stream. Silver Creek will not be negatively impacted as part of this Project.

Lakes surrounding the project study area are primarily manmade lakes and private detention ponds. A manmade deep-water aquatic habitat is located on the east side of Illinois Route 47 approximately 100 feet south of Cooney Drive. The pond flows into the unnamed tributary to Silver Creek via an 18 inch diameter pipe and an emergency overflow berm. Because it flows directly into a relatively permanent water source, it is considered to be a Water of the United States. It has a total watershed area of less than one square mile and is a portion of the West Nippersink Creek Watershed area. The proposed widening impacts the existing berm on the west side of the pond, which controls the water elevation in the pond. The preferred alternative includes a proposed retaining wall at the back of the shared-use path on the east side of Illinois Route 47 and a weir wall east of the retaining wall that will replace the existing berm. The weir wall will have the same overtopping elevation as the existing berm to maintain the existing pond elevation. The lllinois Route 47 improvements will require regrading area to the west and north of the existing pond to maintain the pond capacity. The preferred alternative results in approximately 0.099 acre of site impacts.

A ditch is located approximately 1,500 feet north of McConnell Road on the east side of Illinois Route 47. Water is carried beneath Illinois Route 47 from the west side of the roadway to the east side of the roadway via an 8 -foot-high by 10 -foot wide box culvert. Because of the overall good condition of the structure and the limited amount of repairs needed, the culvert is proposed to be extended as part of the Project. The ditch flows south along the east side of Illinois Route 47 for approximately 125 feet before crossing beneath a private driveway via dual corrugated metal pipe culverts. The ditch then flows east away from Illinois Route 47. These culverts are not proposed to be impacted by the Project. However the ditches upstream and downstream of the culverts are proposed to be regraded for detention purposes. Approximately 0.119 acre of the site will be impacted as part of this Project. Impacts are necessary to widen the roadway to the proposed cross section and regrade the ditch to accommodate the detention basin proposed at the site.

Erosion control measures will be required to avoid construction runoff. Necessary permits for the Project are discussed in the Permits/Certifications Required Section of this report.

### 4.9 GROUNDWATER RESOURCES

All Woodstock's drinking water comes from community and personal wells that tap into alluvial and glacial origin aquifers.

The aquifers affecting Woodstock's groundwater systems are from large, soft rock, carbonate-rich aquifers. These aquifers provide groundwater at a shallow depth under 200 feet from the surface. The water moves through fractures and cavities within the limestone and dolomite rocks. Groundwater quality for the City of Woodstock is considered hard water because of the high concentrations of dissolved calcium magnesium bicarbonate. The dissolved solids are a result of the movement of water against the dolomite rock within the shallow aquifers.

The Illinois State Geological Survey (ISGS) indicates there are fewer than 30 public and private water wells within the project study area. The Woodstock community well is located approximately 500 feet east of the existing right-of-way limits and 700 feet south of St. Johns Road. The community well and facilities can hold up to a maximum storage of 3.3 million gallons per day and they fulfill the average daily demand for the City of Woodstock of 2.4 million gallons per day.

The shallow depth of the groundwater poses a threat to possible groundwater contamination. According to a 1992 Groundwater Protection Needs Assessment for the City of Woodstock, the highest concern for groundwater contamination resides within the sand and gravel aquifers that generally lie 20 feet or less from the surface. The entire project study area lies within this class of contamination concern. Groundwater degradation from contamination is a concern for the City of Woodstock because of the increase in population in the City of Woodstock and lack of any other source of drinking water for the City of Woodstock.

The City of Woodstock does not have any "regulated aquifer recharge areas," but it is classified as a Sensitive Aquifer Recharge Area. Because of the presence of aquifers, signs within Woodstock notify its residents they are entering a "Woodstock Water Protection Area." The water protection area is explained in an amendment to the zoning law that prohibits certain industries, such as a bottled water industry, and activities in the water supply protection district (Water Supply Protection Overlay District).

According to the USEPA, there are no sole source aquifers, as designated under Section 1424(e) of the Safe Drinking Water Act, within the Illinois Route 47 project study area.

The widening Project may create a new potential route or source for groundwater pollution for the community well.

The Project is not expected to impact groundwater pumping rates. The addition of extra impervious areas may result in a minor decrease in the amount of recharge for the aquifers of McHenry County.

Groundwater pollution mitigation includes restricting storage of hazardous and special waste along the construction site and prohibiting dumping of extra or unwanted construction materials along the corridor.

### 4.10 FLOODPLAINS

National Flood Insurance Rate Maps (FIRM) have been collected to identify the 100-year floodplain within the project study area, shown in Exhibit 4.10-1.

### 4.10.1 East Branch Silver Creek

East Branch Silver Creek crosses Illinois Route 47 through an existing 7-foot-wide by 8 -foot-tall box culvert between Cherry Court and Birch Street. The floodway for this section of the creek extends up to 50 feet beyond the channel limits during the 100-year storm event. The floodplain for this section of the creek extends beyond the north side of the channel east of Illinois Route 47 during the 100-year storm event. The existing culvert is being replaced with a proposed 16 -foot wide by 9 -foot tall box culvert. Proposed within the floodway and floodplain at this location are 0.13 acre of temporary easement and permanent right-of-way impacts longitudinal to the floodplain. Impacts are necessary to widen the roadway to the proposed cross section, remove the existing box culvert, construct a new, longer, 16-foot-
wide by 9 -foot tall box culvert, provide right-of-way for maintenance of the new culvert, and complete necessary grading. The area beyond the roadway typical section will be restored similar to existing conditions to minimize floodway/floodplain impacts.

### 4.10.2 Tributary to East Branch Silver Creek

An unnamed tributary to the East Branch of Silver Creek starts at an unnamed residential detention pond approximately 100 feet south of Cooney Drive along the Illinois Route 47 corridor. The 100 -year floodplain extends along ditches on the west side of Illinois Route 47 for approximately 1,000 feet and continues west of the project study area. The preferred alternative impacts 1.21 acres of existing floodplain longitudinally along Illinois Route 47. The impacts are necessary to construct the roadway cross section and develop proposed drainage ditches. Of the 1.21 acres of floodplain impacts, 0.52 acre is within existing Illinois Route 47 right-of-way and 0.69 acre is outside the existing Illinois Route 47 right-of-way.

### 4.10.3 Floodplain Finding of Significant Encroachment

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V No
\Gamma Yes
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### 4.10.4 Required Statement

This Project will not cause significant encroachment because there is no potential for interruption of the facility, there is no significant risk, and there are no significant adverse impacts on natural and beneficial floodplain values.

### 4.11 WETLANDS

Wetland are protected by Executive Order (EO) 11990, the Illinois' Interagency Wetland Protection Act of 1989, and regulated by the United States Army Corp of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (CWA). In order to comply with these requirements, the Illinois National Historical Survey (INHS) conducted a Wetland Delineation Report resulting in the identification of wetlands along the Illinois Route 47 project study area. This wetland delineation replaced the findings from the McHenry County GIS data used in the Alternative Development phase of the Project. The wetland delineation was performed at 23 locations to determine the wetland type, the quality of the wetland, and the function for each site. Eighteen sites met the wetland criteria set forth by the 1987 Army Corps of Engineers Wetlands Delineation Manual. Table 4.11-1 shows the Wetland Impact Summary Table for the Wetland Delineation Report correlating to the Exhibit 4.11-1 Wetland Inventory Map. The wetland size included in Table 4.111 occurs within the project study areas and is not necessarily the entire wetland size.

| Wetland Site No. | Aerial Exhibit Sheet | Wetland Community Type | Wetland Size (Acres) | NWI Code | ADID/ HQAR | FQI | Mean C | Area of Impact (Acres) | Mitigation Ratio |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 | Shrub-scrub Wetland | 0.00 | U |  | 16.1 | 3.2 |  |  |
| 2 | 1 | Wet floodplain forest | 0.00 | PEMC |  | 9.2 | 2.0 |  |  |
| 3 | 1 | Wetland pond | 0.08 | U |  | 7.0 | 2.3 | $\begin{gathered} \text { All } \\ (0.08) \end{gathered}$ | 1.5:1 |
| 4 | 1 | Shrub-scrub Wetland | 0.02 | U |  | 5.7 | 2.3 |  |  |
| 6 | 2 | Wet meadow | 0.04 | $\begin{gathered} \text { PEMC } \\ d \end{gathered}$ |  | 4.0 | 1.8 |  |  |
| 8 | 3 | Wetland pond | 0.41 | $\underset{x}{\mathrm{POWH}}$ |  | 9.6 | 2.6 | 0.151 | 1.5:1 |
| 9 | 3 | Marsh | 0.02 | U |  | 5.0 | 1.4 | 0.004 | 1.5:1 |
| 11 | 3 | Wet meadow | 0.07 | $\underset{\mathrm{d}}{\mathrm{PEMC}}$ | ADID/ <br> HQAR | 7.8 | 2.2 | 0.017 | 3:1 |
| 12 | 3 | Wet meadow | 0.16 | $\begin{gathered} \text { PEMC } \\ \mathrm{d} \end{gathered}$ | ADID/ HQAR | 4.1 | 1.7 | 0.048 | 3:1 |
| 13 | 4 | Wet meadow | 0.19 | PEMC | ADID/ <br> HQAR | 7.2 | 2.2 |  |  |
| 14 | 4 | Shrub-scrub wetland | <0.01 | $\begin{aligned} & \text { PEMC/ } \\ & \text { PEMAf } \end{aligned}$ | ADID/ <br> HQAR | 7.2 | 1.9 |  |  |
| 16 | 5 | Wetland pond | 0.00 | $\underset{x}{\text { POWF }}$ | ADID | 7.5 | 2.3 |  |  |
| 17 | 5 | Wet floodplain forest | 0.08 | PEMC | ADID | 10.8 | 2.6 |  |  |
| 18 | 5 | Marsh | 0.19 | PEMC | ADID/ <br> HQAR | 26.9 | 3.8 |  |  |
| 19 | 5 | Shrub-scrub wetland | 0.11 | PEMC | ADID | 15.6 | 3.3 |  |  |
| 21 | 6 | Wet meadow | 0.08 | U | ADID | 4.5 | 2.0 |  |  |
| 22 | 6 | Marsh | 0.23 | U |  | 10.0 | 2.1 |  |  |
| 23 | 2 | Wet floodplain | <0.01 | $\begin{gathered} \text { POWF } \\ x \end{gathered}$ |  | 2.3 | 1.3 | 0.01 | 1.5:1 |
| TOTAL |  |  |  |  |  |  |  | 0.31 |  |

Table 4.11-1 Wetland Impact Summary

### 4.11.1 Proposed Mitigation

## Proposed Mitigation

「 On-site
$\Gamma$ Off-site
Wetland Bank

Measures were taken to minimize the amount of wetlands affected by the Project. Temporary fencing may be used to identify right-of-way limits during construction near wetlands to prevent additional impacts to these sites.

Wetland impacts were included in the PowerPoint presentation and displayed on figures at Public Meeting No. 3 on July 9, 2014. Wetland impacts were also mentioned in the newsletter inviting the public to the Public Meeting.

### 4.11.2 Wetland Finding

The total wetland impact for the preferred alternative is estimated to be 0.310 acre.
Wetland Sites 11 and 12 are located on the west side of Illinois Route 47 near Cooney Drive. Proposed grading will impact Wetland 11 because the wetland is located directly behind the proposed back of curb. The proposed curb and gutter will impact Wetland 12. The alignment cannot be moved further east because a pond and house are located adjacent to the roadway on the east side of Illinois Route 47. A retaining wall is utilized on the east and west sides of Illinois Route 47 in order to minimize impacts. Both Wetland Sites 11 and 12 are classified as ADID wetlands with high habitat value and classified as HQAR. No other ADID or HQAR sites will be impacted as a part of this Project.

All of Wetland 3 will be impacted as a result of the proposed roundabout at Illinois Route 47 and Lake Avenue. Several iterations for location of the roundabout were completed, balancing many Project objectives. Moving the roundabout would result in other additional impacts, including those to businesses. The proposed roundabout also allows the existing UP Railway bridge between Lake Avenue and McConnell Road to remain in place.

A portion of Wetland 8 is proposed to be impacted as part of the Project. This wetland site will be impacted by the proposed curb and pavement of the Illinois Route 47 widening. The roadway alignment was shifted approximately 10 feet east at this location to reduce impacts to the wetland, but could not be shifted further because of the proximity to buildings on the east side of the roadway and the proximity to the roundabout at Ware Road. No sidewalk is currently proposed on the west side of Illinois Route 47 between Ware Road and Charles Road to further reduce wetland impacts.

A portion of Wetland 9 is proposed to be impacted as part of this Project. This wetland is in conflict with the proposed grading and ditching behind the curb. The roadway alignment was shifted approximately one foot east at this location to reduce impacts to the wetland, but could not be shifted further because of the proximity to buildings on the east side of the roadway. No sidewalk is proposed on the west side of Illinois Route 47 between Ware Road and Charles Road to help reduce wetland impacts.

Executive Order No. 11990, given by President Carter in 1977, states that the agency "...shall provide leadership and shall take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities."

It is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use, which satisfies the requirement of the Federal Executive Order 11990.

### 4.12 SPECIAL WASTE

A Preliminary Environmental Site Assessment (PESA) for special waste was conducted by the ISGS for IDOT (PESA Reports ISGS \#2279). It was determined the proposed improvements to Illinois Route 47 could involve sites potentially impacted with special wastes and regulated substances. In addition, the findings indicated many of these could not be avoided.

> What is a Preliminary Environmental Site Assessment (PESA)?
> A PESA is a study conducted to determine if there is a potential for contaminated soils or groundwater in the project vicinity. Public records are examined and a site visit conducted to assess the right-of-way and adjacent properties to determine if there are any natural or manmade hazards that might have resulted in contamination.

The PESA Report identified 214 recognized environmental conditions (REC) sites. The preferred alternative includes taking permanent right-of-way from 118 contaminated sites and temporary right-of-way takings from 14 contaminated sites. Nine contaminated sites are proposed to be relocated, as noted in Section 4.2.5. These site are Mambo Car Wash located at 1100 McConnell Road, Dwight's Auto Body located at 999 South Eastwood Drive, Gas Cap Fuels located at 401 South Eastwood Drive, a vacant commercial building located at 641 East Judd Street, A Hartlett \& Son located at 406 N Eastwood Drive, a residential property located at 511 N Eastwood Drive, a residential property located at 404 Center Street, and 1212 N Seminary Avenue. Pre-

| Identified REC | Percent of <br> Total |
| :--- | :---: |
| Aboveground Storage Tank | 0.9 |
| Chemical Use | 9.8 |
| Not Leaking Underground | 0.9 |
| Storage Tanks | 0.5 |
| Former Monitoring Well | 50.0 |
| Potentially Impacted <br> Groundwater | 37.9 |
| More than 1 REC per site |  |

Table 4.12-1 RECs in PESA Study Limits demolition building surveys will be conducted prior to building demolition to ensure that proper abatement of asbestos-containing materials (including appropriate regulatory notifications) is completed and to help limit the amount of materials that would need to be removed and placed in permitted landfills. Six of the contaminated sites with right-of-way takings along the corridor are gas stations, including Gas Cap Fuels proposed to be relocated. Table 4.121 conveys the breakdown of RECs in the PESA Study Limits. REC sites are summarized in Exhibit 4.12-1.

It is determined the purchase of additional right-of-way cannot be avoided; therefore, a Preliminary Site Investigation (PSI) is required. In some cases, the portion of the Project that involves the REC can be risk managed and would not require additional assessment. If the affected property containing the REC is a full take, then the property is ineligible to be risk managed. If risk managing is not possible, further environmental study is required, specifically a PSI, to determine the nature and extent of possible contamination. The PSI will include assessments for lead-based paint and asbestos containing materials.

It is the responsibility of Phase II to complete a PESA update for the entire Project.

### 4.13 SPECIAL LANDS

### 4.13.1 Section 4(f)

Section 4(f) of the United States Department of Transportation (USDOT) Act of 1966 (23 CFR 774) protects publicly owned wildlife and waterfowl refuges, parks, or recreational areas. No de Minimis, Programmatic, or Individual Section $4(\mathrm{f})$ coordination is necessary for this Project. Bates Park is a 23-
acre park located between Maple Avenue and East Beech Avenue on the east side of Illinois Route 47 that was purchased using Land and Water Conservation Fund program funds. This park is adjacent to the Silver Creek Conservation Area. On June 11, 2014, the FHWA determined that, since the proposed roadway improvements are constructed within the existing right-of-way and the only impact to Bates Park would be to upgrade the existing sidewalk to a shared-use path, no Section 4(f) or Section 6(f) evaluation is required for the property. The FHWA determined that the shared-use path could be constructed under temporary occupancy as no other right-of-way was necessary. The shared-use path will replace the sidewalk on the same alignment. Meeting minutes from the FHWA meeting can be found in Appendix A. The project study team met with the City of Woodstock on June 10, 2014. The City of Woodstock was supportive of the shared-use path providing connectivity throughout the corridor, including at Bates Park. A letter was sent to the City of Woodstock on January 11, 2018 requesting the City of Woodstock officially support the improvements to Bates Park property by sending a letter of support to IDOT. This letter was signed and returned by the City of Woodstock. Correspondence with the City of Woodstock can be found in Appendix A. The contractor shall receive four weeks of temporary occupancy on Bates Park property to construct the proposed shared-use path.

### 4.13.2 Section 6(f)

Section 6(f) of the Land and Water Conservation (LAWCON) Fund Act requires that any property using LAWCON money be used for public outdoor recreation unless otherwise approved by the National Park Service. As mentioned in Section 4.13.1, Bates Park is classified as a Section 6(f) property. There will be a beneficial effect to the recreational value of the property. No other Section 6(f) properties are within the project study area. The Illinois Department of Natural Resources (IDNR) concurred that there is no Section 6(f) conversion the therefore, no Section 6(f) evaluation will be required. Correspondence with the IDNR can be found in Appendix A.

### 4.13.3 Open Space Lands Acquisition and Development (OSLAD) Act Lands

There are no lands within the project study area that were purchased as part of the OSLAD program.

### 4.13.4 Illinois Natural Areas Inventory (INAI) Sites

Three Illinois Natural Areas Inventory (INAI) sites are present in the vicinity of the project study area. Woodstock Marsh INAI site is located approximately 1,300 feet west of the project limits at the northeast corner of Illinois Route 47 and US Route 14. West Woodstock Prairie INAI is located approximately 2.5 miles west of the project study area. Boone Creek Fen and Seep is located approximately 2.5 miles east of the project study area. None of the three INAI sites will be impacted as a part of this Project.

### 4.13.5 Nature Preserves

Yonder Prairie Nature Preserve is located approximately 2.5 miles west of the project study area. Boone Creek Fen and Seep is located approximately 2.5 miles east of the project study area. Neither site will be impacted as a part of this Project.

### 4.13.6 Land and Water Reserves

The Illinois Natural Heritage database contains no record of registered Land and Water Reserves in the vicinity of the project study area.

### 4.14 INDIRECT AND CUMULATIVE IMPACTS

The previous sections considered mainly the direct impacts of the Project. Direct impacts are created by the construction of the Project. IDOT is also required to consider potential indirect and cumulative effects, which are impacts not directly related to the construction of the Project."

### 4.14.1 Indirect Impacts

Indirect effects are impacts caused by a project, but they occur later in time or in an area that is farther away from the project. Indirect effects could be a lot of different things, but they must be "reasonably foreseeable," or highly likely to occur because the project was built. Illinois Route 47 is currently extremely congested through the City of Woodstock, causing many drivers to avoid using the roadway. Widening the roadway will increase the capacity of the roadway and will likely increase the use of Illinois Route 47. This could, in turn, increase the value of businesses in the corridor. Development could increase more rapidly than it would if the No-Build scenario was implemented. This results in a decreased amount of farmland and residential land along Illinois Route 47. The decrease in farmland and residential land with the preferred alternative will be somewhat offset by mitigation and ordinances already in place, such as wetland mitigation and tree replacement requirements.

A shared-use path is proposed throughout the length of the Project on the east side of the roadway, and a sidewalk is proposed from US Route 14 to Ware Road on the west side of the roadway. This will result in increased pedestrian traffic. The shared-use path access could result in additional bicyclists desiring to use the roadway. The path and sidewalk could possibly increase the amount of delay at traffic signals and roundabouts because of pedestrian traffic.

### 4.14.2 Cumulative Impacts

Cumulative effects are effects on the community or natural environment that occur from adding the impacts of one project with other past, present and likely-to-occur projects. When added together, minor impacts from several different and somewhat small projects could result in a greater impact on the community and natural environment. Construction of the shared-use path throughout the length of the Project could result in additional shared-use paths proposed throughout the City of Woodstock with the purpose of increasing connectivity throughout the city.

Few multilane roundabouts have been proposed in the State of Illinois. Five multilane roundabouts are proposed in this Project. If the roundabouts prove to be effective and are supported by the public, roundabouts could become a more common intersection alternative for future projects to increase capacity and safety.

### 4.15 PERMITS AND CERTIFICATIONS REQUIRED

### 4.15.1 Section 404

This Project will require a Section 404 permit of the Clean Water Act because it involves discharging of dredged or fill material into waters (including wetlands) of the United States.

### 4.15.2 401 Water Quality Certification

This Project will require a Section 401 Water Quality Certification because a Section 404 permit is necessary.

### 4.15.3 National Pollutant Discharge Elimination System Construction Permit

A permit is required from the USEPA, coordinated through the IEPA, because the proposed improvements disturb one acre or more of land area.

### 5.1 ENVIRONMENTAL COMMITMENTS AND MITIGATION

An environmental commitment is any action that represents a condition that must be put in place to receive Project approval or has been committed to as part of the environmental review process."

1. As mentioned in Section 4.13.1, the contractor shall receive four weeks of temporary occupancy to construct the shared-use path on the Bates Park property.
2. A PSI will be conducted prior to acquisition of any contaminated parcel, and/or required temporary or permanent easements, and if the proposed improvements require excavation on or adjacent to a property identified with a REC or requires excavation, including subsurface utility relocation, on a property with an easement. The PSI will include assessment for lead-based paint- and asbestos-containing materials.
3. Special waste issues encountered during construction will be managed in accordance with the IDOT "Standard Specifications for Road and Bridge Construction and the Supplemental Specifications and Recurring Special Provisions".
4. Accidental spills of hazardous materials and wastes during construction or operation of the transportation system require special response measures. Occurrences will be handled in accordance with local government response procedures. Refueling, storage of fuels, or maintenance of construction equipment will not be allowed within 100 feet of wetlands or water bodies to avoid accidental spills impacting these resources.

### 6.1 PUBLIC INVOLVEMENT

IDOT designated the Illinois Route 47 Phase I Study as a CSS project. CSS is a collaborative approach that involves all stakeholders to develop a facility that fits into its surroundings and preserves scenic, aesthetic, historic, and environmental resources while maintaining safety and mobility. In accordance with IDOT's CSS procedures, a stakeholder is anyone who could be affected by the Project and has a stake in its outcome.

A website containing information regarding the Project was made available to the public. The website is located at http://www.il47woodstockstudy.com.

Brief summaries of the Corridor Advisory Group and public meetings follow. Meeting minutes for the meetings described below can be found in the Combined Design Report.


#### Abstract

What is CSS? CSS is an interdisciplinary approach that seeks effective, multi-modal transportation solutions by working with stakeholders to develop, build, and maintain cost-effective transportation facilities that fit into and reflect the project's surroundings-its "context." Through early, frequent, and meaningful communication with stakeholders, and a flexible and creative approach to design, the resulting projects should improve safety and mobility for the traveling public, while seeking to preserve and enhance the scenic, economic, historic, and natural qualities of the settings through which they pass.


All comments received at the Public Meetings were noted, investigated, and responded to. Common comment themes included congestion on the existing roadway, safety concerns, drainage and flooding issues, property acquisition, the possibility of bypasses, support of the roundabouts, pedestrian accommodations, and access management. The general public and agencies have primarily shown definite support and agree with the need for the Project. Questions or concerns brought up by businesses and agencies were also discussed and responses provided. Public involvement completed can be found in Appendix C.

### 6.1.1 Corridor Advisory Group

IDOT established a Corridor Advisory Group to provide a forum for discussion of details for the planning and design of Illinois Route 47. The Corridor Advisory Group consists of representatives from IDOT and its consultant staff, governmental bodies, transportation agencies, project study area elected officials, interested groups or organizations, local businesses, and residents. The Corridor Advisory Group met seven times and has provided technical input and broad perspectives as well as community level input regarding various aspects of Illinois Route 47. A summary of the seven Corridor Advisory Group meetings follows.
6.1.1.1 Corridor Advisory Group Meeting No. 1: The first Corridor Advisory Group meeting for Illinois Route 47 was held on January 21, 2010, at Bull Valley Golf Club in Woodstock, Illinois, from 9 A.M. to 11:30 A.M. The meeting included a PowerPoint presentation focusing on the study process, schedule, public outreach program, and Corridor Advisory Group member roles and responsibilities. The second portion of the meeting was an interactive workshop used to identify transportation issues and concerns regarding the corridor and Project objectives for issues and concerns, goals, and an objectives summary.
6.1.1.2 Corridor Advisory Group Meeting No. 2: The second Corridor Advisory Group meeting for the Illinois Route 47 Phase I Study was held on March 18, 2010, at Bull Valley Golf Club in Woodstock, Illinois, from 9 A.M. to 12 P.M. The meeting included a PowerPoint
presentation that reiterated Corridor Advisory Group Meeting No. 1 and Public Meeting No. 1, discussed the Draft Problem Statement created from stakeholder feedback from the Corridor Advisory Group Meeting No. 1 and Public Meeting No. 1 comment period, and reviewed the existing conditions and deficiencies in the corridor.
6.1.1.3 Corridor Advisory Group Meeting No. 3: The third Corridor Advisory Group meeting for the Illinois Route 47 Phase 1 Study was held on September 1, 2010, at Bull Valley Golf Club in Woodstock, Illinois, from 9 A.M. to 12 P.M. The meeting included a PowerPoint presentation that reiterated previous Corridor Advisory Group Meeting Nos. 1 and 2 and Public Meeting No. 1, confirmed the Project Problem Statement, presented the draft Purpose and Need, and included an alternatives workshop to seek input on potential improvements to the corridor.
6.1.1.4 Corridor Advisory Group Meeting No. 4: The fourth Corridor Advisory Group meeting for the Illinois Route 47 Phase I Study was held on May 12, 2011, at Bull Valley Golf Club in Woodstock, Illinois, from 9 A.M. to 12 P.M. The meeting included a PowerPoint presentation that reiterated the results and project milestones achieved at previous Corridor Advisory Group Meeting Nos. 1, 2, and 3, and Public Meeting Nos. 1 and 2. The study team also provided an overview of the CMAP modeling that occurred during the past several months specifically for this Project. The alternatives development process was explained, including a discussion and acceptance of alternatives evaluation criteria, and a presentation of the initial conceptual Project alternatives. This was followed by a workshop seeking Corridor Advisory Group input on the presented alternatives.
6.1.1.5 Corridor Advisory Group Meeting No. 5: The fifth Corridor Advisory Group meeting for the Illinois Route 47 Phase I Study was held on March 21, 2012, at Bull Valley Golf Club in Woodstock, Illinois, from 9 A.m. to 11:30 A.M. The meeting included a PowerPoint presentation that reiterated the results and project milestones achieved at previous Corridor Advisory Group and Public Meetings, including a review of the alternatives development process and the previously presented range of preliminary alternatives. The study team then presented the Refined On-Alignment Alternative, which was developed as a result of stakeholder input and technical analysis compiled to date, followed by a workshop for Corridor Advisory Group members to review and comment on the proposed improvement plan.
6.1.1.6 Corridor Advisory Group Meeting No. 6: The sixth Corridor Advisory Group meeting for the Illinois Route 47 Phase I Study was held on May 15, 2014, at the Bull Valley Golf Club in Woodstock, Illinois, from 1 P.M. to 3:30 P.M. The meeting included a PowerPoint presentation that showed a Project update and an overview of the on-alignment alternatives. An on-alignment alternatives workshop followed with a discussion of the next steps to be taken.
6.1.1.7 Corridor Advisory Group Meeting No. 7: The seventh Corridor Advisory Group meeting for the Illinois Route 47 Phase I Study was held on October 19, 2017, at Bull Valley Golf Club in Woodstock, Illinois, from 1 P.M. to 3 P.M. The meeting included a PowerPoint presentation presenting the Refined On-Alignment Alternative that was developed as a result of stakeholder input and technical analysis compiled to date.

### 6.1.2 Public Meetings

A total of three public meetings have been held for the Project. All public meetings were in open house format with a continuous PowerPoint presentation, exhibit boards for review, and aerials of the Project for which meeting attendees could provide comments suggestions, issues, and concerns. Brief summaries of each meeting follow.
6.1.2.1 Public Meeting No. 1: The first public meeting was held on February 3, 2010, from 4 P.M. to 7 P.M. at Challenger Learning Center in Woodstock, Illinois. Various methods were used to inform the public about the meeting and its purpose. The purpose of the meeting was to identify current and future transportation issues and needs for the Illinois Route 47 project. A total of 59 people attended the meeting, and a total of 29 comment forms were received at the public meeting or within the comment period, which continued until February 18, 2010. Common comment themes included property acquisition, congestion, safety, bypass alternatives, drainage and flooding, and opinions on widening Illinois Route 47.
6.1.2.2 Public Meeting No. 2: The second public meeting was held on September 15, 2010, from 4 P.M. to 7 P.M. at Challenger Learning Center in Woodstock, Illinois. Various methods were used to inform the public about the meeting and its purpose. The purpose of the meeting was to present a general overview of the Project's Purpose and Need and to solicit input and ideas to begin the development of potential alternatives. A total of 64 people attended the meeting and a total of nine comment forms were received at the public meeting or within the comment period, which continued until September 30, 2010. Common comment themes included discussion of potential bypass routes, pedestrian desires, and Illinois Route 47 widening impacts.
6.1.2.3 Public Meeting No. 3: The third public meeting was held on July 9, 2014, from 4 P.M. to 7 P.M. at Challenger Learning Center in Woodstock, Illinois. Various methods were used to inform the public about the meeting and its purpose. The purpose of the meeting was to solicit input on the intersection and roadway alternatives. A total of 75 people attended the meeting and a total of 27 comment forms were received at the public meeting or within the comment period, which continued until July 23, 2014. Common comment themes included pedestrian accommodations, roundabout support, roundabout safety, and access management.

### 6.1.3 Business Meetings

Two business meetings and ten small group business meetings were held as part of the public involvement process.

The first meeting was held on July 26, 2012. The purpose of the meeting was to introduce the Project to business owners and solicit input on individual businesses' needs and access. A total of 95 letters were mailed to business owners inviting them to the meeting and explaining the Project. The meeting included a PowerPoint presentation summarizing the Project purpose, need, schedule, and design alternatives. Businesses were provided questionnaires regarding delivery truck sizes, delivery truck schedules, delivery truck travel directions, and business hours.

The second meeting was held on October 23, 2014. The City of Woodstock Chamber of Commerce went door-to-door before the meeting inviting all businesses within the corridor to the meeting. The purpose of the meeting was to reintroduce the Project to business owners, present the preferred alternative, and solicit input on the alternative. The meeting included a PowerPoint presentation summarizing the Project and extended roll plot drawings of the preferred alternative with sticky notes available for comments. A total of 66 people attended the meeting and 11 comment forms were received along with sticky note comments on the drawings. Common concerns about the Project included access management and the implementation of barrier median.

In December 2016 through February 2017, a total of ten small group meetings were conducted for business and property owners located adjacent to the corridor, starting from the southern part of the project study area and moving north. Two meetings were held per meeting day. The intent was to review the preliminary preferred alternative, to discuss opportunities for cross access along the corridor and to provide business and property owners an opportunity to provide feedback in a smaller group setting. All meetings were held at the Woodstock Public Library. Each meeting consisted of a 20-minute PowerPoint presentation followed by a 65-minute breakout session to discuss individual property concerns at smaller tables. An initial list of property and business owners, including current tenants, was developed by the project study team. The list was then vetted by the City of Woodstock. An e-mail invitation was sent to the business or property owner. Each invitee on the list was followed up with a personal phone call by the project team if they did not respond to the e-mail invitation. A total of 121 individual business/property owners attended one of the meetings. Comments received from the meetings included concerns regarding access, property impacts, and the land acquisition process.

### 6.2 AGENCY COORDINATION

Agencies were included in coordination throughout the duration of Phase I of the Project. Agency coordination can be found in Appendix A. A summary of agency meetings follows.

### 6.2.1 National Environmental Policy Act (NEPA)/404 Merger Meetings

Two meetings took place between the project study team and the NEPA/404 Merger Team. The purpose of these meetings included an opportunity for the consulting firm to meet the merger team, provide project progress, and identify future merger team coordination plans. The Project was following the NEPA/404 guidance because of the wide range of alternatives considered, including bypasses and couplets. The Project withdrew from the NEPA process after receiving concurrence on the Project purpose and need and presenting all bypass and couplet alternatives. Once all bypass and couplet alternatives were eliminated and all alternatives remaining were on-alignment alternatives. It was then determined impacts to wetlands would be less than 1 Acre and no further coordination with the NEPA/404 merger team was necessary.

### 6.2.2 FHWA

The project study team met with the FHWA a total of ten times. The purpose of these meetings included introducing the FHWA to the Project and discussing the Project Purpose and Need, Project design criteria, public involvement plans, environmental documentation, and agreement on the preferred alternative.

### 6.2.3 State Representative Jack Franks

The consulting firm met with State Representative Jack Franks on July 7, 2014. The purpose of the meeting was to provide a progress update for the Project and to discuss the roundabout and signalized intersection alternatives, proposed barrier median, proposed pedestrian accommodations, and next steps for the Project.

### 6.2.4 City of Woodstock

Various meetings were held with the City of Woodstock. The purpose of these meetings was to inform the City of the progress of the Project and solicit input on various design considerations.

### 6.2.5 McHenry County

A meeting was held with McHenry County officials on December 7, 2009. The purpose of the meeting was to introduce the Project, explain the public involvement process, and ask for recommendations for the Corridor Advisory Group.

### 6.2.6 Dorr Township

A meeting was held with Dorr Township officials on January 13, 2010. The purpose of the meeting was to introduce the Project to the township, receive comments and concerns about the corridor, and invite the officials to join the Corridor Advisory Group.


Exhibit 1.1-1
Project Location Map



# SAFE ACCESS IS GOOD FOR BUSINESS 



You may be reading this primer because your state transportation agency or local government has told you about plans that will affect access to your business. They may be planning to install a raised median on your roadway, to close a median opening, or to reconfigure your driveway. Perhaps your request for a driveway is under review or the regulating agency has imposed conditions on its approval. Or, maybe the state or local agency is planning a new access policy and you have questions or concerns about the economic effects of these changes.

Whatever the reason, it is important for you to understand the basis for these changes and how they might affect your business. This primer will address questions you may have about access management and its effect on business activity and the local economy. It focuses on economic concerns that may arise in response to proposed access changes or policies, including potential impacts on business activity, freight and deliveries, parking for customers, and property or resale value of affected property.

## Why is my aceess heing changed or reviewed?

The access changes being proposed for your business or road are part of a growing effort by government agencies to improve how major transportation corridors are managed. These efforts, known as access management, involve the careful planning of the location and spacing of driveways, street connections, median openings and traffic signals. Access management can also involve using medians to channel left-turns to safe locations, and providing dedicated turn lanes at intersections and access points to remove turning vehicles from through lanes. The combined purpose of these strategies is to reduce crashes and traffic delay.

To understand access management, it is important to know that roads have different primary functions; either to provide access or move traffic.

- The main function of minor roads, like neighborhood collectors and local streets, is to provide access. Minor roads must operate at slower speeds so people can enter and exit homes and businesses safely and conveniently.
- The main function of major roads, like interstate freeways and regional highways, is to move traffic over long distances at higher speeds. Access to these roads must be carefully managed so requests for new access to development do not contribute to unsafe or congested conditions.


## How exactly does this improve the situation on my road?



One reason managing access on major roads is so important is that driver safety is reduced when access is not properly located and designed. Imagine, for example, a driveway on an interstate freeway - it would certainly cause serious safety concerns. These same safety problems occur with improperly

> "In the four years I have lived here we at times have seen a lot of rear end collisions here, and we haven't seen one now for a long time."
> - E. Stanley Tripp of Tripp's Auto Sales in Spencer, Iowa, commenting on a median project in his area. designed access to major arterial roads.

Managing access on your road can result in better traffic flow, fewer crashes, and a better shopping experience for you and your neighboring businesses. Consider the effects of adding more access points to a highway. A national study in the late 1990s looked at nearly 40,000 crashes and data from previous studies to determine the crash rate associated with adding access points to major roads. It found that an increase from 10 to 20 access points per mile on major arterial roads increases the crash rate by about $30 \%$ (1). The crash rate continues to rise as more access is permitted. This is why studies consistently show that well-managed arterials are often 40 to 50 percent safer than poorly managed routes (2).


Example of Crash Involving Left-Turn Movement from Driveway

## How does access management improve safety?



Each access point creates potential conflicts between through traffic and traffic using that access. Each conflict is a potential crash. Access management improves safety by separating access points so that turning and crossing movements occur at fewer locations. This allows drivers passing through an area to predict where other drivers will turn and cross, and also provides space to add turn lanes.

The figure to the right shows how basic changes in access design, such as incorporating a median or changing a full median opening to a directional opening, can reduce traffic conflicts and the potential for crashes.

> If crashes and congestion become frequent on your roadway, people will seek out other routes. Bear in mind that a single crash can tie up traffic and potential customers for hours.

## What ahout congestion and the effect it has on my market areas

Access management not only improves roadway safety, it also helps reduce the growing problem of traffic congestion. Frequent access and closely spaced signals increase congestion on major roads. As congestion increases, so does delay, which is bad for the economy and frustrating to your customers. Well-managed arterials can operate at speeds well above poorly managed roadways - up to 15 to 20 miles per hour faster. This means more traffic past your door and better exposure for your business. It also means a more convenient shopping experience for your customers.


## How will a change in access aficet the suceess of my husiness?

To address this question, it's important to first determine the type of business that you own - drive-by or destination.

- "Destination businesses" are businesses that customers plan to visit in advance of the trip. Examples include electronics stores, doctor or dentist offices (in fact most offices), major retailers, insurance agencies, sit down restaurants, etc.
- "Drive-by businesses" are those that customers frequent more on impulse or while driving by, such as convenience stores, gas stations, or fast food restaurants.

If you own a drive-by business, your clients will expect to get in and out easily from the highway. For you, the critical issues are visibility, signage, and convenient access. If your site is relatively small, a driveway connecting to the highway may not be your best option. A driveway on a highway service road or a private circulation lane serving several properties can increase the convenience of your access and the volume of customers you can accommodate. Convenient

## Access management has no impact on the demand for goods and services.

 access can be provided by periodic connections between the service road and the highway, or through the shared private access points. Short driveways or open frontages not only cause safety hazards for pedestrians and traffic, but have less capacity than local roads or long driveways."Our business has increased about $20 \%$ in customer count."
-C.Randy Rosenburger of City Looks in Ankeny Iowa.

If you are the owner of a destination business, your customers are planning their trips in advance. A driveway on a congested highway or a highway that is perceived as unsafe may actually intimidate customers from making the trip. Most small destination businesses or specialty stores benefit more from access to a lower speed minor road, such as a neighborhood collector road. The greater exposure that a major road provides is an advantage for larger destination businesses, but it's a good idea to have access from more than one roadway. Allowing customers to enter and exit from different directions will increase safety and convenience.

## How important is access to the success of my husiness?

Location and access are factors, but not the most important factors that determine whether businesses succeed or fail. The main reason that businesses fail is lack of management expertise (3). The main reasons that businesses succeed include (4):

- the experience of management,
- how well customers are served,
- the quality of the product or service provided,
- adequate financing and investment,
- well-trained employees,
- the level and nature of competition, and
- keeping costs competitive.

Given that access is not the primary reason that businesses survive or fail, it follows that a change in access will not be the primary cause of whether a business will survive or fail. In fact, access is one of the lesser factors that customers will consider when weighed against price, service, product, and store amenities.

This is not to say that good access is not important to your business. Whether your business is large or small, it is important that you can handle customer traffic demand. If you operate or develop major retail centers, factories, or campuses, proper location and design of access is essential to customers and employees. For shopping centers, the Urban Land Institute's Shopping Center Development Handbook states "poorly designed entrances and exits not only present a traffic hazard, but also cause congestion that can create a negative image of the center (5)."This is also true for small businesses, especially those on the intersection of busy roads. If your business is difficult or unsafe to enter or exit, then customers may be dissuaded from visiting.


Is this a sign of a store doing great business, or one that is telling customers to try the next guy down the street?

Just think about the roads in your community where access has been carefully planned and compare them to those having lots of driveways, open frontages, and no median. Which roads do you prefer to travel on and which corridors have the most vibrant

## What has heen the impact to husinesses where this type of thing has heen done?

Studies of the business impacts of access management projects in Florida, Iowa, Minnesota, Kansas and Texas have consistently found that most businesses continue to do well when the project is completed. These results are particularly true for destination businesses. However, most drive-by oriented businesses are not unduly affected either. Drive-by businesses have been adversely affected by reconstruction projects that reduce their visibility from the major road or cause them to have highly circuitous or inconvenient access. However, these are not typical impacts of access management projects and where they do occur, it is not uncommon for transportation agencies to compensate business owners for losses.

Business activily: Access management projects alone do not appear to increase or decrease business failure rates (6). This makes sense considering that many factors other than highway access can affect business success. "Before and after" studies of businesses in Florida, Iowa, Minnesota, and Texas along highways where access has been managed found that the vast majority of businesses do as well or better after the access management projects are completed. The turnover rate (the proportion of businesses that close or move out each year) of businesses in Iowa and Minnesota was studied along newly access-managed corridors and was similar to or lower than that of the surrounding area. For example:

Businesses affected by access management projects in Iowa tended to do at least as well in terms of growth in retail sales, but usually better than those in surrounding communities, after the projects were completed. Most of these Iowa business proprietors said that sales were similar or greater following the completion of the projects. Only five percent reported a sales decrease (6).

Impact of Access Management on Retail Sales Growth

- In the 1990s, retail businesses along eight recently access managed roadways in Iowa were compared to their surrounding communities.
- The businesses along the managed corridors experienced much higher retail sales growth during the decade than those businesses in other locations in these eight communities.


Business Proprietors' Reported Sales Comparisons


# Business owners report that the actual impacts to their businesses were much less than they anticipated. Most adverse impacts were due to construction and not to access changes. 

"If anything, our business has increased, which very much surprised me."
-D. Stanley Tripp of Tripp's Auto Sales in Spencer, Iowa

Property values: Most property owners surveyed following an access management project do not report any adverse effect of the project on property values. Often, such projects can have a positive effect by cleaning up the patchwork of driveways and curb cuts. For example:

A study of property values on Texas corridors with access management projects found that land values stayed the same or increased, with very few exceptions (7).

A 2005 study of commercial property values along a major access management project in Minnesota found that property values depend more on the strength of the local economy and the general location of the property in the metropolitan area; changes in access seemed to have little or no effect on the value of parcels (9).

More than $70 \%$ of the businesses impacted by a project in Florida involving several median opening closures reported no change in property value, while $13 \%$ reported some increase in value (8).

A study of Kansas properties impacted by access changes found that the majority were suitable for the same types of commercial uses after the access management project was completed. This was true even for businesses that had direct access before the project and access only via frontage roads after project completion (10).

BISIOMPIS and delverips: The majority of customers and truck drivers surveyed in before-and-after studies have reacted positively to access management projects as improving both safety and traffic flow. Business customers surveyed about access management projects in Iowa, Texas and Florida overwhelmingly supported the projects because their drive became quicker, easier and safer (6).

## What are some common types of aceess manayement projects and what are the impacts?



There are many access management techniques, each with a specific purpose and different type of impact. One common type of access change is the building of a median on a road or closing existing median openings. Another common type of project is providing a frontage road or a rear service road along a highway for access to businesses. Below is an overview of these strategies, the types of issues or impacts associated with these projects, and how you can work with the agency to adjust to these changes.

## MEDIANS and MEDIAN OPENINGS

## A median is a grass or raised divider in the center of a road that separates opposing traffic and discourages or prevents vehicles from crossing the divider.

Openings in the median provide for different turning or crossing maneuvers, depending on how they are designed.

- A directional median opening only allows certain movements, usually a left-turn in or U-turn.
- A full median opening allows all turning and crossing movements and is often signalized.
Where too many full median openings exist, agencies may reconstruct the median and close the excess median openings.


Turn lanes at median openings provide a safe haven for turning vehicles.

## Why use a median and not a two-way left turin lane?



Conflicts and potential crashes associated with continuous two-way left turn lanes

Medians can have a profound effect on driver safety compared to twoway left-turn lanes. Adding a median to a road that previously had a continuous two-way left turn lane can reduce the crash rate about $37 \%$ and the injury rate about $48 \%$ (11). For example, when a continuous two-way left turn lane was replaced with a median on Atlanta's Memorial Drive, the crash rate was cut in half (12).
One reason a two-way left turn lane is less safe than a median is that a driver who is turning left must be able to ensure that the traffic is clear from two directions in multiple lanes. When this is not quite possible, drivers will sometimes use a two-way left-turn lane in the middle of the road while attempting to merge into traffic. Such maneuvers can lead to serious crashes and become more frequent as traffic volumes increase.

## Won't Iose customers if they can't turn left into my husiness anymore?

The number of your customers making left turns into your business is likely already very low during peak travel periods or if you are on a congested roadway. This is because left turns into any business become increasingly difficult as traffic volumes in the opposing lanes increase.


Perhaps today your customers wait with apprehension to turn left as cars queue behind them, or must shoot across a busy road to complete a left turn out. A turn lane at a median opening or signalized intersection will allow them to wait safely to complete a U-turn when traffic clears, and that is truly a safer option on a busy road. In fact, the left-turn into and out of a driveway is less safe than a U-turn and comprises the majority of driveway crashes. Studies have shown that making a U-turn at a median opening to get to the opposite side of a busy highway is about $25 \%$ safer than a direct left turn from a side street or other access point (13).

Surveys show that a majority of drivers have no problem making U-turns at median openings to get to businesses on the opposite side of the road. Where direct left-turns are prohibited, studies show that motorists will change their driving or shopping patterns to continue patronizing specific establishments. In fact, most drivers are reporting that access management improvements made the roads safer and that they approve of the changes, despite minor inconveniences associated with U-turns.

Some owners of drive-by businesses have reported a loss of customers following a median project or other change that has eliminated the left-turn-in opportunity (and less often left-turn-out), although the majority do not. For example, a before-and-after study of a median reconstruction project in Florida involving numerous median-opening closures found that the majority of surveyed merchants, $68 \%$ of the 96 respondents, reported little or no economic impact to their businesses, although $27 \%$ reported some type of loss (14). Generally, businesses that feel they were adversely impacted also have competition nearby or may have experienced reduced visibility of signage.
"Because of the design of the roads, the timing of the traffic signals, and the way the traffic is broken up, it has become very convenient for people to pull into a safe haven, or storage lane within the raised median, take their time and make a safe and convenient u-turn to access properties that were concerned about that problem."

- Kurt Easton, Executive Director of Merritt Island Redevelopment Agency, Florida


## Why not just signalize all median openings and high volume driveways?

The decision on whether or not to signalize a median opening or access point depends on many factors, including the volume of traffic using the access, the proximity of other traffic signals, and the potential impact on public safety and traffic congestion. Most signal warrants are related to traffic volumes, but some consider school crossings, crash history, pedestrian crossings, "factory" peaks, and other situations. Unwarranted signals cause undue delays as motorists wait at a red light while little or no cross traffic exists. Worse, unwarranted signals may eventually be disobeyed or ignored by frustrated motorists who are only one reckless incident away from causing an accident or emerging as a casualty themselves. For these reasons, median openings and driveways should not be signalized where they do not meet the requirements of a traffic signal study.

## What ahout impacts on truck ieliveries?

The limited number of before-and-after studies have found that truck deliveries may be inconvenienced, at worst, but may in fact benefit from improved opportunities resulting from a change in access. And while the actual studies may be few, the anecdotal comments are many and favorable.

Merchant opinions of median changes on Oakland Park Blvd., Florida


96 Merchants Responded

Merchant and trucker opinions about a median project in Ft. Lauderdale, Florida


## What are the other issues with medians and median opening closures?



- Alternative access through side streets, service roads, or internal connections with neighboring developments helps increase accessibility on busy or median separated roads - especially if the result allows several properties access to a signal.
- Minor roadway improvements, such as additional pavement on the shoulder, may be needed to accommodate U-turning traffic.
- Some trucks and large vehicles may need to take alternate routes as U-turns can be difficult to negotiate.
- Medians can be landscaped to enhance the image of an area and help attract investment and customers.


## FRONTAGE Or SERVICE ROADS

## A frontage road is a type of service road that parallels a major road or freeway and is located between the road and building sites abutting the road. Service roads can also run behind businesses.

The purpose of these roads is to provide lower-speed access to commercial sites along a major roadway and to separate business traffic from higher-speed through traffic. Connections of frontage or service roads to side streets or onto the highway must be well away from signalized intersections, so entering and exiting traffic doesn't conflict with traffic queuing at signals.


Rear service roads providing access to highway commercial properties.


A frontage road.

## How will I get access while I'm waiting for a frontage or service road to he finished?

Some sites may need to be given temporary access to the major roadway until the service road system is complete. This is typically needed when a service road is being constructed in segments through the development process, rather than built by a transportation agency as part of a road construction project. Most agencies will require you to remove your temporary driveway and build a driveway to the frontage or service road at a later time, so it's important to design your site access and circulation to accommodate that change.


## How will people know how to get to my husiness from the highway?

Frontage roads maintain good visibility for businesses along a major road and typically it is apparent how to enter and exit the road to get to a business. Points of entry can be signed to identify businesses that can be accessed from that entrance, if it is not already apparent. It's a good idea to provide signs where a service road or frontage road connects at a side street, so customers know they can obtain access to businesses that may not be visible from the side street.


## What are the other issues with frontage or service roads?

- Service roads that run behind highway properties are often less disruptive to existing businesses than frontage roads, less costly for an agency, and more functional than a frontage road.
- Rear service roads can provide access to businesses on each side and can operate safely from both directions. Frontage roads provide access only to businesses fronting on the highway and are much safer when designed for one-way traffic.
- Additional right-of-way will be needed for the frontage or service road and for connecting a service road back to the highway or side street. If your site will be impacted, it is important to work with the agency on how to reduce adverse effects. For example, if your site becomes nonconforming under local zoning regulations because of a smaller setback or other change, ask the local agency if they will waive that status, given that it was caused by a government right-of-way taking.


## What are other commonly used access manayement techniques?



## So what's the hotiom line on access management?

Efforts by government agencies to manage access in site development and road projects can help businesses, even those operating on older highway corridors, in a variety of ways. Here are some specific benefits to you and your customers:

- Fewer roadway delays and better traffic flow will result, which will preserve and possibly even enhance the market reach of businesses in your corridor;
- Safer approaches to businesses result from installation of medians, which can also be landscaped to improve the image of the area;
- Properly designed entrances shared by multiple businesses allow more site area for parking, more customer options to access your site, and improved landscaping or other site
"It has been a very posítive thing all the way around, from the economic, and the community sides. We have improved our tax base, we have improved our traffic problem, and plus we have improved our business communíty."
- Chuck Fisher, Supt. Public Works Ankeny, Iowa amenities;
- Service roads along the highway allow customers to enter and exit businesses conveniently and safely, away from faster moving through-traffic;
- Internal connections between businesses allow customers to circulate easily, without reentering a busy road; and/or
- Driveways and service road entrances farther away from signalized intersections allow easy access for customers, even during times of peak congestion.

In brief, minimizing the number of curb cuts, consolidating driveways, constructing landscaped medians, and coordinating internal site circulation and parking among several businesses results in a visually pleasing and more functional corridor. That protects your investment in your business, the public investment in the roadway, and can even help attract new investment into the area.


## What can be done to keen my husiness going during construction?

There's no doubt about it, road construction can disrupt customers and drivers, but there are ways adverse impacts can be minimized. Two key issues during construction are maintaining open access to businesses for customers and deliveries, and having sufficient sign visibility so your customers know you are open, and know how to enter and exit your site during this period. When your road is scheduled for reconstruction, your transportation agency will initially notify you about what to expect in terms of traffic, duration of construction, any foreseeable disruptions, and so on. It is important for you to respond to them about your special needs and concerns. Below are some of the things that you can ask of the agency:

- Provide clear signs from the roadway to business entrances;
- Provide temporary and/or secondary business access points, where feasible;
- Schedule construction for after business hours or to occur during times of low usage for seasonally-oriented businesses;
- Provide alternative parking, if possible and avoid taking or blocking parking spaces;
- Stagger construction along a corridor so impacts are localized and staged;
- Expedite construction through incentive/disincentive programs;
- Avoid blocking business entrances with construction equipment or construction barriers;
- Establish a single point of contact in the agency about the construction project to communicate with property and business owners and help address issues that may arise;
- Provide regular project progress reports to business and property owners.

Business owners certainly may see drops in gross revenues during construction. But these are not unlike drops you may routinely experience during expansions, remodeling, seasonal variations, or other self-initiated management. Experience has shown that "construction" drops are temporary too, and that retail sales typically return to preconstruction levels or greater. Research

## YES, WE ARE OPEN

 findings from corridors in Texas indicate that businesses did not change employment levels during construction periods. This finding indicates that retailers understand that construction projects are a temporary and perhaps even an inevitable disruption to business, and that loyal patrons will return to stable businesses. The same research found that gross revenues typically either returned to preconstruction levels or were higher after construction was complete (7).
## How can I have a say in the aceess management project on my road?

Get involved! All government agencies are required to involve the public in transportation policy and project decisions. Most state transportation agencies offer open house meetings during transportation project planning and design, and both state and local government agencies conduct public meetings and hearings when making important policy or regulatory changes that involve access management. Prospective business owners can also review area master plans to research potential changes.

## It is important for you as a stakeholder in an access management project to attend public meetings and hearings and to voice your ideas and concerns.

These meetings are opportunities for you to hear more about an access management project or plan and to make the planners and engineers aware of how it impacts your business. This might involve issues related to internal traffic circulation and parking, deliveries, plans for expansion, etc. Knowing this information early in project planning or design allows them to make better project decisions and can result in changes that reduce or avoid adverse impacts on your business.

For example, many businesses depend on trucks for deliveries and other functions. Larger trucks are not typically able to make certain movements (such as U-turns). It is important to work with agency staff to develop a plan that will accommodate truck access to your business in a manner as convenient as possible. Sometimes this will require that trucks follow a slightly different route to arrive at the property. Project planners can work with you to assure that trucks will be able to access your business. This is just one of many ways your input is important.


## Where can Igo to learn more ahout access management?

Hopefully this primer has answered some of the questions that you, as a business or property owner, may have. Your state or local transportation agency or your state's Federal Highway Division office (on larger projects) are other excellent resources to point you to the right project manager, or to answer your general questions concerning access changes. These transportation agencies need and value your input as they strive to provide a safe and efficient highway system.

For the latest information on access management or to order the latest Access Management Library CD/DVD collection, go to www.accessmanagement.gov. Other important sources for information on the economic effects of access management include the TRB Access Management Manual, and NCHRP Report 420: Impacts of Access Management Techniques, which are both available from the Transportation Research Board at www.trb.org.

## References

1 Gluck, J., H. Levinson and V. Stover, NCHRP Report 420: Impacts of Access Management Techniques, Transportation Research Board, Washington, D.C.: National Academy Press, 1999.
2 Preston, H., et al. Statistical Relationship between Vehicular Crashes and Highway Access, Minnesota Department of Transportation, Report MN-RC-1998-27, August 1998.

3 USA Today, Money, 5/6/2004.
4 Holland, R., Planning Against a Business Failure, ADC Info \#24, University of Tennessee, October 1998.
5 Urban Land Institute, Shopping Center Development Handbook, Second Edition, Washington D.C., 1985, p. 101.
6 Iowa State University, Iowa Access Management Research and Awareness Project, CTRE, 1997.

7 Eisele, W. and W. Frawley, A Methodology for Determining Economic Impacts of Raised Medians: Data Analysis on Additional Case Studies, Research Report 3904-3, Texas Transportation Institute, College Station, Texas, October 1999.
8 Vargas, F.A. and Y. Guatam, Problem: Roadway Safety vs. Commercial Development Access, ITE, Compendium of Technical Papers, 1989.
9 Plazak, D. and H. Preston, Long-Term Impacts of Access Management on Business and Land Development along Minnesota Interstate-394, Proceedings of the 2005 MidContinent Transportation Research Symposium, CTRE - Iowa State University, 2005.
10 Rees, M., T. Orrick, and R. Marx, Police Power Regulation of Highway Access and Traffic Flow in the State of Kansas, presentation, 79th Annual Meeting of the Transportation Research Board, Washington D.C., January 10, 2000.
11 TRB Committee on Access Management, Access Management Manual, Transportation Research Board, 2003.
12 Parsonson, P., et al., Effect on Safety of Replacing an Arterial Two-Way Left-Turn Lane with a Raised Median, Proceedings of the First National Conference on Access Management, Federal Highway Administration, 1993.
$13 \mathrm{Lu}, \mathrm{J} .$, et al., Methodology to Quantify the Effects of Access Management on Roadway Operations and Safety, 3 volumes, prepared by the University of South Florida for the Florida Department of Transportation, 2001.
14 S/K Transportation Consultants, Inc., National Highway Institute Course No. 133078: Access Management, Location and Design, April 2000.

## U.S. Department of Transportation

Federal Highway Administration
Office of Operations
400 Seventh Street, SW
Washington, DC 20590
www.ops.fhwa.dot.gov/access_management
August, 2006
FHWA-HOP-06-107
EDL 14294


## ALTERNATIVE 1

sMALLEST FOOTPRINT (CLOSED DRAINAGE SYSTEM)

PROPOSED LEGEND
(1) hot-mix asphalt surface course, mix "D", n50, 2"
(11) TOPSOIL FURNISH AND PLACE, 6
(2) hot-mix Asphalt binder course, ili9.0, N50, 4
(13) COMBBNATION CONCRETE CURB AND GUTtER,
TYPE M-4.24
(14) combination curb and gutter, b-6. 24
(3) hot-mix Asphalt base course, 9"
(4) bituminous materials (prime coat)
(15) Shared use path
(6) Accpegate sime coat
(7) AGGREGATE SHoulders, type b. 6 "
(8) hot-mix asphalt shoulders, $6^{\prime \prime}$
(9) Steel plate beam guardrall. type a. 6 foot posts
(10) Subbase granular material. type b $6^{\prime \prime}$

| HiT-MIX ASPAALT SURF ACE COURSE, 3 |
| :--- |

(16) portland cement concrete sidewalk, 5
(17) concrete median surface, $4^{\prime \prime}$
(18) roundabout truck apron
(19) hot-mix ASPHALT Shoulders


ALTERNATIVE 2

|  | section | counir |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |











## Environmental Inventory Map



Environmental Resource Map



| To: | John McDonough |
| :--- | :--- |
| Bureau: | Land Acquisition |
| Attn: | Mike Cullian | | Date: |
| :--- |


| From: <br> Bureau: | J.Baczek/S.Schilke/J.Baldauf/K.Bochte |
| :--- | :--- |
|  | Programming |
|  |  |
| Subject: | IL 47 \| P-91-007-09 |
|  | Potential Relocation |

## Please check appropriate box below:

| $\boxtimes$ Take Necessary Action | $\square$ For Your Information | $\boxtimes$ Reply |
| :--- | :--- | :--- |
| $\boxtimes$ For Your Comments | $\square$ See Me About the Attached | $\boxtimes$ Return |
| $\square$ Per Your Request | $\square$ Draft (Letter)(Memo) For | $\square$ Route |
| $\square$ For Your Approval | my signature | $\square$ File |


| IL 47 |
| :--- |
| From U.S. 14 to Charles Road |
| P-91-007-09 |
| McHenry County |
| Attached is a list of potential building displacements for the subject project. Per FHWA's request, can you please |
| provide perspective/potential relocation sites? This information will then be used to update the socio/economic findings |
| document. |
| If you have any questions or need additional information please contact John Baldauf, P.E., Project Manager at (847) |
| 705-4103 or Kyle Boche, Project Engineer at (847) 705-4678. |
| Thanks, |
| Kyle Bochte |


available ressidential

|  | MLS \# | Stat | Street \# | CP | Str Name | Sfx | Area | LP/SP | \# Rms | All Beds | Baths | Type | SCI |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 08682866 | ACTV | 621 |  | Washington | St | 98 | \$89,900 | 7 | 4 | 1.1 | 2 Stories | N |
| 2 | 08841082 | PCHG | 626 |  | Blakely | St | 98 | \$89,900 | 7 | 3 | 2 | 1 Story | N |
| 3 | 08844718 | ACTV | 417 |  | Highland | Ave | 98 | \$100,000 | 6 | 3 | 1.1 | 2 Stories | N |
| 4 | 08596548 | ACTV | 751 |  | Washington | St | 98 | \$119,900 | 7 | 3 | 2 | 2 Stories | S |
| 5 | 08862709 | ACTV | 664 | N | Sharon | Dr | 98 | \$119,900 | 7 | 4 | 1.1 | 1 Story | N |
| 6 | 08667089 | ACTV | 408 |  | Becking | Ave | 98 | \$134,900 | 9 | $3+1$ bsmt | 2.1 | 1 Story | S |
| 7 | 08831440 | ACTV | 1801 |  | Quail | Ct | 98 | \$139,000 | 6 | 3 | 2 | 1.5 Story | s |
| 8 | 08792789 | ACTV | 2219 |  | Aspen | Dr | 98 | \$144,900 | 11 | 4 | 2.1 | 2 Stories | S |
| 9 | 08750236 | PCHG | 816 | 5 | Sharon | Dr | 98 | \$144,900 | 8 | 3 | 2 | 1 Story | N |
| 10 | 08572910 | ACTV | 522 |  | Dean | St | 98 | \$149,900 | 6 | 3 | 2 | 1.5 Story | S |
| 11 | 08816064 | ACTV | 311 |  | Redwing | Dr | 98 | \$150,999 | 8 | 4 | 2.1 | 2 Stories | S |
| 12 | 08824552 | ACTV | 948 |  | Saint Johns | Rd | 98 | \$154,900 | 8 | 4 | 3 | Raised Ranch | N |
| 13 | 08773298 | ACTV | 157 |  | Bloomfield | Dr | 98 | \$155,000 | 6 | 3 | 2.1 | 2 Stories | S |
| 14 | 08852995 | ACTV | 2120 |  | Aspen | Dr | 98 | \$155,000 | 7 | 3 | 1.1 | 2 Stories | N |
| 15 | 08863223 | ACTV | 1431 |  | Cord Grass | TrI | 98 | \$166,900 | 6 | 3 | 1.1 | 2 Stories | N |
| 16 | 08848243 | PCHG | 1692 |  | Woodside | Dr | 98 | \$166,990 | 6 | 3 | 2.1 | 2 Stories | N |
| 17 | 08867473 | NEW | 420 | E | Calhoun | St | 98 | \$169,000 | 7 | 4 | 2 | 2 Stories | $N$ |
| 18 | 08735298 | ACTV | 2030 |  | Joseph | St | 98 | \$169,500 | 8 | 3 | 2 | 1 Story | N |
| 19 | 08670437 | PCHG | 9001 |  | Thompson | Rd | 98 | \$169,500 | 6 | 3 | 2.1 | 1 Story | N |
| 20 | 08845911 | ACTV | 2115 |  | Tina | Dr | 98 | \$169,900 | 8 | 4 | 2.1 | Split Level w/ Sub | 1 |
| 21 | 08863002 | ACTV | 329 | 5 | Tryon | St | 98 | \$219,900 | 7 | 3 | 2 | 2 Stories | N |
| 22 | 08848961 | ACTV | 2421 |  | Vivaldi | St | 98 | \$220,000 | 10 | 4 | 2.1 | 2 Stories | N |
| 23 | 08658224 | ACTV | 3908 |  | Dean | St | 98 | \$224,900 | 8 | 3 | 2.1 | 1 Story | M |
| 24 | 08850381 | ACTV | 261 |  | Martin | Dr | 98 | \$234,900 | 10 | 4 | 2.1 | 2 Stories | N |
| 25 | 08788422 | ACTV | 250 |  | Burbank | Ave | 98 | \$242,500 | 9 | 4 | 2.1 | 2 Stories | N |
| 26 | 08686149 | ACTV | 16516 |  | Nelson | Rd | 98 | \$250,000 | 9 | $3+1$ bsmt | 3 | 1.5 Story | N |
| 27 | 08830201 | ACTV | 2411 |  | Haydn | St | 98 | \$254,000 | 11 | $3+2$ bsmt | 2 | 1 Story | N |
| 28 | 08845864 | ACTV | 861 |  | Dakota | Dr | 98 | \$255,000 | 10 | 4 | 2.1 | 2 Stories | N |
| 29 | 08712868 | ACTV | 15108 |  | Kishwaukee Valley | Rd | 98 | \$259,000 | 8 | 4 | 3 | 1 Story, Hillside | N |
| 30 | 08863457 | ACTV | 2631 |  | Haydn | St | 98 | \$262,900 | 10 | 4 | 2.1 | 2 Stories | N |
| 31 | 08721770 | ACTV | 408 | 5 | Shannon | Dr | 98 | \$265,000 | 8 | 3 | 3 | 1 Story, Hillside | $v$ |
| 32 | 08809976 | ACTV | 1022 |  | Powers | Rd | 98 | \$284,900 | 11 | 4 | 2.2 | 1.5 Story | N |
| 33 | 08859777 | ACTV | 9201 |  | Pine Needle Pass |  | 98 | \$294,900 | 9 | 4 | 2.1 | 2 Stories | N |
| 34 | 08726990 | ACTV | 12403 |  | Cooney | Dr | 98 | \$300,000 | 8 | 3 | 2.1 | 2 Stories | N |
| 35 | 08728959 | ACTV | 11211 |  | Dorham | Ln | 98 | \$325,000 | 9 | 4 | 3 | 1.5 Story | N |
| 36 | 08865103 | ACTV | 4508 |  | McCauley | Rd | 98 | \$325,000 | 9 | 4 | 2.1 | 2 Stories | N |
| 37 | 08859425 | ACTV | 2719 | 5 | Country Club | Rd | 98 | \$330,000 | 8 | 4 | 2.1 | 1 Story | N |
| 38 | 08844603 | ACTV | 10302 |  | Arabian | TrI | 98 | \$334,900 | 6 | 3 | 2 | 1 Story | N |
| 39 | 08826361 | ACTV | 10619 |  | Deerpath | Rd | 98 | \$339,900 | 10 | 4 | 2.1 | 2 Stories | N |
| 40 | 08673348 | ACTV | 14916 |  | Route 176 |  | 98 | \$345,000 | 7 | 4 | 2.1 | 1 Story | $v$ |
| 41 | 08770421 | ACTV | 402 |  | Marawood | Dr | 98 | \$349,000 | 9 | 4 | 2.1 | 1.5 Story | N |
| 42 | 08830612 | ACTV | 1340 |  | Redtail | Ln | 98 | \$350,000 | 8 | 4 | 2.1 | 2 Stories | N |
| 43 | 08752493 | ACTV | 213 |  | Westgate | St | 98 | \$359,900 | 9 | 3 | 3 | 2 Stories | N |
| 44 | 08820756 | ACTV | 601 |  | Handel | Ln | 98 | \$359,900 | 8 | 3 | 3 | 1.5 Story | N |
| 45 | 08854602 | ACTV | 10900 |  | Bull Valley | Dr | 98 | \$395,000 | 9 | 4 | 2.1 | 2 Stories | N |
| 46 | 08701654 | ACTV | 14206 |  | Sunset Ridge | Rd | 98 | \$450,000 | 7 | 3 | 2 | 1 Story | N |
| 47 | 08671495 | ACTV | 2709 |  | Chatham | Ln | 98 | \$459,900 | 10 | 4 | 2.1 | 2 Stories | N |
| 48 | 08734167 | ACTV | 17515 |  | Deep Cut | Rd | 98 | \$539,000 | 9 | 3 | 2 | 2 Stories | N |
| 49 | 08759286 | ACTV | 2510 |  | Maritime | Ln | 98 | \$540,000 | 10 | 4 | 2.2 | 2 Stories | N |


| * $\mathrm{I}_{\text {an }}$ | For Sale | For Lease | Sales Comps | Property Records | Find a Broker | Add Listing | My LoopNet $\checkmark$ |
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|  |  |  |  |  |  |  |  |
|  |  | PREMIER <br> Expertence | OMMERCIAI <br> rofessionals ) (8 | $\begin{aligned} & \text { EALTY } \\ & 854-2300 \end{aligned}$ |  | Premier тй |  |
|  |  | Serving the | $N$ Suburbs for | ar 40 Years |  |  |  |

Woodstock Commercial Real Estate for Sale and Lease - Woodstock, Illinois
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## Search for Woodstock Commerical Real Estate for Sale or Leose

forsato lracease
Al properties for sale $\quad \sim$ Woodstock, IL

All Property Types * $\quad$ Illinois * McHenry County * Woodstock *

Weicome to the LoopNet.com Woodstock Commercial Real Estate page. Find Woodstock, Illinois commercial real estate for sale and for lease on the Internet's largest commercial real estate marketplace online. LoopNet's Woodstock listings cover all desired property types, including Land for Sale, Multifamily Apartments, Retail, Office Space, Industrial Property and much more. Find Woodstock commercial real estate brokers, learn about the Woodstock commercial real estate market, or find a loan at the leading commercial real estate marketplace - LoopNet.com!

Below are 126 Woodstock commercial real estate listings out of over nearly 800,000 tolal properties available on LoopNet com

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Restaurant \& Coffee Shop Woodstock, Illinois THIS RESTAURANT AND COFFEE SHOP IS FOR LEASE OR SALE!!! GREAT OPPORTUNITY!II 4550 SF RESTAURANT \& COFFEE SHOP FULLY EQUIPPED AND READY TO OPENII...


| Industrial Property | Status: |
| :--- | :--- |
| Woodstock, Illinois | No. Spaces: |
| 7 units total, 6 units currently vacant \& | Rental Rate: |
| available. Units are from 1000 sf - 4000sf | Space Availab |
| and configured as mixed \% of | Bidg. Size: |
| and |  | your inbox weekly!

Search Woodstock Commercial Real Estate by Property Type

Woodstock Industrial Properties for Lease
Woodstock L.and for Sale
Woodstock Office Space for Lease
Woodstock Office Space for Sale
Woodstock Restaurants for Sale Woodstock Retail Space for Lease Woodstock Retail Space for Sale Woodstock Shopping Centers for Lease Noodstock Warenouses for Lease Woodstock Warehouses for Sale

Popular Searches in and around Woodstock

Addison Warehouses for Lease
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Chicago Restaurants for Lease Chicago Restaurants for Sale Chicago Retall Space for Lease Chicago Retall Space for Sale Chicago Shopping Centers for Sale Chicago Warehouses for Lease Chicago Warehouses for Sale Crystai Lake industrial Properties for Lease

## KEEP UP TO DATE ON COMMERCIAL REAL ESTATE

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| 15 Acros - Rte 47 \& Hercules Rd. Woodstotk, tllinots 15 Acres | Stalus: <br> Price: <br> Lot Slze: <br> Primary Type! <br> Sub-Type: | Active <br> $\$ 895,500$ <br> 15.00 Acras <br> Agricultural <br> Agriculbural | Fox River Grove Relaf Space for Lease <br> Gumee Warehouses for Lease <br> Gumene Warehouses for Sale <br> Huntley Flex Space for tease <br> Huntley Land for Sale |
| :---: | :---: | :---: | :---: |
| Jowal Centor | Stalus: | Active | Hundey Relail Space for Lease |
| Woodstock, lilinots Jewel/osco anchored stip center | No. Spaces: | 517,00 | take jis the Hills Warelouses for Lease |
| located on the main relail corridor of | Space Available: | $1,125 \cdot 10,500 \mathrm{SF}$ | Libertyville Wenehouses for Lease |
| Route 47 in Wrodslack | Bldg. Size: <br> Printary Typin: | 28,280 SF Retai | Mchenry Fex Space for Lease |
|  | sub-Type: | Strip Cemer | MrHenry Office Space for Leate |
|  |  |  | Mctlenry Reaal Space for Lease |
| 10200 Roite 14 | Status: | Active | Mchenry Retail Space for Sale |
| Woodstock, ilifinols | Price: ${ }^{\text {Btdg. Size: }}$ | $\$ 1,256,000$ 28.600 SF | Mchenry Shopping Centers for Lease |
| Total Gel the exposure your busiress | Gap Rate: |  | McHenry Warehouses for lease |
| needs with this comptex of 3 industifal buildings. 14,400 SF steel buikding... | Primary Type: Sub-Type: | Induslial Manufacturing | Naperville Flex Space for Lease |
|  |  |  | Napervile Retall Space for Sale |
|  |  |  | Fookford Shopping Centers for Lease |
| Office Spaca For Lease | Status: | Active | Schaurmburg Otrice Space for Lease |
| Woodsteck, Illinols | No. Spaces: |  | Schaumburg Wharehouses for teease |
| 950 sq. R. of office space. Sterbuck anchored building. Loczeted al southw | Rental Rate: <br> Space Available: | ${ }^{39,47}$ | Streamwood Ralail Space for Sale |
| comer of Square in Woodstock. This | Bidg. Slze: | NaNSF | Waukegan fetali Space for Salo |
| excellent bralun | Sub-Type: | Office-Rto | Waukegan Warehouses for Lease |
| Fully Leased Auto Service | Status: | Active | Commercial Real Estate in Popular Citios |
| Etilding | Price: | \$1,789,000 | Addlspn |
| Woadsteck, alinels | Bldg. \$lze: | 11,300 SF |  |
| Fully teased aula service bullding for | Cap Rate: | 12.70\% | Algorquin |
| sale in Woodstock The 11,300 square | Primary Type: | Retail | Alsip |
| root, two-kenart buiding is iocaled aiong Route 14 whlth exposure to... |  |  | Arlington Heighls |
|  |  |  | Atlanta |
| 3,950 SF Warehouse | Status: | Acrive | Auriora |
| Woadstock, [llincls | Na. Spaces: | $t$ | Gakersfiadd |
| 3,950SF Wlarehouse Space in Excellent | Rental Rato: | \$5.00 $1975-3.850$ SF | Barrington |
| CAMA's, Equip. Maint., Taxes, and Gas | Eidg. Size; | $10,000 \mathrm{SF}$ | Bensenville |
| Heat is incluced (i) .... | Sub-Typs: | Waretrouse | Bluomingdale |
|  |  |  | Euffalo Grave |
| RETAL / STORES / OFFICE / TECH | Stalus: | Activg | Cary |
| Woodstock, lilinols | No. Spaces: |  | Charlalte |
| BUY or LEASE THIS PROPERTYI Great | Rental frale: | \$7.97-\$20,00 4.550 SF | Chicago |
| Opporturity for a Relail store, Commercial Offica, or Food Senvice | Spece Avaliable: Eldg. S\|ze: | $4,550 ~ 5 F$ $4,550 ~ 5 F$ |  |
| gusiness. This Location offers Highn... | Primary Type: Sub-Type: | Retail <br> Strip Center | Dalas |
|  |  |  | Des Plaines |
| RESTALARANT 8 COFFEE SHOP | Status: | Active | Downers Grove |
| Woodstack, illinols | Price: | \$955,500 | Elgin |
| THIS RESTAURANT AND COFFEE SHOP IS FOR LEASE OR SALEIII | Bldg. Size: Cap Rato: | 4,550 SF N/A | Elk Grove Village |
| GREAT OPPORTUNITYI! 4550 SF | Primary 7ype: | Relail | Gurnee |
| RESTAURANT R COFFEE SHOP FULLY EQUIPPED AND READY TO | Sub-Type: | Restaurant | Harvarc |
| OPEN! $1 .$. |  |  | Houston |
| Auction: 18.b7 Acres of Vacant | States: | Active | Huntley |
| Land | Price: | \$895,000 | Intianapolis |
| Woodstock, tllinels | Lot Size: | 18.97 Atres | Jacksonville |
| 18.87 acres (per laxes) of vacant land adjacent to lumber yard with 1,200 feet | Primary Type: Sub-Type: | Commercialfosher (land) | Jolier |
| of ral road frontage. Nice location with |  |  | Lake in the Hilits |
| approx 450 feat of road... |  |  | Lakc Zurich |
| 3.5 Acres Home Site | Status: | Active | luas Vegas |
| Woodstock, IIIEnais | Price: | \$64.900 | Liberlyville |
| Water views, fantastic sunsets and a | Lot Size: | 3.60 Acres | Long Beach |
| perfect elevation for a walk oul basement make this spectacutar 3.5 | Primary Type: Sub-Type: | Residentlal (land) | Los Angeles |
| acres lot the home site of a lifetime.... |  |  | Maccon |
|  |  |  | Mchenry |
|  |  |  | Memphis |
| Woodstock, Illinols | Price: | \$169,000 | Mokeng |
| 5,300 SF masany free standing zerofot | Bldg. Slze: | 5,300 SF | Mantefein |
| line, industrial building wilh 9xi0 DID, alr | Cap Rate; Primary Type: | N/A fndustrial | Naperville |
| lines, 1,000 SF office. Ideal ior vehicle storage ar... | Prmary Type: Sub-Typa: | tndustrial Warghouse | Oriand Park |
|  |  |  | Phoenix |

10.5 Acres - Woodstocix Statuc: Woodstack, itilnols
16.5 buidabie acres in unincomprates Me Henry County zoned Agriculture (A-1) This nor-conforming parcel was deeded before Jurve 1978 making lt


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320 E. Church Straet Woodstock, illinols
Alocks from the square, this metal
building can be divided into two 5 , SF warehouses, each with sepsala utililies. Tall ceilings make this...


Prtme Parcel
Woadstock, lilinels
Prime Parcel on Rte 120 in Woodslock.
Great traticic counts on the cormer of
Raffet and Rte 120. 3 Pins make up the to acres, willing to split satio..

Formar Fast Faod with Drlve Thru Woodstock, IIIInols
62 -seat former Kentucky Fried Cricken with drive-13nh window on 1.7 acre sife just soulh of the MaHeniry County Govemment Center. Great potertial.

| Status: | Active |
| :---: | :---: |
| Price: | \$350,000 |
| alag. Slze: | 10,000 SF |
| Cap Rate: |  |
| Primary Type: | Industrial |
| b-Type: | Manufaclutin |


| Status: | Active |
| :--- | :--- |
| Price: | S399,900 |
| Lot Size: | 11.10 Acres |
| Primary Type: | Lanos |

Sub-Type: CommercallOther (land)
Status: Actl
No. Spaces:

Rental Rate: $\quad \$ 6.60$

## Space Avallabla: $4,000 \mathrm{SF}$

Bidg. Slza: $\quad 4,000$ SF
Primary Type: Industifal
Sumaryper: Warehouse

Status:
Ne. Spaces:
Rentel Rate:
Space Avaliable: $2,000 \mathrm{SF}$
Bldig. Slze: $\quad 2,000$ SF primary Type: Industrial Sub-Type: Warehouse

Status:
Prce: Lot Size: Primary Typo: Sub-Type:
Stalus:

Prics: $\quad 5995.000$
Lot Stze: $\quad 10.00$ Acres
Primary Type: Land
Sub-Type:

## Lanc

Commercis//Other (lana)

| Status: | Acliva |
| :--- | :--- |
| Price: | $\$ 415,000$ |
| Eldg. Slze: | $2,728 \mathrm{SF}$ |
| Cap Rate: | NA/ |
| Prmary Type: | Retail |
| Sub-Type: | Restaurant |

Page: 1 | 2 |3:4|5: 6


## About LoopNet Woodstock Commercial Real Estate

More brokers, property owners and other commercial real estale finvestors come to use LoopNot, tom for selling and buying commercial raal estate ontine. This is what makes LoopNel the profossional's choico for finting Woodstock, Ilinols commerciai real esfate. EoopNel has a broad salechon of properties for sate and the largest viewershíp of commercial real estate buyers, investors and other prolessionats. To accets all of the hundreds of thousands of commercial properijes for sale and for lease in Woodstock and throughouf the U.S. and Internationally, become a LoppNet member today. LoopNet is also the best source online for finding land for sale for your commerciat project.

LoopNet operales the most heavily traficked listing senvice for Woodstock commercial real eslate and othar markets in the U.S. and Canada with more lhan $\$ 425$ billion of tofal comitrerciat reat estate for sale and 6.3 bilion 5 . ft. of commercial real estate space for lease. LoopNal also atiracts a targe cornmunity or Woadslock conmercial 'eal eslate proresslonals will more than 7 million members comprised of brokers, corporate executives, service providers, and more than 3 milition buyers, tenanls and other principals throughout the U.S. and Canada.
LoopNet's Woodstock comnercial real oslate lislizgs include farms, nullifamily apattments, office buildings, retail spate, vacanil land, hoiets and molels, gas stations, warehouses, reslaurants for lease and much more.

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Waukegiar
Commertial Real Estate in Popular States
Alabama
Arizera
Califomiáa
Cororado
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mincis
Indiana
lowa
Kansas
Kentucky
Miaryland
Michigan
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Nevata
Nem Jarsey
Nevf York
North Carolina
Ohio
Oreggan
Pennsyivania
South Carolsa
Tennessee
Texas
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Anchor Properdes for Safo
Aparment Buildings for Sale
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Automotive Properties for Sale
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Flex Space for Lease
Flex Spuce tor Sale
Gas Slatidns for Sale
Gulf Coursos for Sale
Health Cate Properlies for Sale
Hotelsintotels for Sase
Indusiffa Properties for Lease
Industrial Properties for Sale
Land for Lease
Land for Sale
Marinas for Sale
ivedical Offices for Lease
Medical Offices for Sale
Moblie Home/RV Parks for Sala
Office Space for Lease
Office Space for Sate
Residenilal income Properties for Sale
Restaurants for Lease
Restaurants for Sale
Retall Space For Lease
Retall Space ior Sate
Self Slorage Facilities for Sale
Senior tousing Facilties for Sate
Shopping Centers for Lease

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Woodstock Commercial Real Estate for Sale and Lease - Woodstock, Illinois
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 oopivet.com

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18.000 Sq. Ft. Modera Waretouse Facilty
Glaciers End
Woadstock, illinels
PRICE REOUC'TJON ${ }^{14+4}$ Glacters End
Estale, sophisticated, sleok,
slunning, Noteworthy grand masterpiece of extraordinary qually consinuction \& ...

Futly Liase Office Buikling Woodatock, llinnols
Fully leased afice building in pifme Route 47 Iocalion, Rent rofl available tupon request as well as all matters of income expense. Priced for.

| Catalpa Commans <br> Woodstock, illinols. <br> The subject property consists of a 13,915 squate foot mute-ternant shopping center located at 11620 Gatalpa lane in Woodstock, IL. The site is 79\%... |
| :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |
|  |


| Status: | Actlve |
| :---: | :---: |
| Price: | \$4,985,000 |
| Bidg. Slze: | 20,010 \$F |
| Cap Rate: | N/A |
| Pefrary Type: | Special Purpose |
| Sub-Type; | Spaciaf Purpose (Oiner) |
| Status: | Aclive |
| Price: | \$895,000 |
| BJdg. Size: | 47.501 SF |
| Cap Rate: | B.C0\% |
| Primary Type: | Office |
| Sub-Type: | Office Building |




| Woadstock, IIIEnols Free standing steel structure. Greal access, jusi off the Route 14 Bypass. Four overtiead doors, 3 with recessed docks. Perfect for user,... | Bldg. Slze: <br> Cap Rate: <br> Primary Type: <br> Sub-Typa: | $\begin{aligned} & 18,000 \mathrm{SF} \\ & \text { 8.00ヶ5 } \\ & \text { Indusirial } \\ & \text { Warehouse } \end{aligned}$ |
| :---: | :---: | :---: |
| Centerville Plaza (Route 47) | Status: | Active |
| Woadstotk, Illinols | No. Spaces: | 1 |
| Retailfoffice space In Cantervila Plaza | Remial Ratos | \$1200 |
| on heaully traveled Rate d7, just across | Space Available: | 1,750 5F |
| from Taso Bell. Formerty cellular phons | Eldig. Slzas | 1,750 SF |
| slore. Equlpped for... | Prdmery Type: Sub-Type: | Relaij <br> Strip Center |
| 9.5 Acres Rt. 120 | Status: | Actives |
| Woodstock, llinois | Price: | \$279,000 |
| Here is a beauliful place to build a | Lot Slze: | 9.50 Acres |
| seclude home in the country, It is almest | Primaty Typa: | tand |
| 10 acres with a scenic spring fed pond. The home site is set back... | Sub-Typet | Residenitial (land) |
| ROSE FARM ESTATES | Status: | Active |
| Woodstock, illinola | Price: | \$50,000 |
| Rose Farm Estates Subdivisionl | Lot Slze: | 2.93 Acres |
| Beauliful 2 Acre Horme Ste wilh Walkout | Primary Typa: | Land |
| Potential! Enjoy county taxes, country veews, Located Near Histaric,., | Sub-Type: | Residentiat (and) |
| ROSE FARAK ESTATES | Status: | Active |
| Woodstock, IIInois | Price: | \$50,000 |
| Rose Farm Estates Subdivisian! | Lot Sl20: | 2.00 Acres |
| Geautitul 2 Acre Horme Site kocated in a | Primary Type: | land |
| Cul-de-sac with Walkout Potentia! Enjoy county taxes, counlry views... | Sub-Type: | Residential (land) |


| ROSE FARM ESTATES | Status: | Active |
| :---: | :---: | :---: |
| Woodstock, Hininols | Price: | 550,004 |
| Rose Farm Esiates Subdivistion! | Lot Slzaz | 216 Acres |
| Beautiful 2 Acre fome Site focaled in a | Primary Type: | land |
| Cul-de-sac with Whalkout Potential! Enioy | Sub-Type: | Residential (land) |


| Industrias Property | Status: | Acliva |
| :---: | :---: | :---: |
| Woodstock, Illinols | Prica: | \$89,000 |
| Nice buikding with office and bathroom in | 的dg, Slze; | 2,000 \$F |
| the unit. $10^{\circ} \times 10^{\prime}$ overhead door and | Cap Rate: | N/A |
| separate service door to the office ares. | Primary Type: | Industriad |
| Cutrertly a machine... | Sub-Type: | Industriay Conda |


| UP Rall Served Manufacturing and | Status: | Active |
| :---: | :---: | :---: |
| Wharehouse Space | Price: | Not Disclosed |
| Woorstock, Iflinols | Bldid. Slye: | 187,850 SF |
| This fomer Silgan Plaslics Pfant is a | Cap Rate: | N/A |
|  | Primary Type: | Industidal |
| and warehouse space, which is rail served by Union Patific. The... | Sub-Type: | Manıfacturing |

Lip Rall Servead Manofacturlng and
Warenouse Space
Woodstock, Ilitnols
This former Silkan Plastics Plant is a
This forrner Silgan Plastics Plart is a
unctional $187,850 \mathrm{SF}$ of manufacturing
furctional $187,850 \mathrm{SE}$ of manufiacturin
and warehou 59 space, which is rail
served by Union Pacific. The...
400 Russal Court
Wopds tock, IIIInols
Ideal space and location for Law F|rfa,
Counselor, Financial Advisor, ets.
Lancioro will butike to suit your needs.
Lease part or and of this...

Office Property
Woodstock, llilinale
1,800 square teel of Classic
retal/galkeryftiudio space on the Square.
Cual access: Lower level entry squareskde and ground level accass of the...
95. Acres $^{\text {MOL }}$

Woodstock, IItinois
Zoned AG This Parcel ol land has approx. 95+ acres subject to survey. There are approximalely 39 acres of lillable and the balance in scaltered...

Fox River Grove Relail Space for Lease
Gumee Warehouses for Lease
Gurnee Warehouses for Sale
Huntley Flex Space for Lease
Huntrey Land for Sale
Huntley Relail Space for Lease
Lake in the Hills Warehouses for Lease
Libertyville Warehouses for Lease
AcHeny Flex Space for Lease
McHerry Ofice Space for Lease
MoHenry Retaif Space for Lease
NicHenry Relat Space for Sale
NoHenry Shoppilag Centers for Lease
McHenry Warehouses for Lease
Naperville Fiox Space for Leaso
Naperville Retail Space for Sale
Rockford Shopping Centers for Lease
Schaumburg Olfice Space for Lease
Schaumburg Warehouses for Lease
Strearmood Retail Space for Sale
Waukegan Retail Space for Sale
Waukajan Wharehouses for Lease
Commercial Real Estate in Popukar Cities
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Gumee
Harvard
Houston
Hunley
indianapolis
Jacksonville
folial
Lake in the f-lills
Lake Zuticl
Las vegas
Libertywille
Long Beach
Los Angeles
Macon
Mctienty
Memphis
Mokelsa
Mundehin
Noparvilie
Orland Park
Ploenix

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| Stafus: <br> Price: <br> Lot Size: <br> Fimary Type: <br> Sub-Type: |  |  |  |
| :---: | :---: | :---: | :---: |
|  |  | WANT COMPLETE MAP SUPPORT? |  |
|  |  |  |  |
|  |  | Only registered users get advanced inap support limprove your search experience - Register for FREE today! |  |
| Sycamore |  |  |  |
| Tampa |  |  |  |




| Horizan Center | Status: | Active |
| :---: | :---: | :---: |
| Woodstock, 3llinols | No. Spaces: |  |
| Great hocation in the center of | Renat Rale: | S $\ddagger 5.00$ |
| Woodstock's Retall. Sile is surrounced | Space Available: | 1,000-3,700 SF |
| by rooftops. The site is located in a | Eldg. Slze: | 3,700 \$ ${ }^{\text {F }}$ |
| neightornoor convenierce center... | Primary Type: | Retail |
|  | Sub-Type: | Neighborhood Canter |
| 1725 Kikenny Court | Status: | Aclive |
| Woudstock, llinols | Prices: | \$1,170,000 |
| 17,6000 Square toot industrial brikding | R1dg, Slza: | 17,600 \$F |
| on 7.51 axres with cily sever and water. | Cap Rate: | M/A |
| Reailroad tracks tun along the North end | Primary Typa: | Industrial |
| of the properisy. Butiding... | Sub-Type: |  |
| Victorian Mamor | Status: | Active |
| Woodstock, illinols | Price: | \$885,000 |
| The bed \& treahtast from the movil, | Bitg. Slze: | 6,000 SF |
| "Grounchog Day", A grand Victorizn tuilt | Cap Rate: | N/A |
| In 1895 and totally renovated. 5 bedroerns ensuite plus innkerper's... | Primary Typer Sub-Type: | Special Purpose <br> Special Purpose (Other) |
| 1055 Lake DFFICE SUITES | Slatus: | Active |
| Woodstack, Itilnols | No. Spaces: |  |
| Execulive office building with fivt flaor | Rental Rate: | \$10.00-\$12.00 |
| office avalabla. Suite E: (2,225 \$F). | Space Avallahle: | 2,225-6,715 SF |
| \$2,225imo. owner will provide basic | Bidg. Size; | 9,060 SF |
| buitd out. Lower fevel.... | Primary Type: Sult-Type: | Office <br> Office Buïding |
| - . |  |  |
| 743-45 Michenry Ave. | Staters: | Acilve |
| Woodstock, tilinols | Prica: | \$200,000 |
| 4,800 SF freeslanding masoriry | Bldg. Slze: | 4,600 SF |
| industrial building formerty used as a | Cap Rate: | N/K |
| machine shop. 800 SF finlshed | Primary Type: | Induatrial |
| mezzanine above office/showioom (not \|nctuded... | Sub-Type: | Manufacturing |
| Agriculteral Property | Status: | Aclive |
| Woodstock, Iltinols | Prite: | \$500,000 |
| Looking for location and nigh viability? | Lot Size: | 40.82 Acres |
| Look no further. This $40+$ deres is | Primary Typa: | Agricultural |
| matnutes from 1-90, Woodstock, Crysial | Sub-Type; | Agricuitural |
| Lake and Marengo. There is... |  |  |
| - . . . . . | . . | - |
| Agricultural Property | Status: | Active |
| Woadstock, M13nels | Price: | \$1,135,460 |
| Future deyelopmentel potentiallel 123.94 | Lot Slze: | 123.84 Acres |
| Acres (MOL). Foxner free nussery; some | Frimity Type: | Agriculturs |
| slock stit presanl. Natural gas pipeline at | Sub-Type: | Agriciditural |
| southern edge of.,. |  |  |



## About LoopNat Woodatack Commercial Real Estate

More brokers, property owners and other commercial real estale investors come to use LocpNel.com for selling and buying commercial reat estate ortine. This is whal makes toapNet the profersional's choice for finding Woodstock, Illinois commercial real estate. LuopNet has a broad selection of properios for sale and lite largest viewership of commercial reaf eslote huyers, investars and other professionals. Fo accoss all of the hundreds of ihousands of commercial properties for sale and for lease in Woodstock and ihroughout the U.S. and lnternationetly, become a toopNet member today. LoopNet is also the best source online for finding fand for sate for your commercial project.
LoopNet operales the most heavily traticked listing sorvice for Woadstock commercial real estate and other markels in the U.S. and Canada with more than $\$ \mathbf{\$ 2 5}$ billion of total commercial real estate for sale and 6.3 billion seas 化 of commercial read eslate space for lease LoopNet also altracts a large community of Woodstock cornmerciat real esfate professlonais with more than 7 metlion members comptised of brokers, comporale executiyes, service providers, and more han 3 million buyers, ternants and other principals throughout the U.S and Canada.

LoopNet's Whodstock commercial real estate fistings include faims, maulifanily apartments, pfice buidings, retail space, vacant fand, holeds and mofels, gas stations, warehouses, restacrants for rease and thuch more.
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## LoopNet- LoopNet Local Broker Ads

New clients are a click away...

Woodstock Commercial Real Estate for Sale and Lease - Woodstock, llinois
Woodstock Commercial Real Etale for Sale and Lease - Woodstock, Illincis


All Properly Types - : minois - : McHenry Courly v : Woadstock -
Welcone to tho LoopNetcom Woodstock Commercial Real Estate page. Find Woodstock, Illinois commercial real estate for sale and for lease on the Internet's largest commerclal real eslate marketplace oniline, LoopNei's Woodsiock listings cover all desired property types, Including Land for Sale, Mulalfamlly Apartments, Retail, Offloe Space, Industrial Property and much more, Find Woodslock commercial real estate brokers, leam about the Woodstock commerclal real estate market, or find a loan at the leading commerclas real estate marketplace - LoopNet.com

Below are 126 Woodstock comnterclal real estate listings out of over nearly 900,000 talal properties available of LoupNet.com.

Register lor FREE and gel Access to all Loopket Premium Properties.


| $15,200 \mathrm{Sq}$. Ft. Manufacturing | Status: | Active |
| :---: | :---: | :---: |
| Woodstock, IIlliols | No. Spaces: | 1 |
| 15,20000 sq.ft. pre-mngineered 'Varco | Rental Rata: | \$3.95 |
| Pruden* steel buikling, Immodiate | Space Avallable: | 15,200 SF |
| possession, fully air conditioned and | Eldg. Slze: | 15,200 SF |
| sprinkelerd. Rental rate \$3.95 per... | Primary Type: | Industriat |
|  | Sub-Type: | Manufacluring |
| RETALL STORES / OFFICE / TECH | Status: | Active |
| Woodstock, 1]inois | Prics: | \$838,000 |
| Great Opportunity for a Retan Store, | Eldig. Slze: | 4,550 SF |
| Commercial Office, Medical Offen, or | Gap Rate: | N/A |
| Food Service Business. This Location | Primary Type: Sub-Type: | Relail |
| orers High visibility, Easy in... |  |  |
| Intustrial Property | Status: | Actlue |
| Woadstock, ilinols | Price: | \$2,950,080 |
| Very well maintained indestrial building | Eldg. Size: | 187,000 SF |
| With an outstanding locatlon, Approx. | Cap Rate: | N/t |
| $178,000 \mathrm{sq}$. fl of manufacturing space | Primary Typo: | Industriad |
| and $9,000 \mathrm{sq} . \mathrm{ft}$, of office.. | Sub-Type: | Manuracturing |
| 105 ACRES at Roule 14 and | Status: | Active |
| Kishwaskee Valley Rd | Prics: | \$3,750,000 |
| Woodstock, 3linels | Lot Stze: | 105.00 Acres |
| PRICE REDUCED 105 Acresi Relail 8 | Primary Type: | land |
| Residential Potentiall Great location ior Developmert ~ Water and Sewer close by - Income Producing - Ofiers... | Sub-Type: | Commercialoither \{land) |
| RETAIL SPACE FOR LEASE- | Stafus: | Active |
| HEAVY TRAFFIC | No. Spaces: | 2 |
| Woodstock, Illmols | Rental Rates: | \$10.00- \$12.00 |
| CLOSE TO COURT HOUSE, HEAVY | Space Arailable: | 623-2,490 SF |
| TRAFFIC, ACROSS FROM HOUSING, | Bldg, Slze: | 14,850 SF |
| GREAT LOCATION, ONLY ONE | Primary Type: | Retail |
| RETAIL UNIT LEFT, 日RING YOUR | Sub-Type: | Streel Retail |

Search Woodstock Comnercial Real Estate by Property Typa

Noodstock Industrial Properties for Lease
Woonstoct Land for Sale
Whoodstock Ofnce Space for Lease
Whooditock Office Space for Sale
Whoordstock Restaurants for Saie
Woovstock Retall Space for Lease
Woodstock Retail Space for Sale
Woodstack Shopplag Centers for Lease
Woodstock Werehouses for Lease
Wrodstock Warehouses for \$ale
Popular Saarches in and around Woodstock

Addisor Warehouses for Lease
Algonquin Restaurants for Sale
Agraquin Relail Space for lease
Algorequin Shopping Centers for Lease
Barrington Othice Space for zease
Bloumingtale Shopping Cenlers for Leasa
Bulfalo Grove Warehouses for Lease
Chicatg Apartment Guildings for Sale
Chicasy Automoliva Propertias for Lease
Chicago DuplexestFourplexes for Sale
Chiciago Industrial Properties for Sate
Chrcaga Land for Sale
Clifiago Restauranls for Lease
Chitago Restaurands for Sals
Chicago Retail Space for Letrse
Chlcagn Retail Space for Sate
Chicago Shopping Centers for Safe
Chicago Warehouses for Lease
Chloggo Warehouses for Sale
Crystal Lake Industrial Properties for Lease RATE...

Lot 9 Trakk Lane Status: Woodstock, lilinols

1. 19 acre site available on Woodstock's Trakk industrial Park, Deed Covenants available from lisilmg office. Possible ralt siding available.

Only registered users get advanced map support. Improve your search experience - Register for FREE today!


festaurent, which has bjeen razed.

| Rare Cembination of Lovely House ana Batt | Status: Price: | Active \$425,000 |
| :---: | :---: | :---: |
| Woadstock, illinols | Lot Sizas: | 20.00 Actes |
| REDUCEDIfivery rice 2 story house | Primary Type: | Agriculfural |
| with wrap eround porch, maintenance | Sub-Type: | PaslursiRanch |

The home teatures fitchen with
The home teatures totchen wilh..

## OFFIGEIRETAIL FOR LEASE-

 CLOSE TO COURTHOUSE Woodstocin, Ellinois 4 Office Units still available for rent-close io Whoodstock Civic Canler, busy
road, with high traffic count on Route AT (Semlnary), small office...

| 25,200 st Mantifacturing Space for Lease <br> Woodstack, IIIInols <br> Ideal IIght manufacturing facility below market rete fent. Heavy ctuly sprinkier with 76 H.P. beobsler pump. Additional parking available <br> Conmercial Lot <br> Woodstack, Iflinals <br> Jusi over 1/2 acre vacant tand in the cily of Woodstock, Sewer, water and ullities to sile. E3 zoning allows mary uses... |
| :---: |
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| 38 \& 40 Pleasant Valley Rd. | Status: | Active |
| :---: | :---: | :---: |
| Woodstock, Italinols | Price: | \$149,900 |
| Country trome site wilh stercked 2.5 acre | Lot \$\|ze: | 5.69 Acres |
| pond. Wooded with targe willow and pine | Primary Type: | Land |
| trees. Quiet setling adjoins forest | Sub-Type: | Residentiga (fand) |



| Woodsteck VFW Hall Woodistack, Illinois |
| :---: |
|  |  |
|  |  |


| Status: | Activg |
| :--- | :--- |
| Price: | $\$ 399, \$ 00$ |
| Bldg. Size: | 11,202 SF |
| Cap Rafe: | N1/A |
| Primary Typo: | Retai |
| Sub-Type: | Restaurant |

BanquabRestaurant opportunity with plenly of...

80 acres in Whehenry Cdianty, IL.
Woodstock, Illinais
Total Acres: Thera are a ietal of 80.25
acres, more orless, according to the
McHenry County Assessor's Office.
There are approximately $60 .$.

Multifamily Apartinent
Woodstock, Itinods
The LIHTC Group is proud to present this well maintained fo-unit apartment complex located in Woodstock, Ihe. This building shows a true pride of...
 the Woodstock Jung 9.2015 , inctudes 1,500 square-foot
lower level with stalrcase.
The Doty Road Propert

The Doty Road Property
Woodstock, Illinods
Total Acres; There are a ictal of 80.25
acros, more or fess, according to the
Mchenty County Assessar's Office.
Mchenty County Assessor's Office
There are approximately $60 .$.

Ratail Property
Woodstock, tilinals
Exceltent repositioning opporlunity for
user or investor. Zoning: B2C. 2 story building with lower level: senlabla bldg size $\pm 27,591 \mathrm{SF}$. The..
$t 0$ atries in Mchenry
Bell Vatiey, Itlinots
Chamming log cabin on 9.6 acres in the
parfect setting, Thal periect setting

Chaming log cabin on 9.6 aeress in includes this custorn log home set back en a iong, picturesque oflve..



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LoopNet operales the most heavily trafficked lisfing bervice for Wordstock commenial real estate and oiner markels in the U.S. and Canada wilh more than \$425 billion of lotal commercial real estate for sale and 6.3 bllion sq. fl. of complercial real estale space for lease. LooptVet also attracis a large community of Woodstock comruercial real estate professionals with more laan 7 millian members comprised of brokers, corporate executtves, service providers, and more than 3 millm huyers, lenants and ather principals throughoui the U.S. and Canada.

LopNet's Woadslock commercial reat esfale firtings inchade lanis. mulifanty apartments, ofice butdings, fetail space, vecant fand, hotels and motefs, gas stations, warehouses, restaurants for lease and much more.

Wauconda
Waukegala
Commerical Real Esalate int Popular States
Alabama
Avizona
Califoma
Colorado
Florida
Geogia
Illinols
Inediana
lowa
Kansas
Kenkecky
Maryland
Michigan
Mitssouri
Nevada
Neus dersey
New York
Nort| Caroliza
Ohio
Oregan
Pennsylvanía
South Carolina
Tennessee
Texas
Virginia
Misconsin
Popular Property Type Scarchas
Anchor Properties for Lease
Anchor Proportias for Sale
Apartment Elukdings for Sale
Automotive Properties for Lease
Automotive Properlies for \$ale
Churches tor Sale
Day ©axe Centers for Sale
DuplexesF ourplexes for Safe
Fams for Sale
Flex Space for Leass
Flex Space for Sale
Gas Stations for Sate
Goll Courses far Sale
Health Care Properties for Sale
Hotels/dptels for Sale
Indusiríal Properties for Lease
Indusinia! Propertias for Sale
Leind for lease
Land for \$ata
Marinas for Sale
Mertical Offices for Lease
Medical Cffices for Sale
Nobile HomerRV Parks for Sale
Oftica Space for Lease
Office Space for Sale
Residential Income Properlies for Sale
Restaurants for Lease
Rosiaurants for Sate
Retail Space for Lesease
Relail Space for Sale
Self Slorage Facilites for Sale
Senior Housing Facalities for Sale
Shopping Centers for Lease

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Woodstock Commercial Real Estate for Sale and Lease - Woodstock, Illinois
Wondstock Conmercial Real Estate for Sale and Lease "Woodstoct, Illinois



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Below are 120 Woodstock commercial real estate fistings ou? of over nearly 600,000 iotad properties awaiable on LopNet.com.

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| 1143 Sominary Ave $\cdots$ : | Stadus: | Active |
| :---: | :---: | :---: |
| Woadstock, Illinels | Price: | Not Disclpsed |
| LEASE FROM 337 TO 6700 SQFt OR | Eldg. Slze' | $337 \mathrm{SF}$ |
| FOR SALE \$645,900 ATTRACTIVE | Cap Rate: | IVA |
| Brilck OUAD LEVEL OFFICE | Primary Type: | Office |
| BUILDANG WTH OVER G7GOSQ FT | Sub-Type: | Ofice Bulding |
| LOCATED ON BUSY ILLINOIS |  |  |
| ROUTE.. |  |  |
| 1143 Somitary Avo | Status: | Active |
| Woodasack, EIlinols | Price: | \$645,000 |
| OFFICEMAEDICAL FOR SALEALEASE | Eldg. Slze: | 6,703 5F |
| ATTRACTIVE ERICK \& CONCRETE | Cap Rate: | NAA |
| OUADI 4 WEVEL EUILDING WTHEOVER | Pdmary Type: | Office |
| 6703 S\%. WhMEETING/CONFERENCE | Sub-Typt: | Office Euilding |
| ROOMS. LOCATED ON BLSY... |  |  |
| 7015. Eastwood Drive | Status: | Active |
| Woodstock, llinols | No. Spaces: | Fully Leased |
| Great expostre along Route 47 in the | Rental Rate: | NAR |
| heart of Woodslock. Approx 2,000 | Space Avallabie: | Fuly Leased |
| square feet of open span retail or office | Eldg. Sixa; | 2,000 SF |
| space...Building face will allow... | Primary Type: | Retail |
|  | Sub-Type: | Retail (Other) |
| Office Property | Status: | Acilve |
| Woodstack, Elinola | No. Spaces: | 2 |
| FOR SAAEfLEASE | Rental Ralte: | \$11.00-\$14.24 |
| MEDICAL/PROFESSIONAS | Space Avallabte: | 337-6,703 SF |
| BUILDANGKONDOS FOR LEASE | cildg. Slzes | 6,703 5F |
| FROM 150sf UP TO 6703sf OR FOR | Primary Type: | Office |
| SALE S645,000 ATTRACTIVE BRICK | Sub-Type: | Ofice Euriding |
| AND CONCRETE OLAAD... |  |  |
| 1143 Semainary | Status: | Active |
| Woodstock, Itinois | Price: | \$645,000 |
| FOR SALEILEASE | Eldg, Size: | 6,703 5F |
| MEDHCALPROFESSIONAL | Cap Rate: | N/K |
| EUILLDINGICONDOS FOR L.EASE | Primary Type: | Office |
| FROM 150sf UP TO 6703 OR OR FOR | Sub-Type: | Office Euilding |
| SAEE \$845,000 ATTRACTIVE BRICK AND CONCRETE OUAD. |  |  |
| Office Euliding | Status: | Active |
| Woodstock, IIInols | Prite: | \$495,000 |
| Very well maintained Office Euilding. | Bldg. Slze: | 5,322 SF |
| Localed in Lakeshore Busiress Park | Cap Rato: | N/A |
| with easy access to Route 14 between | Primary Typer | Otfice |
| Woodstock and Crystal Laks,... | Sub-Type: | Office Building |

Search Woodstock Conmercial Real Estate by Property Type

Woodstock Industikal Properties for Lease
Woodstock Land for Sale
Woodstock Office Space for Lease
Woodstock Office Space for Sale
Whowsiock Restanrants for Sale
Woodslock Retail Space for Lease
Noodstock Retail Space for Safa
Yfoodstock Shopping Ceniers for Leeaso
Woodstack Warehouses fier Lease
Woodslock Warehouses ior Sale
Poptlar Searches in and around Woodstock

## Addison Warehouses for Lease

Algonquin Restaurants for Sate
Algonquin Refail Space for Lease
Algonguin Shopping Centers for Lease
Earringion Office Space tor Lease
Bloomingdale Shopping Centers for Lease Gutfalo Grove Warehoases for Lease

Chicago Apartment Buileargs for Sale
Chicago Automotive Properlies for Lease
Chicago Ouplexes Foutçlexes for Sale
Chicago Inclustrlal Propertias for Sale
Chicago Land for Sale
Chicago Restaumants for Lease
Chlcago Restaurants for Sale
Chicugo Relall Space for Lease
Chicing Relall Space for Sale
Chicago Shopping Centers for Sale
Chicago Warahouses for Lease
Chicago Whrehouses for Sale
Crystal Lake Incustrial Properties for Lease
Crystal Lake fand for Sale
Crystal Lake Office Space for Lease
Crysial Lake Relall Space for Lease
Crysial Lake Simopping Centers for Lease
Crystal Lake Warehouses for Lease
Eigin Warehouses for Lease
Elk Grove Village Warehouseb for Lease



| Provident Building <br> Woodslock, lilinols Commental Elui\|ding - Retail sotice I Storage Provituent Eultding 2 Street Retail units with long term tease © Small Qffice units with long lerma., |  |
| :---: | :---: |
|  |  |
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| T+Acres an Route 14 | Status: | Active |
| :---: | :---: | :---: |
| Wcodstock, ill\|nols | Price: | \$325,000 |
| 74 ecres with frontage on RI. 14. This | Lot SIza: | 7.93 Acres |
| will be a lighted comar wilh a traffic light | Primary Type: | Land |
| and tum larnes, There are several lois so | Sub-Typo: | Commerc |


Office Froperty
Woodstock, illinols
A sharp 800 sf office space ready to
move in io. Features a large front office
space of $16 \times 35$ a handleap accessible washroom ary spaciaut
9.52 Acres - Trakk industryal Park
Woodstack, thinois
9.52 acres site avalable in Woodstock's Trakk Industital Park Covenants available from kisting office. Excelen kocalion with ditect accers.

| t3814 Washington St. | Status: | Active |
| :---: | :---: | :---: |
| Woodstack, Itinols | No. Spaces: | 1 |
| Modern industrial buikling in good | Rental Rate: | \$3.00 |
| tocation on state highway. 4 -3,000 | Space Avallable: | 3,000-12,000 SF |
| square foot units avalable. Each has | Blifg. Size: | 12,000 SF |
| 600 squars feet of affice space... | Primary Type: | Industrial |
|  | Sub-type: | Manataturing |




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Loopllet's whoodsiock commercial raal esiale lislings include fams, multifamity apartmonts, office buildings, retail speace, vacant land, hotels and molels, gas stations, warehouses, meslaurantis for lease and mich mere.

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Onio
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Pennsyluaría
Soulh Carolina
Temessee
Texas
Virgimia
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Popular Proparty Type Searches
Anchor Properties for Lease
Arichor Proporties for Sala
Aparkment Gulkings for Sale
Automotive Properties for Lease
Automotive Propertios for Sule
Churches for Sale
Day Care Centers for Sale
Duplexesfourtaxes for Saie
Farms for Sale
Flex Space for Lease
Fley Space for Sale
Gas Stations for Sala
Gof Courses for Sale
Healith Care Properties for Sale
Hotelsflatels far Sale
Induslríal Properties for Lease
Industriat Propertles for Sala
Land for Lease
Land for Sale
Marinas for Sale
Medical Offices for Lease
ivedical Offices for Sake
Motale HomedRv Parks for Sale
Office Space for Lease
Office Space for Sale
Residential income Froperties for Sake
Resfatrants for Lease
Restatrants for Sale
Retall Space for Leasse
Relail Space for Sale
Self Slorage Facillies for Sale
Senior Housing Facillttes for Sale
Shopping Centers for Lease
Shopping Centers for Sale
Warehouses for Lease
Warehouses for Salo
Soarch hy Property Type In Other Locations
Allanla Apariment Buildings for Sizte
Bakersfield Apariment Butldings for Sade


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Reģister ．t．FREE and gel Access to all LoopNet Premium Propertes

Sanctuary of Eual Valloy
Woodstock，Illimols
92 firlshed singie－famly residenlial lots

92 firlshed single－famly residenlial lots and 77 unfinishad single－family residental lots．
Status：
Prfee：
Lot SIze；
Prmary Type
Sub－Typa：

Active
Price：
Lot Size；
Sub－Typa：
Not Dlschosed
70．70 Acres
70,70
Land
Resid

Bull Valley Greens
Woadstock，Illnois
Finasted residential lals planned for 22
duptex unite．

| Status： | Active |
| :--- | :--- |
| Price： | Not Disciosed |
| Let Slze： | 3．50Acres |
| Primary Type： | Land |
| Sub－Type： | Residenlial（land） |



| Industrial Property | Status： | Active |
| :---: | :---: | :---: |
| Woadatock，Mlininols | No．Spaces： |  |
| Great opporturily at this sprinklered， | Rental Rate： | \＄8．00 |
| southside location with an owner that will | Space Avallable： | 2，100－4，200 SF |
| work with you！Units available | Eldg．Size： | 18，532 SF |
| IMMEDIATELY are 2302 \＆2304．．．． | Pifmary Type： Sub－Typa： | Industria｜ Mandachuring |
| Retail Property | Status： | Active |
| Woodstock，llinols | No．Spaces： |  |
| 1800 Sq ．Ft commercial，retailfotice | Rental Rale： | \＄8．00 |
| space downtown Whoodstock．Front | Space Avallabse； | 1，800 SF |
| showroom is full of natural light and | Bidg．Slxe！ | N／R |
| there is an office（ $12 \times 12$ ）and．．． | Primary Typa： Sub－Type： | Retail Streat Retail |
| Office Property | Status： | Active |
| Woodntack，Jllinols | No．Spaces： |  |
| The ulimate gross renta！Tris \＄12，00 | Rentat Rate： | \＄12．00 |
| sq．to tental inciudes all the utilltes～ | Spate Avallable： | 1，300 SF |
| gas，eiectric，water，sewer，scavenger | Eldg，Size： | $N / A$ |
| service and no CAM．．． | Primary тype： Sub－Type： | Oifice Office－R\＆ |
| Office Property | Status： | Active |
| Woodstock，Illinola | No．Spaces： |  |
| Overiooking the Whodstock Square，in／s | Rental Rate： | \＄10．00 |
| buiking offers loads of second floor | Space Available： | $150 \cdot 3.000 \mathrm{SF}$ |
| otice space ransing from 150－3000 sf． | Bldg．Size： | N／A |
| A true gross lease，your．．． | Prtmary Type： Sub－Type： | Office Offlee－R\＆D |
| 1257 Cobblestone | Status： | Acti |
| Woodstock，Illinois | No．Spaces： | Fully Leased |

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Whoodstork Industrial Properties for Lease
Yooodstotek Land for Sale
Woodslock Difice Space for Lease
Woodstock Office Space for Sale
Whoodsuck Restandants for Sale
Moodslock Retail Space for Lease
Woodslock Retail Space for Sale
Woodstock Siopping Ceniers for Lease
Hoodslock Wareliouses lor Lease
Woocislock Warehouses for Sale
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Algonquin Restaurants tor Sale
Algonquin Relail Space for Lease
Algonquin Shopping Centers for Lease
Barrington Office Space tor Lease
Bloomingdale Shopping Ceriers for Lease Guflaio Grove Warehorses ior Lease

Chicago Apartment Buildings for Sale
Cinkego Automotve Properties for Lease
Chtagg 引uplexesfourplexes for Sale
Cricago Industrial Properties for Sale
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Chicago Retail Space for Laase
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Chtcago Shoppling Centers for Sale
Cricago Warehouses for Lease
Chicago Warehouses for Wale
Crystal Lake Industrial Properties for Lease
Crystal Lake Eand for Salo
Crystal Lake Office Space for Lease
Crystal Lake Retail Space for Lease
Crystal Lake Shopping Centers for Lease
Crystal Lake Warehouses for Lease
Eigin Warehouses Ior kease
Elk Grove Village Warehouses for Lease


Commercial Highway Intersection

Land
Woodstock, Iltinols
Bly price cutl Comer exposure at the intersection of two highways! 4.048 -acr intersection of two thighways: 4.048 acre
vacant site at the northeast comer of US vacant site at ine nortie.
Route 54 and IL Routo...


## Woodstock, Illinois This 1.25 acra, filly improved vacant

This 1.25 acra, fully improved vacant
industrial fot is now priced at only $\$ 3.49$ industrial ot is now priced at only
per $5 F$. con is located in a wellper SF. hom is jocated in a well
established findustrial park..

### 17.35 Vacant Industrial Acres Woodstock, Ilifnols

Rare counly zoned industrial parcel.
Total of 17.35 acres available at $\$ 2.32$ per SF. Rear of property backs up to Union Pacific RR lracks --...

Cold Headers Industrlal Park Woodstock, Ililaols
FULEY IMPROVEO INDUSTRIAK. FARK, READY TO BLILD Stres. LOW McHENRY COUNTY TAXES. ACROSS FROM BULL VALLLEY 18 HOLE GOLF COURSE. CHOICE LOTS...
Woodstock Retail Center
Woodistock, lilinols
Jowel/Osco is now open as the anchot
at this new relall teveiopmert located at at this new reiall tevelopment located at Route 47 and Country Club Road is. Woodstock, Illinpis.

Status:
No. Spaces:
Rental Rale:
Space Avallable: $; 1,340-6,400 \mathrm{SF}$ Eldg, S|ze: 122,086 SF Primary Type: Retál
$\begin{array}{ll}\text { Primary Type: } & \text { Rentail } \\ \text { Suln-Type: } & \text { Neighborhood Centet }\end{array}$
$\begin{array}{ll}\text { Status: } & \text { Active } \\ \text { Price: } & \$ 700.000\end{array}$
Price: $\quad \$ 700,000$
Eldg. Size: $\quad 9.159 \mathrm{SF}$
$\begin{array}{ll}\text { Cap Rate: } & \text { N/A } \\ \text { Primary Type: } & \text { 1ndustria }\end{array}$
Sub-Type: Distribution Warahouse additional...
Cold Headers Indl Park
Woodstock, Illinels
Cold Header Industrial Park - 4 Lats
avalabte. Winl divide down to 1.1 acres. Fully improved

## Bency Motors <br> Woodstock, Illinols

The property is a triangutar sile conlaining $37,897 \mathrm{sf}$. The site is improved with a 9,51 sist matal panel

| Status: | Active |
| :--- | :--- |
| Price: | $\$ 656,980$ |
| Lot Size: | 6.40 Acres |
| Primary Type: | Land |
| Sub-Type: | Commercialother (land) |



## About LoopNot Woodstock Cominercial Real Fistate

Mare brokers. properly ownerg and other commercial real estate |rwestors come to use LoopNel.com for selling and buying commercial real essate online. This is what nakes LoopNel the professional's choice for fiading Woodstock, Iltinois commercial real estate LoopNet has a broad selection of properties for sale and lie largest viewership of commercial teal estato buyers, imvestors and other professlonals. To access all of the hurdreas of thoussands of conimercial properties for sale and for lease in woodstock and throughout the U.S. and Internationally, become a tooplNet member today. LoopNet is also the best soufce online for findling land for sale for your commercin年prolect.

LoopNet operales the most heavily tratficked lisling service for Wooztock commercial real estate and other markets in the U.S. and Canada with more han $\$ 425$ billon of total commercial real essale for sale and 6.3 billion gq. fl of commercial real eslate space for lease. Loephet also altracis a lange community of Woodstack commercial teat estate proresslonats with more than 7 million members compised of brokers, corporale execulives, service providers, and more than 3 milion buyers, teinanls and oliser principals throughaut the U.S. and Canada.
LoopNMef's Whodstack commercial real estate lislings include fatms, mulafamily apartments, office buildings. retail space, vacant tand, hotels and motels, gas statians, warehouses, rasiaurants for leate and much moro.
Regisler for FREE and gigt Access lo the More LoopNet Fealuras
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Self Slorage Facertities for Sale
Senior Housing Facilities for Sale
Shopping Centers for hease
Shopping Centers for Bate
Wiarehouses for Lease
Warehouses for Sale
Soarch by Property Typo in Other Locationg
Allanta Apartmend Eulklings for Sale
Bakersfield Apartanen Fuld dings for Sale

CITY OF WOODSTOCK, ILLINOIS
OFFICIAL ZONING MAP

$+$
$\qquad$ RS
RiB $^{\text {RIB }}$
$\square$ RB $\square$ $\square \mathrm{Z}$ $\square$



 $\square$ $\square$ | ${ }^{85}$ |
| :--- | :--- |
| $\square$ | $\square$ $\square{ }^{\mathrm{M1S}}$



Prime Farmland Map































Water Resources


Washington, D.C. 20472

AUG 262010

## CERTIFIED MAIL. RETURN RECEIPT REQUESTED

The Honorable Dr. Brian Sager

Mayor, City of Woodstock
81 I Regina Court
Woodstock, IL 60098

## IN REPLY REFER TO:

Case No.: 10-05-3025P
Community Name: City of Woodstock, IL
Community No.: 170488
Effective Date of This Revision:

January 20. 2011

## Dear Mayor Sager:

The Flood Insurance Study Report and Flood Insurance Rate Map for your community have been revised by this Letter of Map Revision (LOMR). Please use the enclosed annotated map panels) revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals issued in your community.

Additional documents are enclosed which provide information regarding this LOMR. Please see the List of Enclosures below to determine which documents are included. Other attachments specific to this request may be included as referenced in the Determination Document. If you have any questions regarding thodplain management regulations for your community or the National Flood Insurance Program (NFIP) in general, please contact the Consultation Coordination Officer for your community. If you have any technical questions regarding this LOMR. please contact the Director. Mitigation Division of the Department of Homeland Security "s Federal Emergency Management Agency (FEMA) in Chicago, Illinois, at (312) 408-5529, or the FEMA Map Assistance Center toll free at I-877-336-2627 (1-877-FEMA MAP). Additional information about the NFIP is available on our website at
htp//www.fema h七p://www.fema.gov/nfïp.

Sincerely,


David N. Bascom, CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate

For: Kevin C. Long, Acting Chief Engineering Management Branch Mitigation Directorate

List of Enclosures:
Letter of Map Revision Determination Document
Annotated Flood Insurance Rate Map
Annotated Flood Insurance Study Report
ce: Mr. Alan E. Wilson
City of Woodstock
Department of Public Works
326 Washington Street
Woodstock, IL. 60098

Mr. Mark Phipps. P.E., CFM
McHenry County
Department of Planning \& Development
2200 North Seminary Avenue
Woodstock, IL 60098

Mr. Carl Kupter, P.E.
lG Consulting, Inc.
300 Marquardt Drive
Suite 101
Wheeling, IL 60090

Mr. Ken A. Kochler
Chairman, McHenry County Board
2200 North Seminary A venue
Woodstock, IL 60098


## Federal Emergency Management Agency

Washington, D.C. 20472

## LETTER OF MAP REVISION <br> DETERMINATION DOCUMENT

| COMMMINITY AND REVISION INFORMATION |  |  | PROJECT OESCRIPTION | BASIS OF REGUEST |
| :---: | :---: | :---: | :---: | :---: |
| COMMIUNITY | City of Woodstock McHenry County Ittinois |  | NO PROJECT | HYDRAULIC ANALYSIS HYDROLOGIC ANALYSIS |
|  | COMMUNITY NO.: 170 |  |  |  |
| IDENTIFIER | Basin - Headwaters of Silver Creek Tritutary 1 |  | APPROXIMATE LATITUDE \& LONGITUDE: 42.319, -88.436 SOURCE: USGS QUADAANGLE DATUM: NAD 27 |  |
| ANNOTATEO MAPPING ENCLOSURES |  |  | ANNOTATEO STUDY ENCLOSURES |  |
| TYPE: FIRM* <br> TYPE: FIRM* <br> Enclosures rellec | NO: 1711100183 J <br> NO: 17111C0179J | DATE: November 16, 2006 <br> DATE: November 16. 2006 | DATE OF EFFECTIVE FLOOD INSURANCE STUDY: November 16, 2006 Stillwater elevation table: table 5 |  |
|  | Enclosures reflect changes to filooding sources aftected by this revision <br> * FIRM - Flood Insurance Rate Map |  |  |  |
| FLOODING SOURCE(S) \& REVISED REACH(ES) S |  |  |  | See Page 2 tor Additional Flooding Sourcer |


| SUMMARY OF REVISIONS |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Flooding Source | Eflective Flooding | Revised Flooding | Increases | Decreases |
| Unnamed Ponding Area 9 | Zone A | Zone A | NONE | YES |
|  | Zone A | Zone AE | NONE | YES |
|  | Zone A | Zone X (shaded) | NONE | YES |
|  | Zone X (unshaded) | Zone X (unshaded) | YES | YES |
|  | No BFEs | BFEs | YES | NONE |
| * BFEs - Base Flood Elevations |  |  |  |  |
|  | DETERMINA | 1 ON |  |  |

This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMA for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional infommation regarding this determination, If you have any questions about this document, please contact the FEMA Map Assistance Center toll tree at 1-977-336-2627 (1-977-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional Information about the NFIP is available on our website at hitp://www.fema.gov/ifip.

J2-I-A-C


## LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

OTHER COMMUNITIES AFFECTED BY THIS REVISION

| CID Number: |  | 170732 | Name: McHenry County, Illinois |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| AFFECTED MAP PANELS |  |  |  |  | AFFECTE |
| TYPE: FIRM | NO. | $1711160183 J$ | DATE | November 16, 2006 | DATE OF EFF STILLWAT |

[^1] questions about this document, please conlact the FEMA Map Assistance Center toll free at 1 -877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court. Elkridge, MD 21075 . Additional Intomation about the NFIP is available on our website at http:/whw.fema.gow/nip.


# Federal Emergency Management Agency 

Washington, D.C. 20472

## LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

## COMMUNITY INFORMATION

## APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968. P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1.361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria. including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.

## COMMUNITY REMINDERS

We based this determination on the I-percent-annual-chance discharges computed in the submitted hydrologic model. Future development of projects upstream could cause increased discharges, which could cause increased food hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on discharges and could, therefore, indicate that greater flood hazards exist in this area.

Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. Slate/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

[^2]David N. Bascom, CFM, Program Specialist Engineering Management Branch

## LETTER OF MAP REVISION <br> DETERMINATION DOCUMENT (CONTINUED)

We have designated a Consultation Coordmation Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

Mr. Norbert Schwartz<br>Director, Mitigation Division<br>Federal Emergency Management Agency, Region V<br>536 South Clark Street, Sixth Floor<br>Chicago. IL. 60605<br>IN,M1,OH:(312)408-5364 WI:3312) 408-5529 MN,IL,(312)408-5245

## STATUS OF THE COMMUNITY NFIP MAPS

We will not physically revise and republish the FIRM and FIS report for your community to reflect the modifications made by this LOMR at this time. When changes to the previously cited FIRM panel(s) and FIS report warrant physical revision and republication in the future. we will incorporate the moditications made by this LOMR at that time.

This determination is based on the flopd data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to Ihe LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional Iffomation about the NFIP is available on our website at http:/hww.fema govinfip.


## LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

PUBLIC NOTIFICATION OF REVISION

| PUBLIC NOTIFICATION |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| FLOODING SOURCE | LOCATION OF REFERENCED ELEVATION | BFE (FEET NAVD 88) |  | MAP PANEL NUMBER(S) |
|  |  | EFFECTIVE | REVISED |  |
| Unnamed Fonding Area 9 | Entire ponding area | Nene | 882 | 1711160183 17111 CO 179 J |

Within 90 days of the second publication in the local newspaper. a citizen may request that we reconsider this derermination. Any request for reconsideration must be hased on scientific or technical data. Therefore, this letter will be effective only after the 90 -day appeal period presented in this LOMR may be changed.

A notice of changes will be published in the Federal Register. A short notice also will be published in your local newspaper on or about the dates listed below. Please refer to FEMA's website at htps://www. Iloodmaps. lema, gov/fhom/Scripts/bfe main.asp for a more detailed description of proposed BFE changes, which will be posted approximately within two weeks of the date of this letter

LOCAL NEWSPAPER

Name: The Woodstock Independent
Dates: September 15, 2010 and September 22, 2010

[^3]


Table 5 - Summary of Stillwater Elevations (Continued)

|  | Flooding Source | Elevation (feet NAVD) |  |  | 0.2-Percent-Annual-Chance |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 10-Percent-Annual-Chance | 2-Percent-Annual-Chance | 1-Percent-Annual-Chance |  |
| AREA | Unnamed Ponding Area 8 Located south of Chicago and North Western | * | * | 818.1 | * |
| REVISED | Railroad, approximately 3,400 feet east of Prospect Street and north of Grant Highway |  |  |  |  |
|  | Unnamed Ponding Area 9 Located north of Union Pacific Railroad, just south of McHenry avenue/State Highway 120 and just north of North Eastwood Drive/State Highway 47 | * | * | 882.0 | * |

*Data not available

### 3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Users should be aware that flood elevations shown on the Flood Insurance Rate Map (FIRM) represent rounded whole-foot elevations and may not exactly reflect the elevations shown on the Flood Profiles or in the Floodway Data Table in the FIS report. Flood elevations shown on the FIRM are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use flood elevation data presented in this FIS report in conjunction with the data shown on the FIRM.

Most cross sections for South Branch Kishwaukee River and Kishwaukee Creek were determined from field surveys, though some overbank portions were determined from field surveys and topographic maps (Reference 43). Some Kishwaukee Creek cross-section information was obtained from Cowhey, Gudmundson, Leder, Ltd. WSELs were computed using the HEC-2 computer program (Reference 42). The starting WSELs for South Branch Kishwaukee River at Seeman Road as well as for Kishwaukee Creek were computed using slope-area method.

Cross section data for, Silver Creek and Mokeler Creek were obtained by field survey. All bridges and culverts were also surveyed to obtain elevation data and structural geometry. WSELs were developed using the HEC-2 computer step-backwater model (Reference 42). The HEC-2 model or Silver Creek was calibrated using known stage-discharge relationships from the flood of February 1966.

Cross sections for the backwater analyses for Cotton Creek, Eakin Creek, Fox River, Nippersink Creek, North Branch Nippersink Creek, Elizabeth Lake Drain, Dutch Creek, Dutch Creek-North Branch, Dutch Creek-Branch to Northwest, Dutch Creek-North Fork of Branch to Northwest, Dutch Creek-West Fork of North Fork of Branch to Northwest, Slough Creek, South Branch Slough Creek, Silver Creek Tributary No. 1, Silver Creek Tributary No. 2, and Cary Creek were determined from field surveys, with some overbank sections determined from





Weland Sites 8-12
Sheet 3 of 6





## EXECUTIVE SUMMARY

This report presents the results of an environmental site assessment for the improvements to IL 47 from US 14 to Charles Road, Woodstock, McHenry County. This report was prepared on behalf of the Illinois Department of Transportation (IDOT) by the Illinois State Geological Survey (ISGS).

The following sites were examined for this project. The tables below list sites along the project for which recognized environmental conditions (RECs)* were identified for each address or address range (Table 1); sites along the project for which only de minimis conditions were identified (Table 2); sites along the project for which no RECs or de minimis conditions were identified (Table 3); and sites adjoining but not on the project that were identified on environmental databases (Table 4). Further investigation of sites with RECs may be desired.

Table 1. The following sites along the project were determined to contain RECs:

| Property name <br> IDOT parcel \# | ISGS <br> site \# | REC(s), including de <br> minimis conditions | Regulatory <br> database(s) | Land use |
| :--- | :--- | :--- | :--- | :--- |
| First Presbyterian <br> Church of <br> Woodstock <br> NA | 2279 -6 | AST; potential ACM and <br> lead paint | None | Church |
| Stonetree Nursery <br> and Garden Center <br> NA | 2279 V-12 | AST; transformers; <br> potential pesticide <br> and/or herbicide <br> presence; potential <br> ACM and lead paint | None | Commercial |
| McHenry County <br> Administrative <br> Building <br> NA | 2279 V-18 | Evidence of chemical <br> use; transformer; <br> potential ACM and lead <br> paint | BOL | Government |
| Northwood Middle <br> School <br> NA | 2279 V-19 | Evidence of chemical <br> use; potential ACM and <br> lead paint | BOL | Educational |
| McHenry County <br> Government Center | 2279 V-20 | USTs; former USTs <br> with documented <br> releases; evidence of <br> chemical use; spill; <br> transformers; potential <br> ACM and lead paint | RCRA, <br> UST, LUST, <br> BOL, IEMA, | Government |
| NA |  | Former UST with a <br> documented release; <br> potential ACM and lead <br> paint | UST, LUST, IEMA <br> BOL, | Educational |
| Verda Dierzen Early <br> Learning Center <br> NA | 2279 -21 |  |  |  |


| City of Woodstock NA | 2279V-39 | Evidence of chemical use; spill; transformer; potential ACM and lead paint | RCRA, BOL, IEMA | Government |
| :---: | :---: | :---: | :---: | :---: |
| Law Office of Michael J. McNerney NA | 2279V-42 | Potential former chemical use; transformer; potential ACM and lead paint | None | Commercial |
| Schneider, Leucht, Merwin and Cooney Funeral Home NA | 2279V-45 | Potential chemical use; transformers; potential ACM and lead paint | None | Commercial |
| Commercial building NA | 2279V-49 | Former monitoring well; potentially impacted groundwater | None | Commercial |
| Commercial building NA | 2279V-51 | Former USTs; potential chemical use; transformer; potential ACM and lead paint | UST | Commercial |
| The Vine NA | 2279V-52 | Former monitoring well; potential ACM and lead paint | None | Church |
| Mobil gasoline station NA | 2279V-53 | USTs; former USTs with a documented release; potential UST(s); monitoring wells; former monitoring wells; impacted soil; transformer; potential ACM and lead paint | UST, LUST, BOL, IEMA, AULs | Commercial |
| Woodstock Court NA | 2279V-61 | Potential UST(s); potential former chemical use; transformer; potential ACM and lead paint | None | Commercial |
| Residence NA | 2279V-65 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Woodstock Free Methodist Church NA | 2279V-66 | Former monitoring well; potentially impacted groundwater; potential ACM and lead paint | AUL | Church |


| Residence NA | 2279V-67 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| :---: | :---: | :---: | :---: | :---: |
| Residence NA | 2279V-68 | Potentially impacted groundwater; potential ACM | AUL | Residential |
| Residence NA | 2279V-69 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence NA | 2279V-70 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence NA | 2279V-71 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence $N A$ | 2279V-72 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence NA | 2279V-73 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence NA | 2279V-74 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence NA | 2279V-75 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Senior Living Center NA | 2279V-76 | Potentially impacted groundwater; transformer; potential ACM and lead paint | AUL | Commercial |
| Heartstone Manor NA | 2279V-77 | Former drums; potentially impacted groundwater; transformer; potential ACM and lead paint | AUL | Commercial |
| Residence NA | 2279V-78 | Former monitoring well; potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |


| Residence <br> NA | 2279V-79 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| :---: | :---: | :---: | :---: | :---: |
| Residence <br> NA | 2279V-80 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence NA | 2279V-81 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279V-82 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279V-83 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence NA | 2279V-84 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Prairie Homes of Hearthstone NA | 2279V-85 | Potentially impacted groundwater; transformer; potential ACM and lead paint | AUL | Commercial |
| Residential building NA | 2279V-86 | Potentially impacted groundwater; transformer; potential ACM | AUL | Residential |
| Residence <br> NA | 2279V-87 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279V-88 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279V-89 | Former monitoring well; potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279V-90 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |


| Residence <br> NA | 2279 V-91 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| :--- | :--- | :--- | :--- | :--- |
| Residence <br> NA | 2279 V-92 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-93 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-94 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-95 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-96 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-97 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-98 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |  |  |
| Residence <br> NA | 2279 V-99 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Crossroads Care <br> Center <br> NA | 2279 V-100 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Commercial |
| Success Reality <br> NA | 2279 V-101 | Potential UST(s); <br> potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Commercial |
| ACh | 2279 V-102 | Potentially impacted <br> groundwater; potential | AUL | Church |


| Residence <br> NA | 2279 V-104 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| :--- | :--- | :--- | :--- | :--- |
| Residence <br> NA | 2279 V-105 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-106 | Potentially impacted <br> groundwater; potential <br> ACM | AUL | Residential |
| Residence <br> NA | 2279 V-107 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-108 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-109 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |  |
| Residence <br> NA | 2279 V-111 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| SVB Home Loans <br> NA | 2279 V-112 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Commercial |
| Residence <br> NA | 2279 V-114 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| NA |  |  |  |  |


| Residence NA | 2279V-117 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| :---: | :---: | :---: | :---: | :---: |
| Residence NA | 2279V-118 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence NA | 2279V-119 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence NA | 2279V-120 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence NA | 2279V-121 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence NA | 2279V-122 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence NA | 2279V-123 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence NA | 2279V-124 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence NA | 2279V-125 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence NA | 2279V-126 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence NA | 2279V-127 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence NA | 2279V-128 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Residence NA | 2279V-129 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |


| Residence <br> NA | 2279 V-130 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| :--- | :--- | :--- | :--- | :--- |
| Residence <br> NA | 2279 V-131 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-132 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-133 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-134 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-135 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-137 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL |
| Residence <br> NA | 2279 V-140 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence | 2279 V-138 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| NA |  |  |  |  |


| Residence <br> NA | 2279 V-143 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| :--- | :--- | :--- | :--- | :--- |
| Residence <br> NA | 2279 V-144 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-145 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-146 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-147 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-148 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-149 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| A Hartlett \& Son <br> NA | 2279 V-150 | Potential chemical use; <br> potentially impacted <br> groundwater; <br> transformer; potential <br> ACM and lead paint | AUL | Residential |
| Emerson Lofts | 2279 V-151 | UST; evidence of <br> former chemical use; <br> former chemical tanks; <br> potentially impacted <br> groundwater; <br> transformers; potential <br> ACM and lead paint | RCRA, <br> UST, BOL, | Residential |
| NA lot | 2279 V-152 | Potentially impacted <br> groundwater | AUL | Vacant |


| Botts Welding and <br> Truck Services <br> NA | 2279 V-153 | Former USTs with a <br> documented release; <br> potential UST(s); <br> evidence of chemical <br> use; AST; drums; <br> potential monitoring <br> wells; impacted soil and <br> groundwater; <br> transformers; solid <br> waste; potential ACM <br> and lead paint | RCRA, <br> UST, LUST, <br> BOL, IEMA, <br> AULs | Commercial |
| :--- | :--- | :--- | :--- | :--- |
| Woodstock Fire <br> Rescue <br> NA | 2279 V-154 | Potential UST(s); <br> potential chemical use; <br> potentially impacted <br> groundwater; <br> transformer; potential <br> ACM and lead paint | AUL | Municipal |
| Commercial building <br> NA | 2279 V-155 | Potential UST(s); <br> potential former <br> chemical use; <br> potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Commercial |
| Residence <br> NA | 2279 V-156 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-157 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-158 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 -159 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Botts Parts <br> Department <br> NA | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Commercial |  |


| Commercial building NA | 2279V-161 | Potential former chemical use; monitoring well; potentially impacted groundwater; potential ACM and lead paint | AUL | Industrial |
| :---: | :---: | :---: | :---: | :---: |
| Shopfresh Market NA | 2279V-162 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Commercial |
| Commercial building NA | 2279V-163 | Evidence of chemical use; potentially impacted groundwater; potential ACM and lead paint | RCRA, BOL, AUL | Commercial |
| Vacant lot NA | 2279V-164 | Former USTs with a documented release; potential UST(s); potential former chemical use; monitoring wells; former monitoring wells; potential monitoring well; impacted soil and groundwater; transformers | UST, LUST, BOL, IEMA, AULs | Vacant |
| Vacant land NA | 2279V-165 | Potentially impacted groundwater; likely past pesticide and/or herbicide use | AUL | Vacant |
| Residence NA | 2279V-166 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Residential |
| Allstate NA | 2279V-167 | Potential former chemical use; potentially impacted groundwater; potential ACM and lead paint | AUL | Commercial |
| $\begin{aligned} & \text { Matrix IV } \\ & \text { NA } \end{aligned}$ | 2279V-168 | Evidence of chemical use; spill; potentially impacted groundwater; transformers; potential ACM and lead paint | ERNS, BOL, AUL | Industrial |


| Vacant land NA | 2279V-169 | Impacted groundwater; potential monitoring wells; likely past pesticide and/or herbicide use | AUL | Vacant |
| :---: | :---: | :---: | :---: | :---: |
| Wendy's NA | 2279V-170 | Monitoring well; former monitoring wells; impacted soil and groundwater; potential ACM and lead paint | AUL | Commercial |
| Shell NA | 2279V-171 | USTs with documented releases; potential UST(s); evidence of chemical use; former monitoring wells; impacted soil and groundwater; transformers; potential ACM and lead paint | RCRA, UST, LUST, BOL, IEMA, AULs | Commercial |
| Commercial building NA | 2279V-172 | Potential UST(s); evidence of former chemical use; potential chemical use; former monitoring wells; transformer; potential ACM and lead paint | BOL, AUL | Commercial |
| Ace Hardware NA | 2279V-173 | Potentially impacted groundwater; transformers; potential ACM and lead paint | AUL | Commercial |
| Great Lakes Credit Union NA | 2279V-174 | Former USTs; potential UST(s); potential former chemical use; former drums; potentially impacted groundwater; potential ACM and lead paint | UST, BOL, IEMA, AUL | Commercial |
| Commercial building NA | 2279V-175 | Potential chemical use; potentially impacted groundwater; transformer; potential ACM and lead paint | AUL | Commercial |


| Commercial building <br> NA | 2279 V-176 | Evidence of chemical <br> use; potentially <br> impacted groundwater; <br> transformers; potential <br> ACM and lead paint | RCRA, <br> BOL, AUL | Commercial |
| :--- | :--- | :--- | :--- | :--- |
| Shell <br> NA | 2279 V-177 | USTs; monitoring wells; <br> potentially impacted <br> groundwater; <br> transformers; potential <br> ACM and lead paint | UST, AUL | Commercial |
| Commercial building <br> NA | 2279 V-178 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Commercial |
| Harmony Falls <br> NA | 2279 V-179 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Commercial |
| Chase <br> NA | 2279 V-180 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Commercial |
| Woodstock Car <br> Wash <br> NA | 2279 V-181 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Commercial |
| Northwest Health <br> Care Center <br> NA | 2279 V-182 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Commercial |
| Residence <br> NA | 2279 V-183 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| Residence <br> NA | 2279 V-184 | Potentially impacted <br> groundwater; potential <br> ACM and lead paint | AUL | Residential |
| McDonalds <br> NA | Potentially impacted <br> groundwater; <br> transformers; potential <br> ACM and lead paint | AUL | Commercial |  |


| BP gasoline station NA | 2279V-186 | USTs; potential UST(s); evidence of chemical use; potentially impacted groundwater; VOCs, SVOCs, and metals; potential ACM and lead paint | RCRA, UST, BOL, AUL | Commercial |
| :---: | :---: | :---: | :---: | :---: |
| Panera NA | 2279V-187 | Former USTs with a documented release; evidence of former chemical use; former monitoring wells; impacted soil and groundwater; VOCs; HAA; transformer; potential ACM and lead paint | RCRA, <br> UST, LUST, <br> BOL, IEMA, <br> AULs, HAA | Commercial |
| Golden Eagle <br> Community Bank of <br> Woodstock <br> NA | 2279V-188 | Former USTs with a documented release; potential UST(s); evidence of former chemical use; potentially impacted groundwater; transformer; potential ACM and lead paint | RCRA, UST, LUST, BOL, IEMA, AULs, | Commercial |
| McHenry County <br> Fair Grounds NA | 2279V-189 | ASTs; potentially impacted groundwater; transformers; potential ACM and lead paint | AUL | Recreational |
| Residential building NA | 2279V-190 | Potentially impacted groundwater; transformers; potential ACM | AUL | Residential |
| US Post Office NA | 2279V-191 | Potentially impacted groundwater; potential ACM and lead paint | AUL | Government |
| Walgreens NA | 2279V-192 | Potentially impacted groundwater; transformers; potential ACM and lead paint | AUL | Commercial |
| Vacant land NA | 2279V-193 | Potentially impacted groundwater | AUL | Vacant |


| Commercial building NA | 2279V-194 | Evidence of chemical use; potentially impacted groundwater; transformers; potential ACM and lead paint | RCRA, BOL, AUL | Commercial |
| :---: | :---: | :---: | :---: | :---: |
| Commercial building NA | 2279V-195 | Potentially impacted groundwater; transformer; potential ACM and lead paint | AUL | Commercial |
| Eastwood Service Center NA | 2279V-196 | Potential UST(s); potential chemical use; AST; former AST; drums; presence on BOL list; potentially impacted groundwater; transformers; potential ACM and lead paint | BOL, AUL | Commercial |
| $\begin{aligned} & \text { Gas Cap } \\ & \text { NA } \end{aligned}$ | 2279V-197 | USTs with a documented release; potential UST(s); potential chemical use; monitoring wells; potential injection well; impacted soil and groundwater; transformer; potential ACM and lead paint | UST, LUST, BOL, IEMA, UIC, AUL | Commercial |
| Taco Bell NA | 2279V-198 | Potentially impacted groundwater; transformer; potential ACM and lead paint | AUL | Commercial |
| Commercial building NA | 2279V-199 | Monitoring well; potentially impacted groundwater; transformers; potential ACM and lead paint | AUL | Commercial |
| Tommy's Red Hots NA | 2279V-200 | Potentially impacted groundwater; transformer; potential ACM and lead paint | AUL | Commercial |


| Advanced Auto Parts NA | 2279V-201 | Evidence of chemical use; potentially impacted groundwater; transformer; potential ACM and lead paint | AUL | Commercial |
| :---: | :---: | :---: | :---: | :---: |
| Burger King NA | 2279V-202 | Potentially impacted groundwater; transformer; potential ACM and lead paint | AUL | Commercial |
| Sherwin-Williams <br> Paints <br> NA | 2279V-203 | Potential chemical use; potentially impacted groundwater; transformers; potential ACM and lead paint | AUL | Commercial |
| Residential building NA | 2279V-204 | Potentially impacted groundwater; potential ACM | AUL | Residential |
| Residential building NA | 2279V-205 | Potentially impacted groundwater; transformer; potential ACM | AUL | Residential |
| Centerville Plaza NA | 2279V-206 | Potential UST(s); potential chemical use; presence on BOL list; potentially impacted groundwater; potential ACM and lead paint | BOL, AUL | Commercial |
| Commercial building NA | 2279V-207 | Potential former chemical use; potential ACM and lead paint | None | Commercial |
| Eastwood Plaza NA | 2279V-208 | Potential chemical use; transformer; potential ACM and lead paint | None | Commercial |
| Enterprise Rent-A- <br> Car <br> NA | 2279V-209 | Potential former chemical use; potential ACM and lead paint | None | Commercial |
| Woodstock Community Thrift NA | 2279V-211 | Potential former chemical use; potential ACM and lead paint | None | Commercial |


| Woodstock <br> Business Center NA | 2279V-212 | Evidence of chemical use; spill; former monitoring wells; potential monitoring well; potential drum; impacted soil and groundwater; transformer; potential ACM and lead paint | RCRA, BOL, SRP, IEMA, AULs | Commercial |
| :---: | :---: | :---: | :---: | :---: |
| Commercial buildings NA | 2279V-213 | Potential former chemical use; potential ACM and lead paint | None | Commercial |
| Commercial building NA | 2279V-214 | Former UST; potential UST(s); potential former chemical use; monitoring wells; potential monitoring wells; impacted soil and groundwater; VOCs; potential ACM and lead paint | RCRA, BOL, SRP, municipal | Commercial |
| DeCraene's Service Center NA | 2279V-215 | Former USTs with documented a release; potential UST(s); evidence of chemical use; monitoring well; potential monitoring wells; former monitoring well; impacted soil and groundwater; VOCs; potential ACM and lead paint | RCRA, UST, LUST, BOL, IEMA | Commercial |
| Serien <br> Manufacturing <br> NA | 2279V-218 | Evidence of former chemical use; potential chemical use; VOCs and metals; transformers; potential ACM and lead paint | RCRA, BOL | Industrial |
| Turnkey Digital NA | 2279V-219 | Former UST; potential ACM and lead paint | UST | Commercial |


| Amerimex <br> NA | 2279 V-220 | Potential UST(s); <br> evidence of former <br> chemical use; potential <br> chemical use; metals; <br> potential ACM and lead <br> paint | BOL | Commercial |
| :--- | :--- | :--- | :--- | :--- |
| Quick Beverage <br> Mart <br> NA | 2279 V-221 | Potential UST(s); <br> potential former <br> chemical use; potential <br> ACM and lead paint | None | Commercial |
| Dwight's Autobody <br> NA | 2279 V-223 | Potential UST(s); <br> evidence of chemical <br> use; potential ASTs; <br> potential drums; <br> potential ACM and lead <br> paint | RCRA, BOL | Commercial |
| Cycle Craft <br> NA | 2279 V-224 | Potential UST(s); <br> evidence of chemical <br> use; VOCs, SVOCs, <br> and metals; potential <br> ACM and lead paint | BOL | Commercial |
| Mambo Wash <br> NA | 2279 V-225 | Evidence of chemical <br> use; transformer; <br> potential ACM and lead <br> paint | BOL | Commercial |
| Commercial building <br> NA | 2279 V-229 | Evidence of former <br> chemical use; <br> transformer; potential <br> ACM and lead paint | RCRA, BOL | Commercial |
| McHenry County <br> Farm Bureau <br> NA | 2279 V-226 | Former UST; presence <br> on BOL list; potential <br> ACM and lead paint | UST, BOL | Government |
| Conserv FS <br> NA | 2279 V-228 | Former USTs with a <br> documented release; <br> ASTs; evidence of <br> chemical use; <br> monitoring wells; <br> surface staining; spill; <br> impacted soil and <br> groundwater; <br> transformers; potential | RCRA, <br> ACM and, LUST, <br> BOL, IEMA | Commercial |


| Commercial building NA | 2279V-230 | Evidence of former chemical use; potential chemical use; transformers; potential ACM and lead paint | RCRA, BOL | Commercial |
| :---: | :---: | :---: | :---: | :---: |
| Flocon, Inc. NA | 2279V-231 | Evidence of former chemical use; potential chemical use; transformers; potential ACM and lead paint | RCRA, BOL | Industrial |
| Union Pacific Railroad NA | 2279V-232 | Fill; potential ACM | None | Transportation |
| Woodstock Police Department NA | 2279V-234 | Potential UST(s); evidence of chemical use; potential ACM and lead paint | BOL | Municipal |
| Gavers Automotive <br> Service <br> NA | 2279V-237 | Former USTs with a documented release; potential UST(s); potential chemical use; transformer; potential ACM and lead paint | UST, LUST, BOL, IEMA | Commercial |
| Sno-Belt Industries NA | 2279V-238 | Evidence of chemical use; potential ACM and lead paint | BOL | Industrial |
| Commercial building NA | 2279V-241 | Potential former chemical use; potential ACM and lead paint | None | Commercial |
| Commercial building NA | 2279V-243 | USTs with a documented release; potential UST(s); evidence of former chemical use; impacted soil; potential ACM and lead paint | RCRA, UST, LUST, BOL, IEMA | Commercial |
| Commercial building NA | 2279V-246 | Potential UST(s); potential former chemical use; transformer; potential ACM and lead paint | None | Commercial |


| Colonial Antique <br> Mall and <br> Restoration Center <br> NA | 2279 V-247 | Former USTs; potential <br> chemical use; potential <br> ACM and lead paint | UST | Commercial |
| :--- | :--- | :--- | :--- | :--- |
| Vacant lot <br> NA | 2279 V-250 | Evidence of former <br> chemical use; <br> transformers | RCRA, BOL | Vacant |
| Marco Auto <br> Mechanics <br> NA | 2279 V-251 | Potential UST(s); <br> evidence of chemical <br> use; transformers; <br> potential ACM and lead <br> paint | BOL | Commercial |
| Commercial building <br> NA | 2279 V-253 | Potential UST(s); <br> potential former <br> chemical use; potential <br> ACM and lead paint | None | Commercial |
| Jim Potts Motor <br> Group | 2279 V -254 | Evidence of chemical <br> use; transformers; <br> potential ACM and lead <br> paint | BOL | Commercial |
| NA |  |  |  |  |


| O'Reilly Auto Parts NA | 2279V-261 | Former USTs with a documented release; potential UST(s); evidence of former chemical use; transformers; potential ACM and lead paint | UST, LUST, BOL, SRP, IEMA | Commercial |
| :---: | :---: | :---: | :---: | :---: |
| Plum Tree Industrial Tool \& Supply NA | 2279V-263 | Potential chemical use; potential ACM and lead paint | None | Commercial |
| Commercial building NA | 2279V-268 | Evidence of chemical use; drums; transformer; potential ACM and lead paint | BOL | Industrial/ commercial |
| Commercial building NA | 2279V-269 | Potential former chemical use; transformers; potential ACM and lead paint | None | Commercial |
| Commercial building NA | 2279V-270 | Former USTs with a documented release; impacted soil; transformers; potential ACM and lead paint | UST, LUST, BOL, IEMA | Commercial |
| Woodstock Autobody NA | 2279V-271 | Potential UST(s); evidence of chemical use; potential ACM and lead paint | RCRA, BOL | Commercial |
| Commercial <br> buildings <br> NA | 2279V-277 | Former USTs with a documented release; evidence of former chemical use; transformer; potential ACM and lead paint | RCRA, UST, LUST, BOL, IEMA | Commercial |
| Bull Valley Ford NA | 2279V-281 | Former USTs; potential UST(s); ASTs; evidence of former chemical use; potential chemical use; impacted soil; transformers; potential ACM and lead paint | RCRA, UST, BOL, SRP, AULs | Commercial |


| Commercial building NA | 2279V-284 | Potential chemical use; potential ACM and lead paint | None | Commercial |
| :---: | :---: | :---: | :---: | :---: |
| Armanetti Wine and Spirits NA | 2279V-287 | Evidence of former chemical use; potential ACM and lead paint | BOL | Commercial |
| Murphy's Flooring NA | 2279V-289 | Former USTs with a documented release; potential UST(s); potential former chemical use; transformers; potential ACM and lead paint | UST, LUST, BOL, IEMA | Commercial |
| Commercial building NA | 2279V-290 | Former USTs; potential UST(s); potential former chemical use; transformer; potential ACM and lead paint | UST | Commercial |
| Commercial building NA | 2279V-293 | Former USTs with a documented release; potential UST(s); former monitoring wells; former AST; evidence of former chemical use; transformer; potential ACM and lead paint | RCRA, UST, LUST, BOL, IEMA, municipal | Commercial |
| Benoy Motor Sales NA | 2279V-295 | Former USTs with a documented release; potential UST(s); AST; former ASTs; evidence of chemical use; presence on SRP list; VOCs; transformer; potential ACM and lead paint | RCRA, UST, LUST. BOL, SRP, IEMA | Commercial |


| IDOT maintenance facility \#117 NA | 2279V-298 | USTs; former USTs with a documented release; potential UST(s); monitoring wells; former monitoring wells; evidence of chemical use; former dumping; impacted soil; road salt; transformers; potential ACM and lead paint | RCRA, UST, LUST, BOL, IEMA | Government |
| :---: | :---: | :---: | :---: | :---: |
| Commercial building NA | 2279V-303 | Presence on BOL list; SVOCs, VOCs, and metals; transformers; potential ACM and lead paint | BOL | Commercial |
| Lake Marine and RV NA | 2279V-304 | Potential UST(s); potential chemical use; potential ASTs; potential drums; potential chemical container; transformer; potential ACM and lead paint | BOL | Commercial |
| Mobil gasoline station NA | 2279V-305 | USTs; potential UST(s); evidence of chemical use; spill; transformers; potential ACM and lead paint | $\begin{aligned} & \text { BOL, UST, } \\ & \text { IEMA } \end{aligned}$ | Commercial |
| Commercial building NA | 2279V-306 | Potential UST(s); potential chemical use; presence on BOL list; transformer; potential ACM and lead paint | BOL | Commercial |
| Commercial building NA | 2279V-308 | Former UST; potential UST(s); potential former chemical use; transformers; potential ACM and lead paint | UST | Commercial |
| $\begin{aligned} & \text { ROW } \\ & \text { NA } \end{aligned}$ | 2279V-310 | Former monitoring well; transformer | None | Transportation |


| Cell phone tower <br> NA | $2279 \mathrm{~V}-314$ | AST; transformer; <br> potential ACM and lead <br> paint | None | Utility |
| :--- | :--- | :--- | :--- | :--- |

Table 2. The following sites along the project were determined to contain de minimis conditions only:

| Property name <br> IDOT parcel \# | ISGS <br> site \# | De minimis condition(s) | Land use |
| :--- | :--- | :--- | :--- |
| Agricultural land <br> NA | 2279 V-1 | Likely pesticide and/or herbicide use | Agricultural |
| Red Top Barn <br> NA | 2279 V-2 | Potential ACM and lead paint | Commercial/ <br> residential |
| Vacant land <br> NA | 2279 V-3 | Likely past pesticide and/or herbicide <br> use | Vacant |
| Residence <br> NA | 2279 V-4 | Potential ACM and lead paint | Residential |
| Agricultural land <br> NA | 2279 V -5 | Transformers; likely pesticide and/or <br> herbicide use | Agricultural |
| Residences <br> NA | $2279 \mathrm{~V}-7$ | Transformer; potential ACM and lead <br> paint | Residential |
| Farmstead <br> NA | $2279 \mathrm{~V}-9$ | Potential pesticide and/or herbicide <br> presence; potential ACM and lead <br> paint | Farmstead |
| Agricultural land <br> NA | 2279 V -10 | Transformers; likely pesticide and/or <br> herbicide use | Agricultural |
| Harrison \& Associates <br> NA | Potential ACM and lead paint | Commercial |  |
| Residences <br> NA | 2279 V -13 | Transformer; potential ACM and lead <br> paint | Residential |
| Residences <br> NA | Potential ACM and lead paint | Residential |  |
| Agricultural land <br> NA | Transformers; likely pesticide and/or <br> herbicide use | Agricultural |  |
| Storage units <br> NA | Potential past pesticide and/or <br> herbicide presence; Potential ACM <br> and lead paint | Government |  |


| Garage <br> NA | 2279 V-17 | Potential ACM and lead paint | Residential |
| :--- | :--- | :--- | :--- |
| Russel Court Office <br> Plaza <br> NA | 2279 V-22 | Transformer; potential ACM and lead <br> paint | Commercial |
| McHenry County <br> Workforce Center <br> NA | 2279 V-23 | Transformer; potential ACM and lead <br> paint | Government |
| Commercial building <br> NA | 2279 V-24 | Transformer; potential ACM and lead <br> paint | Commercial |
| McHenry County <br> Treasurer's Office <br> NA | 2279 V-25 | Transformer; potential ACM and lead <br> paint | Government |
| Commercial building <br> NA | 2279 V-26 | Transformers; potential ACM and <br> lead paint | Commercial |
| Family Alliance <br> NA | 2279 V-27 | Transformer; potential ACM and lead <br> paint | Commercial |
| Residences <br> NA | 2279 V-28 | Potential ACM and lead paint | Residential |
| Vacant lot <br> NA | 2279 V-29 | Likely past pesticide and/or herbicide <br> use | Vacant |
| Commercial building <br> NA | 2279 V-30 | Potential ACM and lead paint | Commercial |
| Residential buildings <br> NA | $2279 V-31$ | Transformer; potential ACM and lead <br> paint | Residential |
| Doxa Fellowship <br> NA | 2279 V-32 | Transformers; potential ACM and <br> lead paint | Church |
| Residential buildings <br> NA | $2279 V-34$ | Potential ACM and lead paint | Residential |
| Residences <br> NA | 2279 V-35 | Potential ACM and lead paint | Residential |
| St. John's Evangelical <br> Lutheran Church <br> NA | $2279 V-36$ | Transformer; potential ACM and lead <br> paint | Church |
| Residential buildings <br> NA | 2279 V-37 | Transformers; potential ACM and <br> lead paint | Residential |


| Home Savings Bank <br> NA | 2279 V-38 | Transformer; potential ACM and lead <br> paint | Commercial |
| :--- | :--- | :--- | :--- |
| Bates Park <br> NA | 2279 V-40 | Potential ACM and lead paint | Recreational |
| Silver Creek Commons <br> NA | 2279 V-41 | Potential ACM and lead paint | Commercial |
| Mixed-use building <br> NA | 2279 V-43 | Potential ACM and lead paint | Commercial/ <br> residential |
| Vacant lot <br> NA | 2279 V-44 | Likely past pesticide and/or herbicide <br> use; transformer | Vacant |
| Vacant lot <br> NA | 2279 V-46 | Likely past pesticide and/or herbicide <br> use | Vacant |
| Commercial building <br> NA | 2279 V-47 | Potential ACM and lead paint | Commercial |
| Commercial building <br> NA | 2279 V-48 | Transformer; potential ACM and lead <br> paint | Commercial |
| Vacant land <br> NA | 2279 V-50 | Likely past pesticide and/or herbicide <br> use | Vacant |
| Residential buildings <br> NA | 2279 V-54 | Potential ACM | Residential |
| Beef Village <br> NA | 2279 V-55 | Potential ACM and lead paint | Commercial |
| Cooper Barnette <br> Consulting, LLC <br> NA | 2279 V-56 | Potential ACM and lead paint | Commercial |
| Commercial building <br> NA | 2279 V-57 | Potential ACM and lead paint | Commercial |
| Residences <br> NA | $2279 V-58$ | Transformers; potential ACM and <br> lead paint | Residential |
| Isabel's Family <br> Restaurant <br> NA | 2279 V-59 | Transformers; potential ACM and <br> lead paint | Commercial |
| McHenry County <br> Housing Authority <br> NA | 2279 V-60 | Transformers; potential ACM and <br> lead paint | Government |
| 3 Stars Pizza <br> NA | Potential ACM and lead paint | Commercial |  |

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| Woodstock Food Mart NA | 2279V-63 | Potential ACM and lead paint | Commercial |
| :---: | :---: | :---: | :---: |
| Residential building NA | 2279V-64 | Potential ACM | Residential |
| Commercial building NA | 2279V-210 | Transformer; potential ACM and lead paint | Commercial |
| Residence NA | 2279V-217 | Transformer; potential ACM and lead paint | Residential |
| Residences NA | 2279V-222 | Potential ACM and lead paint | Residential |
| Residential buildings NA | 2279V-227 | Transformers; potential ACM and lead paint | Residential |
| Woodstock Veterinary Clinic NA | 2279V-235 | Potential ACM and lead paint | Commercial |
| Residences NA | 2279V-236 | Potential ACM and lead paint | Residential |
| Residences NA | 2279V-239 | Transformers; potential ACM and lead paint | Residential |
| Commercial building NA | 2279V-240 | Potential ACM and lead paint | Commercial |
| Woodstock Recreation Department NA | 2279V-242 | Transformer; potential ACM and lead paint | Government |
| Colman's Tavern \& Grill NA | 2279V-244 | Transformer; potential ACM and lead paint | Commercial |
| Residence NA | 2279V-245 | Potential ACM and lead paint | Residential |
| Bob's Woodstock Motel NA | 2279V-248 | Potential ACM and lead paint | Commercial |
| Napoli Pizza Place NA | 2279V-249 | Potential ACM and lead paint | Commercial |
| Storage Space NA | 2279V-252 | Potential ACM and lead paint | Commercial |
| Best Western NA | 2279V-258 | Potential ACM and lead paint | Commercial |


| 3 Brothers Restaurant NA | 2279V-259 | Potential ACM and lead paint | Commercial |
| :---: | :---: | :---: | :---: |
| Commercial building NA | 2279V-262 | Potential ACM and lead paint | Commercial |
| Commercial building NA | 2279V-264 | Potential ACM and lead paint | Commercial |
| Niko's Red Mill Tavern NA | 2279V-265 | Transformers; potential ACM and lead paint | Commercial |
| Miro Motors NA | 2279V-266 | Potential ACM and lead paint | Commercial |
| Commercial building NA | 2279V-267 | Potential ACM and lead paint | Commercial |
| Keystone Lanes NA | 2279V-272 | Transformer; potential ACM and lead paint | Commercial |
| Donahue Furniture NA | 2279V-273 | Potential ACM and lead paint | Commercial |
| Allendale-Stepping <br> Stone West <br> NA | 2279V-274 | Potential ACM and lead paint | Educational |
| Commercial building NA | 2279V-275 | Potential ACM and lead paint | Commercial |
| Woodstock Lumber Company NA | 2279V-276 | Potential ACM and lead paint | Commercial |
| Commercial building NA | 2279V-278 | Potential ACM and lead paint | Commercial |
| Stan's-LPS Midwest NA | 2279V-279 | Potential ACM and lead paint | Commercial |
| Blue Ribbon Millwork NA | 2279V-280 | Transformers; potential ACM and lead paint | Commercial |
| Residences NA | 2279V-282 | Potential ACM and lead paint | Residential |
| Popeyes NA | 2279V-285 | Transformer; potential ACM and lead paint | Commercial |
| Commercial building NA | 2279V-286 | Potential ACM and lead paint | Commercial |


| Woodstock Farm \& Lawn Center NA | 2279V-288 | Transformer; potential ACM and lead paint | Commercial |
| :---: | :---: | :---: | :---: |
| Southwood Center NA | 2279V-291 | Transformers; potential ACM and lead paint | Commercial |
| Brown \& Company CPAs NA | 2279V-294 | Potential ACM and lead paint | Commercial |
| Fifth Third Bank NA | 2279V-296 | Transformer; potential ACM and lead paint | Commercial |
| Quality Inn NA | 2279V-297 | Transformer; potential ACM and lead paint | Commercial |
| Antenna NA | 2279V-299 | Transformer; potential ACM and lead paint | Utility |
| Commercial building NA | 2279V-300 | Transformer; potential ACM and lead paint | Commercial |
| Residence NA | 2279V-301 | Transformer; potential ACM | Residential |
| Vacant land NA | 2279V-302 | Likely past pesticide and/or herbicide use | Vacant |
| Super 8 NA | 2279V-307 | Transformers; potential ACM and lead paint | Commercial |
| Residential buildings NA | 2279V-309 | Transformers; potential ACM and lead paint | Residential |
| Farmstead NA | 2279V-311 | Potential pesticide and/or herbicide presence; potential ACM and lead paint | Farmstead |
| Agricultural land NA | 2279V-312 | Transformer; likely pesticide and/or herbicide use | Agricultural |
| Residence NA | 2279V-313 | Transformer; potential ACM and lead paint | Residential |
| Farmstead NA | 2279V-315 | Potential pesticide and/or herbicide presence; transformer; potential ACM and lead paint | Farmstead |
| Farmstead NA | 2279V-316 | Potential pesticide and/or herbicide presence; transformer; potential ACM and lead paint | Farmstead |


| Agricultural land <br> NA | $2279 \mathrm{~V}-318$ | Transformer; likely pesticide and/or <br> herbicide use | Agricultural |
| :--- | :--- | :--- | :--- |
| Residences <br> NA | $2279 \mathrm{~V}-319$ | Potential ACM and lead paint | Residential |
| Residences <br> NA | $2279 \mathrm{~V}-321$ | Transformer; potential ACM and lead <br> paint | Residential |
| Vacant land <br> NA | $2279 \mathrm{~V}-322$ | Likely past pesticide and/or herbicide <br> use | Vacant |
| Agricultural land <br> NA | $2279 \mathrm{~V}-323$ | Transformer; likely pesticide and/or <br> herbicide use | Agricultural |
| Residence <br> NA | $2279 \mathrm{~V}-324$ | Potential former pesticide and/or <br> herbicide presence; potential ACM <br> and lead paint | Residential |

Table 3. The following sites along the project were determined not to contain RECs or de minimis conditions:

| Property name <br> IDOT parcel \# | ISGS <br> site \# | Land use |
| :--- | :--- | :--- |
| Silver Creek <br> NA | $2279 \mathrm{~V}-8$ | Creek |
| Silver Creek tributary <br> NA | $2279 \mathrm{~V}-33$ | Creek |
| Vacant lot <br> NA | $2279 \mathrm{~V}-216$ | Vacant |
| Vacant land <br> NA | $2279 \mathrm{~V}-233$ | Vacant |
| Vacant land <br> NA | $2279 \mathrm{~V}-283$ | Vacant |
| Vacant land <br> NA | $2279 \mathrm{~V}-292$ | Vacant |
| Scandinavian Cemetery <br> NA | $2279 \mathrm{~V}-317$ | Cemetery |
| Silver Creek <br> NA | 2279 V-320 | Creek |

Table 4. The following additional sites, adjoining but not on the project, were identified on environmental databases:

| Property name | ISGS site \# | Regulatory database(s) | Land use |
| :---: | :---: | :---: | :---: |
| Woodstock Municipal Landfill | 2279V-A | Archived SEMS, RCRA, BOL | Recreational |
| TK Coatings LLC | 2279V-B | RCRA, BOL | Commercial |
| Peet Frate Line Inc. | 2279V-C | RCRA, BOL | Commercial |
| R\&I Spring Co. | 2279V-D | RCRA, BOL | Industrial |
| Suma Corp | 2279V-E | RCRA, BOL | Commercial |
| Lemke Machine Products | 2279V-F | BOL, AUL | Commercial |
| JC Auto \& Truck Repair | 2279V-G | BOL, AUL | Commercial |
| Residence | 2279V-H | AUL | Residential |
| Residence | 2279V-I | AUL | Residential |
| Residence | 2279V-J | AUL | Residential |
| Residence | 2279V-K | AUL | Residential |
| Residence | 2279V-L | AUL | Residential |
| Residence | 2279V-M | AUL | Residential |
| Residence | 2279V-N | AUL | Residential |
| Residence | 2279V-O | AUL | Residential |
| Residence | 2279V-P | AUL | Residential |
| Residence | 2279V-Q | AUL | Residential |
| Residence | 2279V-R | AUL | Residential |
| Residence | 2279V-S | AUL | Residential |
| Residence | 2279V-T | AUL | Residential |
| Residence | 2279V-U | AUL | Residential |
| Residence | 2279V-V | AUL | Residential |
| Residence | 2279V-W | AUL | Residential |
| Residence | 2279V-X | AUL | Residential |
| Residence | 2279V-Y | AUL | Residential |
| Residence | 2279V-Z | AUL | Residential |
| Residence | 2279V-AA | AUL | Residential |


| Residence | 2279V-AB | AUL | Residential |
| :---: | :---: | :---: | :---: |
| Residence | 2279V-AC | AUL | Residential |
| Residence | 2279V-AD | AUL | Residential |
| Residence | 2279V-AE | AUL | Residential |
| Residence | 2279V-AF | AUL | Residential |
| Residence | 2279V-AG | AUL | Residential |
| Residence | 2279V-AH | AUL | Residential |
| Residence | 2279V-AI | AUL | Residential |
| Woodstock Early Learning Center | 2279V-AJ | AUL | Commercial |
| Residence | 2279V-AK | AUL | Residential |
| Residence | 2279V-AL | AUL | Residential |
| Residence | 2279V-AM | AUL | Residential |
| Residential building | 2279V-AN | AUL | Residential |
| Residence | 2279V-AO | AUL | Residential |
| Residence | 2279V-AP | AUL | Residential |
| Residence | 2279V-AQ | AUL | Residential |
| Residence | 2279V-AR | AUL | Residential |
| Residence | 2279V-AS | AUL | Residential |
| Residence | 2279V-AT | AUL | Residential |
| Residence | 2279V-AU | AUL | Residential |
| Residence | 2279V-AV | AUL | Residential |
| Residence | 2279V-AX | AUL | Residential |
| Residence | 2279V-AY | AUL | Residential |
| Residence | 2279V-AZ | AUL | Residential |
| Residence | 2279V-BA | AUL | Residential |
| Residence | 2279V-BB | AUL | Residential |
| Residence | 2279V-BC | AUL | Residential |
| Residence | 2279V-BD | AUL | Residential |


| Residential building | 2279V-BE | AUL | Residential |
| :---: | :---: | :---: | :---: |
| Residence | 2279V-BF | AUL | Residential |
| Residence | 2279V-BG | AUL | Residential |
| Residence | 2279V-BH | AUL | Residential |
| Residence | 2279V-BI | AUL | Residential |
| Residence | 2279V-BJ | AUL | Residential |
| Residence | 2279V-BK | AUL | Residential |
| Residential building | 2279V-BL | AUL | Residential |
| Vacant land | 2279V-BM | AUL | Vacant |
| Residence | 2279V-BN | AUL | Residential |
| Residence | 2279V-BO | AUL | Residential |
| Residence | 2279V-BP | AUL | Residential |
| Residence | 2279V-BQ | AUL | Residential |
| Residence | 2279V-BR | AUL | Residential |
| Residence | 2279V-BS | AUL | Residential |
| Residence | 2279V-BT | AUL | Residential |
| Residence | 2279V-BU | AUL | Residential |
| Residence | 2279V-BV | AUL | Residential |
| Residence | 2279V-BW | AUL | Residential |
| Residence | 2279V-BX | AUL | Residential |
| Residence | 2279V-BY | AUL | Residential |
| Residence | 2279V-BZ | AUL | Residential |
| Residence | 2279V-CA | AUL | Residential |
| Residence | 2279V-CB | AUL | Residential |
| Residence | 2279V-CC | AUL | Residential |
| Residence | 2279V-CD | AUL | Residential |
| Residence | 2279V-CE | AUL | Residential |
| Residence | 2279V-CF | AUL | Residential |


| Residence | 2279 V-CG | AUL | Residential |
| :--- | :--- | :--- | :--- |
| Residence | $2279 V-C H$ | AUL | Residential |
| Commercial building | $2279 V-C l$ | AUL | Commercial |
| Jensens Plumbing and <br> Heating | $2279 V-C J$ | AUL | Commercial |
| Woodstock Family Pride <br> Laundry | $2279 V-C K$ | AUL | Commercial |
| Utility | $2279 V-C L$ | AUL | Utility |
| Pond | 2279 V-CM | AUL | Pond |
| Residential buildings | $2279 V-C N$ | AUL | Residential |
| Commercial building | $2279 V-C O$ | AUL | Commercial |
| Commercial building | $2279 V-C P$ | AUL | Commercial |
| Residential building | $2279 V-C Q$ | AUL | Residential |
| Residential building | $2279 V-C R$ | AUL | Residential |

* For all sites:

Where REC(s) are indicated as present, a condition was noted that may be indicative of releases or potential releases of hazardous substances on, at, in, or to the site, as discussed in the text. Potential hazards were not verified by ISGS testing. Radon, biological hazards (such as mold, medical waste, or septic waste), and non-agricultural pesticides and/or herbicides may also be of concern. No further investigation concerning the presence or use of these factors was conducted for this PESA.

Where RECs are not indicated as present, radon, biological hazards (such as mold, medical waste, or septic waste), and non-agricultural pesticides and/or herbicides may still be of concern. No further investigation concerning the presence or use of these factors was conducted for this PESA.

For the purposes of this report, the following are considered to be de minimis conditions:

- Normal use of lead-based paint on exteriors and interiors of buildings and structures.
- Use of asbestos-containing materials in building construction.
- Transformers in normal use, unless the transformers were observed to be leaking, appear on an environmental regulatory list, or were otherwise determined to pose a hazard not related to normal use.
- Agricultural use of pesticides and herbicides. In addition, most land in Illinois was under agricultural use prior to its conversion to residential, industrial, or commercial development. Pesticides, both regulated and otherwise, may have been used throughout the project area at any time. Unless specifically discussed elsewhere in this report, no information regarding
past pesticide use that would be subject to enforcement action was located for this project, and such use is considered a de minimis condition.

The following data gaps exist for all PESAs:

- For residences, only areas visible from public roads are inspected.
- Interiors of buildings are not inspected.
- Interiors of agricultural areas are not inspected during growing seasons.

Radon and biological hazards are not considered in this PESA unless specifically noted.
NA = No parcel number was supplied by IDOT for this site.
Although potential natural hazards and undermining, if present, are described in this report, they are not considered as RECs or de minimis conditions for the purposes of this report, and are therefore not listed in the tables above. Wetlands and flooding hazards are not evaluated as part of this report.


[^0]:    What is a No-Action Alternative?
    The No-Action Alternative is one that would occur if the proposed project was not constructed. This provides a baseline of conditions against which the build alternatives can be compared, allowing for a comparison of socioeconomic and environmental impacts, as well as the failure to meet the Purpose and Need of the project. The No-Action Alternative is defined as the transportation facility that is most likely to exist in the forecast year without the proposed improvements.

[^1]:    This determination is based on the flood data presently available. The enclosed documents provide additional intormation regarding this detennination. If you have any

[^2]:    This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any Clearinghouse 6730 Santa

[^3]:    This determination is based on the filood data presently available. The enclosed documents provide addilional intornation regarding this detemination. It you have any questions about this document, please contact the FEMA Ma, Assistance Center toll free at 1-877-366-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC
    

