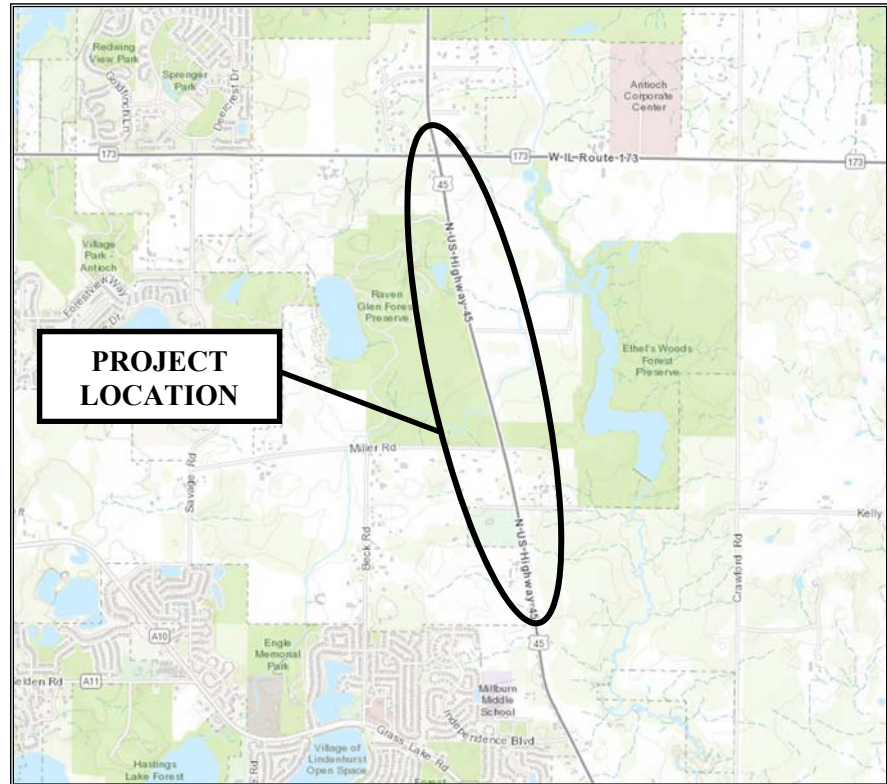




DESIGN REPORT

**U.S. Route 45
Millburn Bypass to Illinois Route 173**



P-91-388-10

Lake County, Illinois

IDOT – Division of Highways – District One

July 2019

Volume I

Sections 1 – 7

Appendices A to C



Key Route	Marked Route/Road Name
U.S. Route 45	U.S. Route 45

Job Number	Contract Number	Section
P-91-388-10		

Project Length	PPS Number
3.2 miles	1-783280001

County(ies)
Lake

Location/Limits
Millburn Bypass to Illinois Route 173

General Description of Existing Facility
This 3.2 mile arterial section of U.S. Route 45 in the Villages of Lindenhurst and Old Mill Creek, and unincorporated portions of Lake County includes a signalized intersection at Illinois Route 173, is an urban Strategic Regional Arterial (SRA) and is a Class II truck route.

Need for Proposed Improvement
The specific needs of the project include improving mobility, safety, and operational deficiencies associated with this section of U.S. Route 45. The project year 2040 traffic volumes ranges from 14,000 to 21,000 vehicles per day, which is well beyond the capacity of the existing two-lane roadway and establishes the need for capacity improvements. The 2040 traffic volumes exceed the capacity of the signalized intersection at Illinois Route 173, resulting in traffic congestion and delay. The predominant crash type is rear-end, accounting for 36% of all crashes that occurred during the four year analysis period from 2007 to 2011.

Scope of Project	<input type="checkbox"/> New Construction	<input checked="" type="checkbox"/> Reconstruction	<input type="checkbox"/> 3R	<input type="checkbox"/> 3P
	<input type="checkbox"/> SMART	<input type="checkbox"/> Other _____		

General Description of Proposed Improvement
Reconstructing U.S. Route 45 between the Millburn Bypass which begins north of Independence Boulevard, to the Illinois Route 173 intersection, generally providing two 12-foot travel lanes in each direction separated with a 22 foot wide barrier curbed median, curb and gutter adjacent to the barrier median and outside edge of pavement, a bikepath along the west side of U.S. Route 45, and sidewalk along the east side of U.S. Route 45. The U.S. Route 45 North Section will be realigned to the west near Miller Road and continues for approximately 975 feet towards Hastings Creek; realigned to the east just north of Ethel's Woods to south of Illinois Route 173; and to the east near the Illinois Route 173 intersection. In addition, Illinois Route 173 will be reconstructed to the east and west of the intersection with U.S. Route 45. The proposed drainage system includes a closed drainage system for the majority of the project with storm sewer and curb and gutter, which drain into several detention basins before releasing to the natural drainage path. At the east and west project limits of Illinois Route 173, a rural cross section with open drainage is proposed. Drainage ditches are proposed on the outside of the roadway when the existing natural drainage patterns drains towards the roadway. A series of cross road culverts are used to maintain existing drainage patterns outside the roadway right-of-way as well as drain the roadway ditch network.

Environmental Processing EIS EA Federal Approved CE
 State Approved CE Other _____

Approximate Amount of ROW to be Purchased

Parcels Totalling 25.52 Acres

Number of Businesses 0 and Residences 0 to be Acquired ROW Cost

Estimated Program Cost (in FY NP) Fund Type

Construction Cost Utility Relocation Cost Consultant PE Cost

Design Exceptions

Type of Public Involvement Activity

- Level One Required Yes No

- Public Hearing Offered Yes No

- Level Two Required Yes No

- Informational Meeting Held Yes No

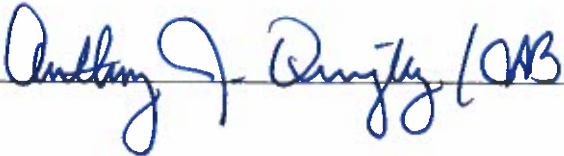
- If yes, note date approved 05/14/19

- Property Owners Contacted Yes No

Regional Design Approval

IDOT Regional Engineer Signature

Date



Contact Information

Job Number: P-91-388-10

Project: U.S. Route 45

Location: Millburn Bypass to Illinois Route 173

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APPENDIX G – PAVEMENT DESIGN

APPENDIX H – DESIGN EXCEPTIONS

Volume IV & V

LOCATION DRAINAGE STUDY (Under separate cover)

Executive Summary

This Design Report summarizes the proposed improvements associated with reconstructing U.S. Route 45 from the Millburn Bypass just north of Independence Boulevard in the Village of Lindenhurst to the Illinois Route 173 intersection in unincorporated Lake County, Illinois (i.e.; U.S. Route 45 North Section).

The environmental documentation for this section of U.S. Route 45 is contained within the Environmental Assessment (EA) that addresses the purpose and need for improvements to U.S. Route 45, alternatives considered and the preferred alternative within larger logical termini limits from Illinois Route 132 on the south to Illinois Route 173 on the north. The EA was signed by the Federal Highway Administration (FHWA) on February 28, 2013 and the Public Hearing was held on March 21, 2013. The Finding of No Significant Impact (FONSI) was signed by FHWA on September 10, 2013. The EA, EA Errata, and FONSI are separately bound. The Design Reports for U.S. Route 45 are being prepared in three separated documents including from Illinois Route 132 to Country Place (i.e.; South Section), Country Place to Independence Boulevard (i.e.; Millburn Bypass), and Independence Boulevard to Illinois Route 173 (i.e.; North Section) which is the subject of this Design Report. The North Section is not currently included in IDOT's FY 2019 to 2024 Proposed Highway Improvement Program for engineering or construction.

The purpose of the proposed improvement is to address existing and future capacity, mobility, safety, and operational deficiencies associated with this section of existing U.S. Route 45. Refer to Appendix A, Exhibit 1 for the project location map. The proposed improvements for the U.S. Route 45 North Section include providing two twelve feet wide lanes in each direction, separated by a 22-foot wide median that varies in width depending on location, with auxiliary turn lanes at the intersections. U.S. Route 45 is a Strategic Regional Arterial (SRA) Roadway and Class II truck route under the jurisdiction of the Illinois Department of Transportation (IDOT). U.S. Route 45 serves as a vital north-south link from the Wisconsin border south to Chicago's northern suburbs.

The project development process as part of the overall EA process incorporated Context Sensitive Solutions (CSS) public involvement principles. As discussed in the Public Involvement Plan (PIP) developed for the project, stakeholders were provided a range of opportunities to be informed and provide input to the Project Study Group (PSG) that was comprised of the Lake County Division of Transportation (LCDOT) and IDOT in coordination with the FHWA. These stakeholder involvement opportunities included two public meetings, one public hearing, a Community Advisory Group (CAG) for the bypass section, and multiple individual meetings with communities, agencies, and organizations.

U.S. Route 45 is not considered a significant route in the Work Zone Safety and Mobility Significant Route Location Map. As such, an Impact Analysis, Transportation Operations Plan, or Public Information Plan were not prepared for this project. Refer to Section 5.22.3 – Traffic Management Plan which includes the Traffic Control Plan. In general, the existing one lane of traffic in each direction will be maintained during construction. Substantial portions of the new

alignment facilities can be constructed without interruption to the existing roadway network. For segments of improvements involving existing roadways, construction will be carried out using temporary widening on existing shoulders and generally staged to shift traffic to one side of the roadway while the other is being reconstructed. Two main construction stages are anticipated.

1.0 Introduction

The proposed action addressed in this Design Report includes reconstructing and widening U.S. Route 45 from the Millburn Bypass, just north of Independence Boulevard within the Village of Lindenhurst, to the Illinois Route 173 intersection, a total roadway reconstruction distance of approximately 3.2 miles, which includes the approaches to the Illinois Route 173 intersection (1.8 miles).

Existing U.S. Route 45 within these limits is typically a two-lane roadway (one in each direction) with shoulders and open ditch drainage. U.S. Route 45 is classified as an Other Principal Arterial and is under the jurisdiction of the Illinois Department of Transportation (IDOT). It is also classified as a Strategic Regional Arterial (SRA) roadway and is on the National Highway System (NHS). SRA roadways are one step below the expressway system and typically carry both local and long-distance trips, and higher amounts of truck traffic by virtue of their relationship and connection to the regional transportation system. U.S. Route 45 is also a designated Class II Truck Route.

There is one existing signalized intersection within the North Section project limits at the Illinois Route 173 intersection. With reference to Appendix A, Exhibit 2, Illinois Route 173 is also classified as an Other Principal Arterial, an SRA roadway, an NHS roadway, and a Class II Truck Route. Both U.S. Route 45 and Illinois Route 173 are under IDOT jurisdiction. U.S. Route 45 also intersects with West Kelly Road and West Miller Road within the North Section project limits, which serve residential areas.

The project lies within the municipal boundaries of the Village of Lindenhurst predominantly on the west, and the Village of Old Mill Creek predominantly on the east. The project also lies within unincorporated areas of Lake County. Existing land use along U.S. Route 45 within the project limits is a combination of agricultural, residential, institutional, light industrial, commercial, and recreational.

2.0 Purpose and Need for the Proposed Action

This section describes the purpose for and the need for the proposed improvements to U.S. Route 45 within the larger project limits covered in the separate EA, which includes the U.S. Route 45 North Section. The proposed improvements to U.S. Route 45 have been studied and planned over the years in response to increasing travel demand, congestion, and crashes.

2.1 Purpose of the Proposed Action

The purpose of the proposed action is to provide an improved transportation system to address capacity, mobility, safety, and operational deficiencies along U.S. Route 45 from the Millburn Bypass to Illinois Route 173.

2.2 Need for the Proposed Action

2.2.1 Regional Growth

In the mid-1990s, the Chicago Area Transportation Study (CATS) and the Northeastern Illinois Planning Commission (NIPC), now known collectively as the Chicago Metropolitan Agency for Planning (CMAP), adopted the 2010 Regional Transportation Plan (RTP), which was the first regional effort to identify a system of SRA roadways as essential components of the regional transportation system that operate one step below the expressway system. As a result of this designated system of SRA roadways, IDOT initiated a series of SRA feasibility studies to evaluate long term improvement needs and recommendations for these roadways. The U.S. Route 45 corridor from IL 120 (Belvidere Road) to the Illinois/Wisconsin border was designated as an SRA roadway in the 2010 RTP and remains a designated SRA roadway as part of the CMAP Go To 2040 Comprehensive Regional Plan.

CMAP, with data from the 2010 U.S. Census Bureau and regional land use development information, prepared population and employment projections for the northeastern Illinois region. Table 2-1 shows population and employment growth for Lake County and municipalities adjacent to or near the project study area by the year 2040. Lake County is projected to grow 35.6 percent in population and 22.6 percent in employment by the year 2040. With exception of the Village of Lindenhurst, all municipalities adjacent to or near the project study area are projected to have a higher population growth than the Lake County average.

Within the study area, the Village of Lindenhurst is projected to grow by 20.9 percent in population and 37.0 percent in employment from the year 2010 to the year 2040. The Village of Old Mill Creek, based on their comprehensive plan, is projected to grow by 2,741.6 percent in population and 17.3 percent in employment by 2040. The community northwest of the project area, the Village of Antioch, is anticipated to grow by 84.5 percent in population and 15.9 percent in employment by the year 2040. Based on these population/employment projections, travel demand is expected to increase by the year 2040.

Table 2-1 Projected Population and Employment Growth

Location	Population Growth			Employment Growth		
	2010	2040	Percent (%) growth	2010	2040	Percent (%) growth
Lake County	703,462	953,673	35.6 %	384,259	470,939	22.6 %
Lindenhurst	14,264	17,239	20.9 %	2,142	2,934	37.0 %
Old Mill Creek	178	5,058	2741.6 %	1,183	1,388	17.3 %
Lake Villa	8,741	21,046	140.7 %	3,613	4,354	20.5 %
Antioch	14,430	26,624	84.5 %	5,226	6,055	15.9 %
Fox Lake	10,579	18,063	70.7 %	4,432	5,175	16.8 %
Gurnee	31,295	49,201	57.2 %	20,156	28,130	39.6 %

Note: Employment data are CMAP 2010 estimates.

2.2.2 Travel Demand

Traffic volumes along U.S. Route 45 have increased considerably over the past 35 years due to regional growth in population and employment. This traffic growth history is shown in Table 2-2 U.S. Route 45 Historical Average Daily Traffic (ADT) Volumes. Based on this historic traffic growth, LCDOT initiated planning efforts that resulted in the Lake County “Year 2020 Transportation Priority Plan” which identified a system of roadway, transit and bikeway facilities needed by the year 2020. One of the transportation improvement focus areas was elimination of roadway bottlenecks in the County which included the intersection of U.S. Route 45 and Millburn Road/Grass Lake Road, locally known as the “Millburn Strangler”.

Table 2-2 U.S. Route 45 Historical Average Daily Traffic (ADT) Volumes

Location	Year					
	1974	1983	1988	1992	1996	2009
U.S.45 – South of Miller Road	Not Available	Not Available	6,100	7,200	7,900	9,300
U.S. 45 - North of Illinois Route 173	3,200	3,700	5,600	6,4000	6,300	6,200
U.S. 45 - South of Illinois Route 173	3,200	4,500	5,600	6.700	7,000	8,900

Traffic projections for the year 2040 were prepared by CMAP based on the projected population and employment growth in the project area. A comparison of the 2009 ADT (counted) and the projected 2040 (No-Build) ADT is included below in Table 2-3 U.S Route 45 Traffic Volumes (ADT). The ADT represents the total traffic in both directions over a 24-hour period at a given location. The 2040 No-Build traffic volumes are the projected traffic volumes for the year 2040 with no improvements made to U.S. Route 45, Grass Lake Road, and Millburn Road. The project year 2040 No-Build traffic volumes within the U.S. Route 45 North Section limits ranges from

14,000 to 21,000 vehicles per day, which is well beyond the capacity of the existing two-lane roadway and establishes the need for capacity improvements.

Refer to Appendix A - Exhibit 9 for 2009 ADTs and peak hour volumes and Exhibit 10 for 2040 No-Build ADTs and peak hour volumes.

Table 2-3 U.S Route 45 Traffic Volumes (ADT)

Location	ADT	
	2009 Existing	2040 No-Build
U.S. Route 45 at Miller Road		
North Leg	8,900	19,000
South Leg	9,300	21,000
East Leg	Not Available	Not Available
West Leg	700	3,000
U.S. Route 45 at Illinois Route 173		
North Leg	6,200	14,000
South Leg	8,900	19,000
East Leg	15,400	21,000
West Leg	16,300	23,000

2.2.3 Capacity

Roadway capacity is based on a number of factors including roadway design, traffic volumes, and the mix of vehicles utilizing any given roadway. As noted above, the percentage of truck traffic is typically higher for SRA roadways by virtue of their relationship and connection to the regional transportation system. Based on IDOT Average Annual Daily Traffic (AADT) data, the percentage of truck traffic utilizing U.S. Route 45 within the project area, as a combination of single unit (SU) and multi-unit (MU) trucks, ranges from approximately 8.5 percent to 14.5 percent depending on the time of day and the location.

The Highway Capacity Software (HCS–Version 5.5) computer program was used to analyze travel performance at the two existing signalized intersections within the project limits for the peak one-hour morning (a.m.) and evening (p.m.) travel periods. The HCS software provides a measure of congestion called Level of Service (LOS). LOS is a letter grade from A (best) through F (worst) that represents the average amount of delay a single vehicle experiences at an intersection as expressed in seconds per vehicle (see Table 2-4 Level of Service (LOS) Definition). The HCS analysis was prepared for both existing 2009 and projected 2040 (No-Build) traffic volumes and vehicle mix (passenger cars and trucks) as shown in Table 2-5.

Table 2-4 Level of Service (LOS) Definition

LOS	Average Delay (Sec/Vehicle)
A	≤ 10
B	> 10 - 20
C	> 20 - 35
D	> 35 - 55
E	> 55 - 80
F	> 80

The IDOT Bureau of Design and Environment (BDE) manual establishes a LOS C or better design objective for an SRA roadway such as U.S. Route 45. In some circumstances, LOS D may be allowed in urban areas based on unavoidable design constraints or substantial potential adverse socio-economic or environmental impacts.

Table 2-5 provides the LOS for the Illinois Route 173 signalized intersection at U.S. Route 45 for 2009 and projected 2040 (No-Build) conditions for the a.m. and p.m. peak hour travel periods. As shown in Table 2-5 Intersection Level of Service (LOS), the Illinois Route 173 intersection with U.S. 45 operates below the required LOS C in the a.m. and p.m. peak hours for the year 2009. The LOS for the Illinois Route 173 intersection with U.S. Route 45 degrades to F based on 2040 (No-Build) conditions for both the a.m. and p.m. peak hours.

On this basis, if no capacity improvements are made at the Illinois Route 173 intersection, traffic congestion and motorist delay will continue to increase through the year 2040.

Table 2-5 Intersection Level of Service (LOS)

Intersection	2009 Traffic				2040 (No-Build) Traffic			
	LOS		DELAY (sec/vehicle)		LOS		DELAY (sec/vehicle)	
	AM	PM	AM	PM	AM	PM	AM	PM
U.S. 45 @ IL Route 173	E	D	57.5	49.2	F	F	141.9	139.4

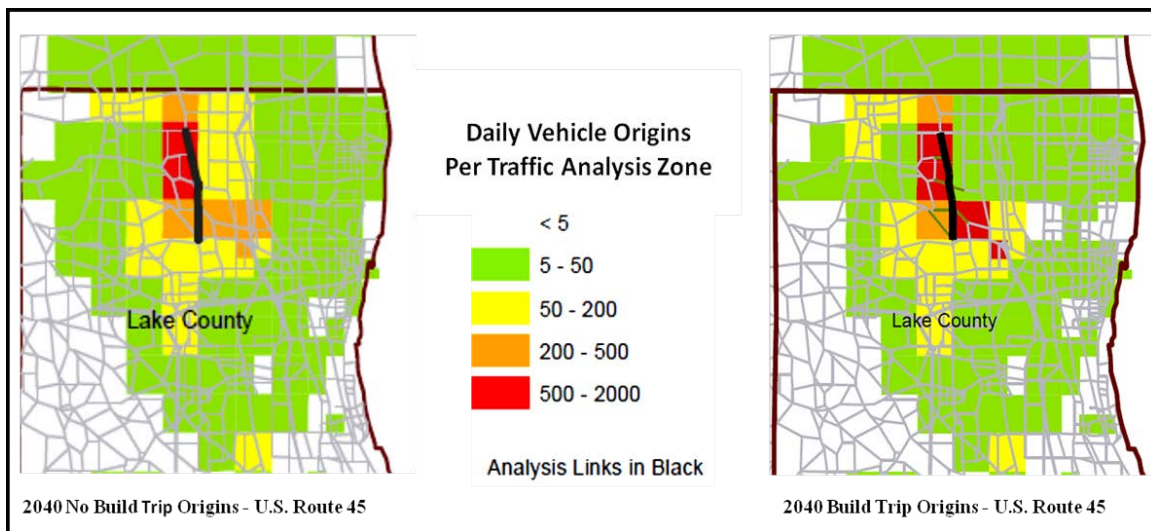
2.2.4 Mobility

Whereas intersection capacity and LOS is a strict and important measure of vehicular delay, mobility is a larger measure of the compatibility of a particular roadway link with overall travel desires in a given area. In order to understand the general travel desires and travel patterns in the project area and assess the effect that potential improvements to U.S. Route 45 will have in this regard, a Select Link analysis was performed by CMAP for the planned future improvements to U.S. Route 45 from Illinois Route 132 to Illinois Route 173.

As further discussed in the EA, the Select Link analysis utilizes the CMAP regional travel demand model, and available regional origin/destination (O/D) trip information, to identify the geographical origins of traffic that would desire to use U.S. Route 45. The objective of this analysis is to identify possible mobility issues that may not be apparent by traffic counts and projections alone due to congested or constrained existing conditions that can cause motorists to seek alternate routes.

The results of the Select Link analysis are shown in Figure 2-1 2040 Trip Origins – U.S. Route 45 (Black). This figure shows the volume of daily vehicle “trip origins” from adjacent geographical areas that would use this section of U.S. Route 45 based on projected 2040 No-Build and Build (improved U.S. Route 45) conditions.

Figure 2-1 2040 Trip Origins – U.S. Route 45 (Black)



This information shows that under optimum travel conditions, a large portion of the vehicles that would use or desire to use this section of U.S. Route 45 have a regional travel pattern that is aligned in a northwest to southeast direction, and vice versa.

The results of the Select Link analysis demonstrate that a portion of the east-west traffic crossing U.S. Route 45 likely does so to utilize other area north/south roadways and avoid existing U.S. Route 45 capacity constraints and is considered latent travel demand for the U.S. Route 45 North Section.

If no improvements are made to U.S. Route 45 by the year 2040, the amount of east-west traffic, including truck traffic, crossing U.S. Route 45 will likely continue to increase on lower classification roadways. This is likely to be alleviated to some degree by improvements to U.S. Route 45 that would be compatible with regional travel patterns.

2.2.5 Safety

As part of the EA prepared for U.S. Route 45 from Illinois Route 132 to Illinois Route 173, crashes that occurred within the U.S. Route 45 North Section limits were analyzed for the five-year study period from 2007 to 2011. Crashes have been tabulated by crash type, severity, and roadway conditions to ascertain overall trends and determine if any particular statistical overrepresentation exists that would warrant special countermeasure consideration.

Crash data for this project was obtained through the Lake County Traffic Crash Location System (TCLS), which is a compilation of all crash statistics and crash events within Lake County. This data was checked with available IDOT data to confirm consistency. Detailed crash data for the U.S. Route 45 North Section limits is discussed in Section 3.3.7. As summarized in Table 2-6, there were 121 total crashes along U.S. Route 45 from north of Independence Boulevard to Illinois Route 173 during the five-year study period. The most predominant crash types were Rear-End (36 percent), Animal (20 percent), Turning (15 percent), and Fixed Object (13 percent). During that period there were zero Type-K (fatality) crashes and one Type A (severe injury) crash. Thirty-seven percent of crashes occurred during night time conditions and nineteen percent with wet/snow/ice pavement conditions.

Table 2-6 Summary of Crash Data - U.S. Route 45 North Section

	Crash - Type									Total	Severe Crashes		Conditions		
	Rear-End	Angle	Side swipe	Turning	Over Turned	Head On	Animal	Fixed Object	Other		Type K	Type A	Wet	Snow/Ice	Night
Crashes	44	9	3	18	0	3	24	16	4	121	0	1	23	0	45
% of Total	36%	7%	2%	15%	0%	2%	20%	13%	3%	100%	0%	1%	19%	0%	37%

Of the total 121 crashes during the study period, 84 crashes occurred at intersections and 37 crashes occurred at non-intersection locations. Seventy-one crashes (59 percent) occurred at the one signalized intersection within the project limits (Illinois Route 173), with 37 crashes (31 percent) occurring at non-signalized intersections.

Approximately four percent of the crashes involved trucks (SU and MU) with none of these truck crashes being Type K or Type A crashes. The percentage of truck crashes is not considered to be overrepresented, thus requiring consideration of specific safety countermeasures.

The high incidence of Rear-End and Turning crashes (51 percent of all crashes) is an indication of general congestion, particularly at the major signalized intersection where 49 percent of all crashes in the study area have occurred. If no improvements are made to U.S. Route 45 at Illinois Route 173, the overall crash incidents are expected to increase over time based on the projected growth and development within the project area, and the resulting increase in travel demand.

The U.S. Route 45 at Illinois Route 173 intersection has been listed in IDOT's *Five Percent Report*. As a result, the Illinois Route 173 at U.S. Route 45 intersection was evaluated for interim improvements as part of the Highway Safety Improvement Program (HSIP) as part of separate Phase One Study in FY11.

3.0 Existing Conditions and Setting

This section describes the project study area for the U.S. Route 45 North Section from the Millburn Bypass to Illinois Route 173, including existing conditions along U.S. Route 45, general land use, environmental resources, and sensitive environmental areas.

3.1 Description of Project Area

The project study area is located along U.S. Route 45 from the Millburn Bypass just north of Independence Boulevard to the Illinois Route 173 intersection in Lake County, Illinois (i.e.; U.S. Route 45 North Section). The U.S. Route 45 North Section will be reconstructed within these limits, which totals to approximately 3.5 miles of roadway reconstruction, which includes the approaches to the Illinois Route 173 intersection. This project is located within the Villages of Lindenhurst and Old Mill Creek, as well as unincorporated portions of Lake County.

3.2 Project Limits

As discussed in Section 2.1, this project is a part of a larger EA that evaluates future improvements to U.S. 45 from Illinois Route 132 on the south to Illinois Route 173 on the north. As identified in the EA, the project is broken up into three sections: the south, central (U.S. Route 45 Bypass) and north. This Design Report addresses improvements to the North Section of U.S. Route 45. The North Section project limits are north of Independence Boulevard on the South and Illinois Route 173 on the north, as shown in Appendix A, Exhibit 1.

3.3 Existing Conditions

3.3.1 Roadway Classifications

3.3.1.1 *State Routes*

U.S. Route 45 is classified as an Other Principal Arterial roadway which stretches north and south throughout Lake County extending north to Wisconsin and south through the State of Illinois. U.S. Route 45 is an urban Strategic Regional Arterial (SRA) roadway as well as a designated Class II truck route. The posted speed limit on U.S. Route 45 is 55 mph within the North Section with no continuous roadway lighting.

Illinois Route 173 is classified as an Other Principal Arterial roadway which stretches west and east throughout Lake County extending west to Boone County and east to the City of Zion. Illinois Route 173 is an urban Strategic Regional Arterial (SRA) roadway as well as a designated Class II truck route. The posted speed limit on Illinois Route 173 is 55 mph at the U.S. Route 45 intersection with no continuous lighting.

3.3.1.2 *County Routes*

There are no County routes within the North Section.

3.3.1.3 *Local Roads*

Kelly Road is an east-west major collector roadway which connects to U.S. Route 45 on the east and a private driveway for St. Raphael's Roman Catholic Church on the west, forming a four-leg unsignalized intersection. It is posted 25 mph and does not have continuous lighting.

Miller Road is an east-west local roadway which connects to U.S. Route 45, forming a four-leg unsignalized intersection at both roadways. It is posted 45 mph on the west leg and 25 mph on the east leg and does not have continuous lighting.

Burr Hollow Road is an east-west local roadway which connects to U.S. Route 45 on the east forming a three-leg unsignalized intersection. It is posted 25 mph and does not have continuous lighting.

Pedersen Road is a north-south local roadway which connects to Illinois Route 173 on the north forming a three-leg unsignalized intersection. It is posted 25 mph and does not have continuous lighting.

3.3.2 **Maintenance Jurisdictions**

U.S. Route 45 and Illinois Route 173 are under the jurisdiction of, and maintained by, the Illinois Department of Transportation.

Kelly Road is under the jurisdiction of and maintained by the Village of Lindenhurst. Miller Road, Burr Hollow Road, and Pedersen Road are under the jurisdiction of, and maintained by Antioch Township.

Refer to Exhibit 2 in Appendix A for roadway jurisdictions.

3.3.3 **Existing Typical Sections**

The existing typical cross section of U.S. Route 45 within the North Section limits is one 12-foot lane in each direction (undivided) with a six-foot wide aggregate shoulder and open drainage on both sides of the roadway. The existing right-of-way (ROW) along U.S. Route 45 ranges in total width from 40 feet to 60 feet.

The typical existing section of Illinois Route 173 is one 12-foot lane in each direction (undivided) with an aggregate shoulder varying three feet to ten feet in width and open drainage on both sides of the roadway. The ROW along Illinois Route 173 varies from 40 feet to 60 feet in width in width.

The typical existing section of Miller Road (west leg) is one 10-foot lane in each direction (undivided) with no shoulders and open drainage on both sides of the roadway. The ROW along Miller Road (west leg) is 66 feet.

The typical existing section of Miller Road (east leg) is one nine-foot lane in each direction (undivided) with no shoulders and open drainage on both sides of the roadway. The existing ROW along Miller Road (east leg) is 50 feet.

The local streets (Kelly Road, Burr Hollow Road, and Pedersen Road) have a typical cross section of one 10-foot lane in each direction (undivided) with no shoulders within the ROW. The ROW width is typically 66 feet.

Refer to Appendix A - Exhibit 7A for existing typical section exhibits for U.S. Route 45, Illinois Route 173, and Miller Road.

3.3.4 Existing Horizontal and Vertical Alignment

The existing horizontal and vertical alignments are described below for the North Section of U.S. Route 45, Illinois Route 173, and Miller Road.

3.3.4.1 U.S. Route 45

The existing U.S. Route 45 horizontal alignment, from south to north, is on a tangent section in a from the south project limit north of Independence Boulevard where a series of superelevated reverse curves angling northwest are introduced with a 2,292 foot radius curve (6.0 percent), 2,067 foot tangent, 28,647 foot radius curve (Normal Crown), 3,305 foot tangent, 5,729 foot radius curve (2.9 percent), 1,786 foot tangent, 8,185 foot radius curve (2.0 percent), 774 foot tangent, 2,865 foot radius curve (5.0 percent), and 507 foot tangent at the north project limit north of Illinois Route 173.

The existing U.S. Route 45 profile ranges from 0.30 percent to 4.0 percent and is generally rolling from south to north with numerous highpoints and low points throughout.

There are no horizontal or vertical alignment deficiencies.

3.3.4.2 Illinois Route 173

The existing Illinois Route 173 horizontal alignment, from west to east, is on a tangent section from the west project limit to the east project limit, which forms a 76.5-degree intersection at U.S. Route 45. The existing Illinois Route 173 profile ranges from 0.22 percent to 3.51 percent and is decreasing from west to east

There are no horizontal alignment deficiencies. The vertical alignment does not have a shelf draining away from the U.S. Route 45 intersection.

3.3.4.3 Miller Road

The existing Miller Road horizontal alignment, from west to east is on tangent from the west project limit to east project limit. The Miller Road (east leg) horizontal alignment is offset approximately 8.6 feet north of the Miller Road (west leg) horizontal alignment. The existing vertical alignment is rolling from west to east. The existing Miller Road profile ranges from 1.20% to 2.60% and is increasing from west to east.

There are no horizontal or vertical alignment deficiencies.

3.3.5 Intersections

There is one signalized intersection within the U.S. Route 45 North Section project limits at Illinois Route 173. There are three non-signalized intersections with U.S. Route 45 and one non-signalized intersection with Illinois Route 173 within the North Section project limits, all stop controlled on the minor leg only.

3.3.5.1 Illinois Route 173 & U.S. Route 45

The signalized intersection of Illinois Route 173 with U.S. Route 45 is a four-leg intersection. The northbound approach for U.S. Route 45 has a combined right/through lane and an exclusive left turn lane with approximately 135 feet of storage. The southbound approach on U.S. Route 45 has a combined right/through lane and an exclusive left turn lane with approximately 240 feet of storage. Illinois Route 173 (eastbound approach) has a combined right/through lane and an exclusive left with approximately 135 feet of storage. Illinois Route 173 (westbound approach) has a combined right/through lane and an exclusive left turn lane with approximately 135 feet of storage. The posted speed limit on all for approaches is 55 mph.

3.3.5.2 Local Intersections

The Kelly Road and U.S. Route 45 intersection is a four-leg intersection with Kelly Road extending east of U.S. Route 45 and a private driveway on the west. The intersection is stopped controlled on the east (Kelly Road) and west (private driveway) legs and is free flow on the north and south legs (U.S. Route 45). Kelly Road has a shared left and right turn lane on the westbound approach to the intersection and has a posted speed of 25 mph. U.S. Route 45 is posted 55 mph and consists of a shared through, right, and left turn lane on both approaches.

The Miller Road and U.S. Route 45 intersection is a four-leg intersection with Miller Road extending to the east and west. The intersection has a stop control on the east and west legs (Miller Road) and free flow on the north and south legs (U.S. Route 45). Miller Road has a 25-mph posted speed limit and a shared through, right, and left turn lane on the westbound approach. Miller Road has a 45-mph posted speed limit, a shared through/right and left turn lane on the eastbound approach. U.S. Route 45 is posted 55 mph and consists of a shared through/right, and left turn lane on both approaches.

The Burr Hollow Drive and U.S. Route 45 intersection is a tee intersection with Burr Hollow Drive extending to the east. The intersection has a stop control on the east leg (Burr Hollow Drive) and free flow on the north and south legs (U.S. Route 45). Burr Hollow Drive has a 25-mph posted speed limit and consists of a shared left and right turn lane. U.S. Route 45 is posted 55 mph and consists of a shared through, right, and left turn lane on both approaches.

The Pedersen Drive and Illinois. Route 173 intersection is a tee intersection with Pedersen Drive extending north of U.S. Route 45. The intersection has stop control on the north leg (Pedersen Drive) and is free flow on the east and west legs (Illinois Route 173). Pedersen Drive has a 25-mph posted speed limit and consists of a shared left and right turn lane. Illinois Route 173 is posted 55 mph and consists of a shared through, right, and left turn lane on both approaches.

3.3.6 Traffic Data and Capacity

Section 2.1 states that roadway capacity is one of the needs for the proposed action. Table 2-5 Intersection Level of Service (LOS) shows the 2009 and projected 2040 (No-Build) average daily traffic volumes for U.S. Route 45, Illinois Route 173, and Miller Road. For the No-Build condition, traffic volumes by the year 2040 are projected to increase by 126 percent on U.S. Route 45, 41 percent on Illinois Route 173, and 329 percent on Miller Road. This projected increase in traffic volumes is based on the projected growth in population and employment for the surrounding communities and Lake County as a whole, as discussed in Section 2.2.2.

Based on the capacity analysis performed with 2009 traffic volumes, the intersection of U.S. Route 45 at Illinois Route 173 has a level of service of E (57.5 sec/veh of delay) in the a.m. and a D (49.2 sec/veh of delay) in the p.m. There are frequent traffic queues that develop at this intersection, particularly for the southbound and eastbound movements in the a.m. peak period and northbound and westbound movements in the p.m. peak period.

3.3.7 Crash Information

Crashes that occurred along U.S. Route 45 within the North Section project limits have been analyzed for the five-year study period from 2007 to 2011. Refer to Appendix E for the complete crash data and crash analysis based on the full EA limits from Illinois Route 132 to Illinois Route 173. The data presented in this section is a summary of crashes that occurred during the five-year study period for the U.S. Route 45 North Section project limits. Section 2.2.5 presents the need for the improvement based on historical crash information. In summary, 121 crashes have occurred with 36 percent as Rear-End, 20 percent as Animal, 15 percent as Turning, 13 percent as Fixed Object, and 7 percent as Angle, with 19 percent occurring on wet/snow/icy pavement and 37 percent occurring at night. There were no fatalities and one Type A crash.

As noted in Table 3-1, there were 37 crashes that occurred at non-intersection locations, with a higher percentage of crashes occurring on the segment between Independence Boulevard and Kelly Road (65 percent) and between Miller Road and Illinois Route 173 (32 percent). In summary, of the 37 non-intersection crashes, 65 percent are Animal and 19 percent Fixed Object, with 14 percent

occurring on wet/snow/icy pavement and 65 percent occurring at night. The Animal crashes at the non-intersection locations can be attributed to the non-developed areas east and west of U.S. Route 45. While the percentages are high for these types of crash incidents, the amount of crashes is relatively low for these non-intersection locations over a five-year period.

There were 84 crashes that occurred at three intersections. Of the intersection crashes, 50 percent were Rear End, 21 percent Turning, and 10 percent Angle with 21 percent occurring on wet/snow/icy pavement and 25 percent occurring at night. The majority of intersection crashes occurred at the U.S. Route 45/Illinois Route 173 intersection with 71 crashes, or 85 percent. The U.S. Route 45/Illinois Route 173 intersection had 51 percent Rear End crashes, 24 percent Turning, and 11 percent Angle, with 25 percent occurring on wet/snow/icy pavement and 21 percent occurring at night. The Miller Road intersection had the next highest percentage of intersection crashes with 11 percent, with 56 percent of the crashes being Rear End. The Kelly Road intersection had the least number of intersection crashes with a total of four crashes, with 50 percent of the crashes being Fixed Object.

3.3.8 Roadway Deficiencies

There are no horizontal or vertical alignment deficiencies along US. Route 45. There are deficiencies for the storage and taper lengths for many of the auxiliary turn lanes for deceleration requirements.

There are no horizontal or vertical alignment deficiencies along Illinois Route 173. There are deficient storage and taper lengths for auxiliary turn lanes for deceleration requirements.

There are no horizontal or vertical alignment deficiencies along Miller Road.

3.3.9 Pavement Conditions

Pavement condition information for U.S. Route 45 was obtained from IDOT. Based on IDOT's Condition Rating Survey (CRS) for 2015, U.S. Route 45 within the project limits has a CRS rating of 7.4 from north of Independence Boulevard to south of Illinois Route 173 and 8.1 north of Illinois Route 173. The rating for the section from Independence Boulevard to south of Illinois Route 173 is categorized as satisfactory and the pavement is in good condition. The section north of Illinois Route 173 is categorized as high quality and the pavement is in excellent condition.

Table 3-1 Summary of Crash Data - U.S. Route 45 North Section

Location	Crash - Type									Total Crashes	Severe Crashes		Conditions		
	Rear End	Angle	Side-swipe	Turning	Over Turned	Head On	Animal	Fixed Object	Other		Type K	Type A	Wet	Snow/Ice	Night
Non-Intersection Crashes															
U.S. 45 (Independence Boulevard to Kelly Road)	0	0	0	0	0	1	16	6	1	24	0	0	4	0	17
U.S. 45 (Kelly Road to Miller Road)	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
U.S. 45 (Miller Road to IL Route 173)	2	1	0	0	0	1	8	0	0	12	0	0	1	0	6
Non-Intersection Subtotal	2	1	0	0	0	2	24	7	1	37	0	0	5	0	24
Subtotal %	5%	3%	0%	0%	0%	5%	65%	19%	3%	100%	0%	0%	14%	0%	65%
Intersection Crashes															
U.S. 45 @ Kelly Road	1	0	0	0	0	0	0	2	1	4	0	0	0	0	1
U.S. 45 @ Miller Road	5	0	1	1	0	0	0	1	1	9	0	0	0	0	5
U.S. 45 @ IL Route 173	36	8	2	17	0	1	0	6	1	71	0	1	18	0	15
Intersection Subtotal	42	8	3	18	0	1	0	9	3	84	0	1	18	0	21
Subtotal %	50%	10%	4%	21%	0%	1%	0%	11%	4%	100%	0%	1%	21%	0%	25%
Total															
Total	44	9	3	18	0	3	24	16	4	121	0	1	23	0	45
%	36%	7%	2%	15%	0%	2%	20%	13%	3%	100%	0%	1%	19%	0%	37%

3.3.10 Bridges/Structures

There are three existing culverts which have a structure number within the U.S. Route 45 North Section study limits and are listed below:

- Structure Number 049-0578: 72"x48" concrete box culvert over Unnamed Tributary Number 3 to North Mill Creek crossing U.S. Route 45 at Station 185+75
- Structure Number 049-0577: 108"x60" reinforced concrete box culvert over Hastings Creek crossing U.S. Route 45 at Station 240+10
- Structure Number 049-0547: 36" corrugated metal pipe culvert over Unnamed Tributary to Hastings Creek crossing U.S. Route 45 at Station 266+39

Refer to Location Drainage Study, Volume IV and Volume V of this Design Report for the location of these existing culverts.

These culverts will be replaced with the proposed reconstruction of U.S. Route 45 and sized per the Location Drainage Study, which is contained in Volumes IV, V, and VI of this Design Report.

3.3.11 Utilities

Known private utility companies with facilities located within the North Section project limits based on utility coordination (Refer to Appendix C) based on J.U.L.I.E coordination, and coordination with the Lake County Division of Transportation Utility Coordinator are listed below:

- AT&T – Phone
- Sprint - Phone
- West Shore Pipeline
- Nicor Gas - Natural Gas
- Commonwealth Edison - Electric
- Comcast - Cable
- Lake County Public Works --Sanitary Sewer

All known utility locations are included on the plan and profile sheets (Refer to Appendix A - Exhibit 12 and utility coordination documentation (Appendix C).

3.3.12 Roadway Lighting

There is no existing continuous roadway lighting along U.S. Route 45, Illinois Route 173, Kelly Road, Miller Road, Burr Hollow Drive, and Pedersen Drive within the project limits. There are a few beacon lights, such as at the Miller Road and Burr Hollow Drive intersections with U.S. Route 45 and the Pedersen Drive intersection with Illinois Route 173.

3.3.13 Flood Plain and Waterways

There are identified base floodplains or floodways within the North Section. The floodplain associated with the Unnamed Tributary Number 3 to Mill Creek is located east of U.S. Route 45. The floodplain associated with Hastings Creek coincides with the regulatory floodway and is 80-foot wide downstream and 100-foot wide upstream of the crossing at U.S. Route 45. The floodplain associated with the Unnamed Tributary to Hastings Creek is approximately 135-foot wide upstream of the crossing at U.S. Route 45. Refer to Appendix A - Exhibit 4 for general floodplain and waterways, and Volume IV and Volume V of this Design Report (Location Drainage Study) for more detailed information.

3.3.14 Drainage Patterns

The existing drainage pattern generally drains from south to north and west to east. There are six major culvert crossings across U.S. Route 45. Further details of the existing drainage system are contained in the Location Drainage Study as a separately bound document (Volume IV and Volume V) of this Design Report.

3.3.15 Soil Conditions

According to the historic soil maps in the area the soil through the proposed improvement varies from Elliott silt loam, Ashkum silty clay loam, Markham silt loam, Beecher silt loam, Wauconda and Beecher silt loam, Grays and Markham silt loams, and Ozaukee silt loam.

Geotechnical studies will be conducted as part of Phase II Engineering.

3.3.16 Land Use

The land use adjacent to U.S. Route 45 within the North Section project limits varies with a mix of residential, agricultural, commercial, open space, and vacant parcels. Refer to Exhibit 3 in Appendix A for the existing and future land use.

East of U.S. Route 45 from north of Independence Boulevard to Illinois Route 173, the land use is predominantly agricultural with residential areas between Kelly Road and Miller Road and vacant land near the south project limit. West of U.S. Route 45 from north of Independence Boulevard to Illinois Route 173, the land use is predominantly open space and agricultural with residential areas between Kelly Road and Miller Road. Land use at the Illinois Route 173 intersection is predominantly commercial areas with residential areas north of Illinois Route 173.

Based on the composition of local and County comprehensive land use plans, future land use along the U.S. Route 45 North Section corridor is anticipated to continue to develop to be predominantly residential with smaller areas of commercial and institutional land uses.

3.3.17 Mass Transit

No PACE bus routes or Metra Train stations exist within the project limits. The nearest PACE bus route (565) is located on the east leg of Illinois Route 132 and south leg of U.S. Route 45 serving Gurnee Mills, College of Lake County, and Grayslake. The nearest Metra station is located in Lake Villa at Illinois Route 132 near Illinois Route 83, approximately four miles from the project study area.

3.3.18 Pedestrian and Bicycle Accommodations

The existing pedestrian facilities, sidewalks and bikeways/trails, within the project limits are described below.

3.3.18.1 Sidewalks

There are no sidewalks located along U.S. Route 45 or any of the intersecting roads in the North Section.

3.3.18.2 Bikeways/Trails

The Lake County Forest Preserve District (LCFPD) has planned trail improvements as part of the overall Millennium Trail system that includes connecting the Millennium Trail within McDonalds Woods south of the North Section and west of U.S. Route 45, with the Raven Glen Forest Preserve Trail within the Raven Glen Forest Preserve north of Miller Road, and extending east of U.S. Route 45 to the Ethel's Woods Forest Preserve to the north. Included with the Millennium Trail planned improvements is an underpass across U.S. Route 45 located north of Miller Road (Refer to Appendix A - Exhibit 5 and Exhibit 18).

The Village of Lindenhurst adopted a Community Pedestrian and Bicycle Comprehensive Plan in August 2008. The plan shows a proposed path along the west side of U.S. Route 45 from north of Independence Boulevard to Miller Road.

The Village of Old Mill Creek Comprehensive Plan does not show any planned sidewalks or paths within the North Section.

3.3.19 Roadside Landscaping

Along U.S. Route 45 there are small shrubs and trees lining both sides of the roadway with split rail fencing along the east side of U.S. Route 45 adjacent to Ethel's Woods Forest Preserve north of Miller Road more prominent landscaping and signage adjacent to the Raven Woods Forest Preserve entrance along the west side of U.S. Route 45 south of Illinois Route 173. There is chain link fencing adjacent to businesses on both sides of U.S. Route 45 north of Illinois Route 173. There is split rail fencing and a gated entrance for the residential driveway located on the east side of U.S. Route 45 north of Burr Hollow Drive.

Along Illinois Route 173, there are small shrubs and trees lining both sides of the roadway. East of U.S. Route 45, chain link fencing and gated fencing at driveways are located adjacent to businesses on the north side of Illinois Route 173. There is a subdivision welcome sign located on the northeast quadrant of the Illinois Route 173 at Pedersen Drive intersection.

Along Miller Road, there are small shrubs and trees lining both sides of the roadway east of U.S. Route 45. West of U.S. Route 45, there are small shrubs and trees on the south side of the roadway and split rail fencing adjacent to the Ethel's Woods Forest Preserve on the north side of the roadway.

3.4 Environmental Resources and Sensitive Areas

The project area was inventoried for environmental resources which are described in detail in the EA. Below is a summary of known environmental resources and sensitive areas and are shown in Appendix A - Exhibit 4. Environmental clearances are located within Appendix B,

3.4.1 Parks and Recreation Areas (section 4(f) properties)

Raven Glen Forest Preserve is located north of Miller Road and south of Illinois Route 173 on the west side of U.S. Route 45 and is owned and maintained by the Lake County Forest Preserve District (LCFPD). Access to Raven Glen is via entrances on U.S. Route 45 and Illinois Route 173 to the north and west.

Ethel's Woods Forest Preserve is located north of Miller Road on the east side of U.S. Route 45 and is owned and maintained by the LCFPD. Currently, Ethel's Woods does not have public access; however, the LCFPD has planned public access improvements to include an entrance drive from Miller Road.

3.4.2 Floodplain and Waterways

There are identified base floodplains or floodways within the North Section. The floodplain associated with the Unnamed Tributary Number 3 to Mill Creek is located east of U.S. Route 45. The floodplain associated with Hastings Creek coincides with the regulatory floodway and is 80-foot wide downstream and 100-foot wide upstream of the crossing at U.S. Route 45. The floodplain associated with the Unnamed Tributary to Hastings Creek is approximately 135-foot wide upstream of the crossing at U.S. Route 45.

3.4.3 Wetlands

There are a number of delineated wetlands within the U.S. Route 45 North Section project limits, which were surveyed by the Illinois Natural History Survey (INHS) for IDOT:

- Wetland Site 9 (4.07 AC; FQI=12.4; Mean-C=2.8)

- Wetland Site 10 (1.48 AC; FQI=16.9; Mean-C=3.0)
- Wetland Site 8 (0.023 AC; FQI=8.5; Mean-C=2.1)
- Wetland Site 3 (1.04 AC; FQI=7.9; Mean C=1.7)
- Wetland Site 2 (0.27 AC; FQI=6.4; Mean-C=1.7)
- Wetland Site 1 (0.13 AC; FQI=5.3; Mean-C=2.0)
- Unvegetated Waters Site 13S – 0.01 AC Impact
- Unvegetated Waters Site 16S – 0.038 Impact
- Unvegetated Waters Site 18S – 0.010 Impact

Refer to Appendix A - Exhibit 12 (Roadway Plan & Profile Sheets) for specific locations, acreages, floristic quality and mean C values and Appendix B for signoffs.

3.4.4 Historic Sites

Based on coordination with the IHPA as part of the EA, there are no listed historic districts, and no listed or eligible historic buildings or structures within the U.S. Route 45 North Section project limits. Refer to Appendix B for signoffs and the EA Section 3.3 for further discussion and documentation.

3.4.5 Special Waste Sites

A Preliminary Environmental Site Assessment (PESA) has been completed for this project per BDE Procedure Memorandum, Number 66-09A. The PESA Review cover memo, dated July 14, 2010, states that there are Recognized Environmental Conditions (RECs) along the project route and that further studies may be required if the project will require land acquisition or linear excavation from or adjacent to a property with RECs. The PESA was updated and the updated PESA Review cover memo, dated January 5, 2018, states that there are RECs along the project route and that a preliminary site investigation (PSI) is required if the project will require new right of way or easement (temporary or permanent), excavation, or subsurface utility relocation on existing right-of-way adjacent to an identified REC site. Refer to Appendix B for signoffs and the EA for further discussion and documentation.

3.4.6 Endangered Species Locations

3.4.6.1 Federal

There are no endangered species located within the U.S. Route 45 North Section project limits. In addition, the INHS conducted botanical surveys to determine presence or absence of the Eastern prairie fringed orchid, which was determined to not be present. Refer to Appendix B for signoffs and the EA for further discussion and documentation.

3.4.6.2 State

Consultation with respect to state-listed threatened and endangered species and Natural Areas was initiated with the IDNR through the Ecological Compliance Assessment Tool (EcoCAT) for the project. In letters terminating consultation for this project dated March 9, 2009 and August 20, 2009, IDNR concluded that adverse effects to state-listed threatened and endangered species and Natural Areas are unlikely. Updated clearance with respect to natural resources review was received from IDNR on February 7, 2012. Refer to Appendix B for signoffs and the EA for further discussion and documentation.

3.4.7 Natural Areas, Natures Preserves and Prairies

Based on information provided by the IDNR and the Illinois Natural Heritage Database (dated July 11, 2011), there are no State Designated Lands within the larger U.S. Route 45 EA project corridor. Based on coordination with IDNR and the LCFPD, there are no other special lands adjacent to U.S. Route 45 within the North Section project limits. Refer to the EA for further discussion.

3.4.8 Public Services and Facilities

St. Raphael the Archangel Roman Catholic Church is located on the southwest corner of Kelly Road and U.S. Route 45. Also included in this parcel are the church office and open space currently used for agricultural purposes and is owned by the Archdiocese of Chicago.

4.0 Alternatives Considered

This section describes the alternatives considered for the improvement of U.S. Route 45 from 1,500 feet north of Independence Boulevard to Illinois Route 173.

4.1 No-Build Alternative

The No-Build Alternative consists of no geometric or capacity improvements to the existing project corridor and intersections within the 2040 planning horizon. Only routine maintenance to keep U.S. Route 45 serviceable would be provided.

Although the No-Build Alternative would not require acquisition of any right-of-way and would avoid impacts to the natural environment and to agricultural, residential, and commercial properties, the existing traffic congestion and associated safety and traffic operational concerns would not be addressed. As discussed in Section 2.2, with population and employment growth anticipated to be approximately 36 percent and 23 percent respectively in Lake County by the year 2040, traffic volumes are also expected to continue to increase along U.S. Route 45, and other east-west roadways that cross U.S. Route 45. The projected No-Build traffic volumes along U.S. Route 45 for the year 2040 will range from 28,000 to 30,000 vehicles per day.

On this basis, the No-Build alternative would result in increased traffic congestion within the project corridor which would result in increased travel delay costs affecting everyday commuters and businesses and would be expected to result in a comparable increase in traffic safety issues. On this basis, the No-Build Alternative does not satisfy the purpose and need for the project and is not considered further in this document.

4.2 Congestion Management System

The provisions of 23 *CFR* 450.320(a) and (b) places restrictions on the use of federal funds for projects in Transportation Management Areas (TMAs) designated as non-attainment for carbon monoxide and/or ozone. In these areas, federal funds may not be programmed for any project that will increase capacity for single occupancy vehicles (SOV) 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 and/or congestion management strategies cannot fully satisfy the need for additional capacity and that, therefore, the additional SOV capacity is warranted, the CMP must identify all reasonable strategies that will maintain the functional integrity of the additional lanes.

Individual projects involving addition of SOV capacity were evaluated, selected, and prioritized in the course of developing the Fiscal Year 2014-2019 TIP and the long range Go To 2040 Regional

Comprehensive Plan (RCP) for Northeastern Illinois. The development process for the TIP and RCP through the Chicago Metropolitan Agency for Planning (CMAP) constitutes the CMP for Northeastern Illinois. This process documents warranted projects for adding SOV capacity in Northeastern Illinois, and also documents that regional and/or project specific alternatives such as Transportation Demand Management (TDM) measures, High Occupancy Vehicle (HOV) measures, Transit Capital Improvements, Growth Management, Intelligent Transportation System (ITS) including traffic surveillance and incident management, would not obviate the need for adding SOV capacity. The Northeastern Illinois CMP is documented on the CMAP website at: <http://www.cmap.illinois.gov/congestion-management-process>

For this project, it has been determined that a stand-alone congestion management alternative will not satisfy the project purpose and need and, therefore, adding SOV capacity is warranted. The following reasonable project specific congestion management strategies have been incorporated into this project which will serve to enhance and sustain the overall transportation benefit from this project:

- A 10 feet wide multi-use trail will be accommodated along the west side of U.S. Route 45, and accommodations for a five-foot wide sidewalk will be provided along the east side of U.S. Route 45.
- A 10 feet wide multi-use trail and accommodations for a five-foot wide sidewalk will also be provided along Illinois Route 173 within the limits of the proposed improvement.

On this basis, this project results from the CMP for Northeastern Illinois as a warranted project for adding SOV capacity and reasonable congestion management strategies have been incorporated into the project to sustain its effectiveness. Congestion management strategies alone will not satisfy the purpose and need for this project and therefore are not considered further in this document as stand-alone alternatives.

4.3 Build Alternatives

The North Section of the project extends from north of Independence Boulevard to the Illinois Route 173 intersection, a distance of approximately 3.5 miles. This section includes one existing signalized intersection of Illinois Route 173 with U.S. Route 45. Two Build Alternatives were considered in the North Section, both of which would provide two through lanes in each direction separated by a median. North Alternative A maintains the existing roadway centerline alignment and includes symmetrical widening to both the east and west. North Alternative B includes a shift of the proposed centerline in the vicinity of the Raven Glen and Ethel's Woods Forest Preserves.

4.3.1 Alternative A

As noted above, this alternative utilizes the existing roadway centerline and includes symmetrical widening to the east and west. Within the North Section, the Raven Glen and Ethel's Woods Forest Preserves are adjacent to U.S. Route 45 at and north of Miller Road. The Raven Glen Forest Preserve abuts the U.S. Route 45 existing right-of-way for approximately 5,400 feet and the Ethel's

Woods Forest Preserve abuts the U.S. Route 45 right-of-way for approximately 600 feet. Based on the proposed typical section of U.S. Route 45, keeping the proposed improvement on existing alignment would require land acquisition from both forest preserves and would impact two commercial structures at the Illinois Route 173 intersection along the west side of U.S. Route 45. Open Land Trust (OLT) funds were used to purchase a portion of Ethel Woods Forest Preserve and Land and Water Conservation Fund (LAWCON) funds were used to purchase a portion of Raven Glen Forest Preserve. Although North Alternative A meets the purpose and need for the project, the impacts to the forest preserve property and the commercial buildings can be avoided with alignment shifts. On this basis, North Alternative A is not considered further in this document.

4.3.2 Alternative B

As noted above, this alternative includes a shift of the proposed centerline to minimize impacts to forest preserve property and existing commercial buildings. North Alternative B shifts the proposed centerline alignment to the west near Miller Road to avoid property acquisition from a portion of the Ethel's Woods Forest Preserve that was purchased with Federal OLT funding. As a result, some right-of-way acquisition is required along the west side of U.S. Route 45 within the Raven Glen Forest Preserve from Miller Road northward to Hastings Creek. Just north of Ethel's Woods the proposed centerline is shifted approximately 15 feet east of the existing centerline in order to hold the west right-of-way line and avoid further property acquisition from the Raven Glen Forest Preserve. Near the Illinois Route 173 intersection the proposed centerline is shifted approximately 20 feet east of the existing centerline to avoid the two existing commercial properties on the west side of the intersection. North Alternative B meets the purpose and need of the project and is preferred over North Alternative A since it minimizes impacts to forest preserve property and existing commercial buildings.

4.4 Selected Alternative

Although both Alternative A and Alternative B meet the purpose and need for the project, Alternative B will result in fewer impacts to existing residential property. On this basis, the selected alternative is Alternative B. The typical roadway section for the Preferred Alternative from north of Independence Boulevard to Illinois Route 173 includes two 12 foot wide travel lanes in each direction separated by a 22 foot wide barrier curbed median (widens to 30 feet at intersections if required), accommodations for a 10 foot wide bike path along the west side of the roadway, and a five feet wide sidewalk along the east side of the roadway. The detailed design for the selected alternative is included in Appendix A and the detailed analysis of the selected alternative is discussion in Section 5.0.

Figure 4-1 North Section Alternative B

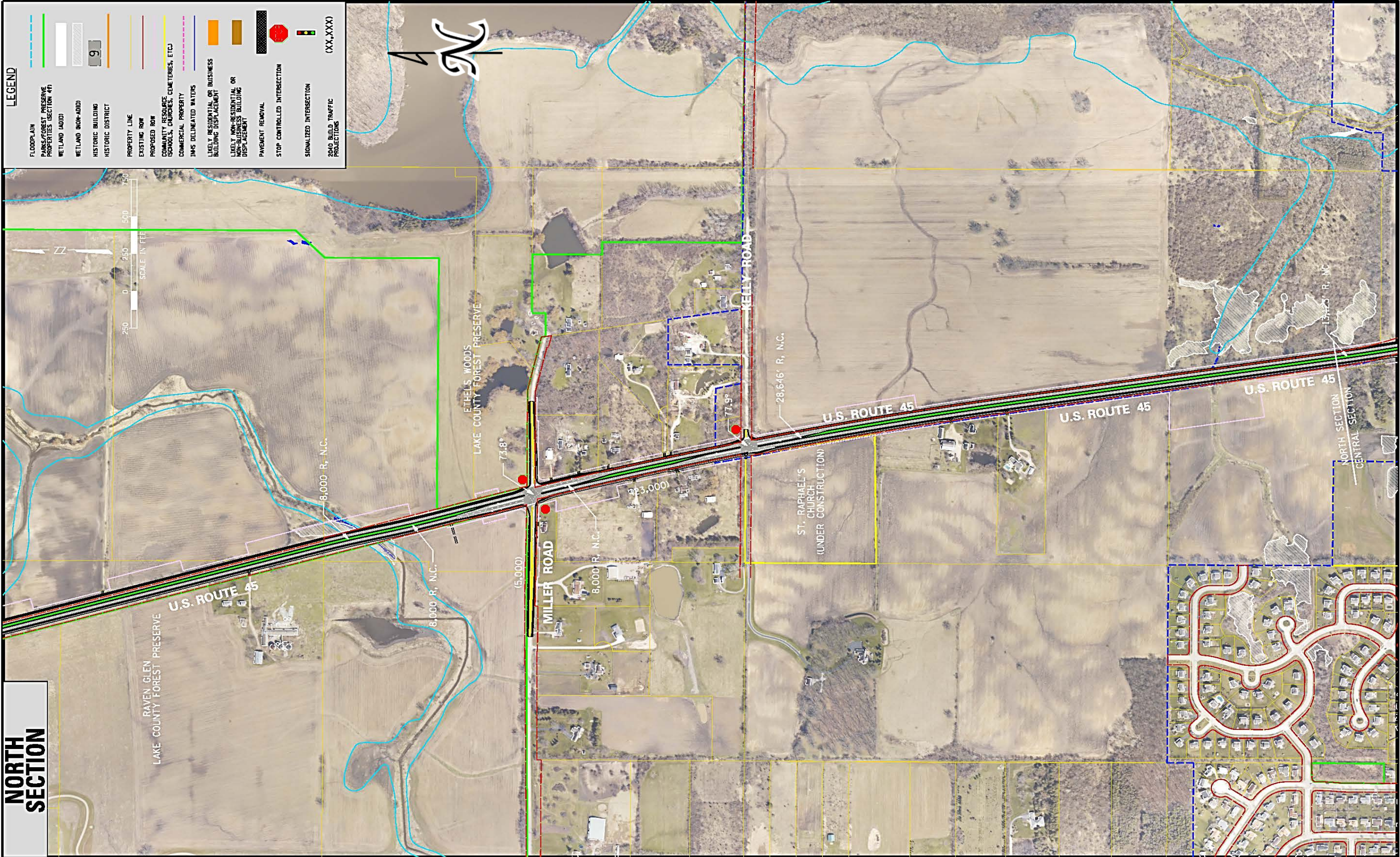
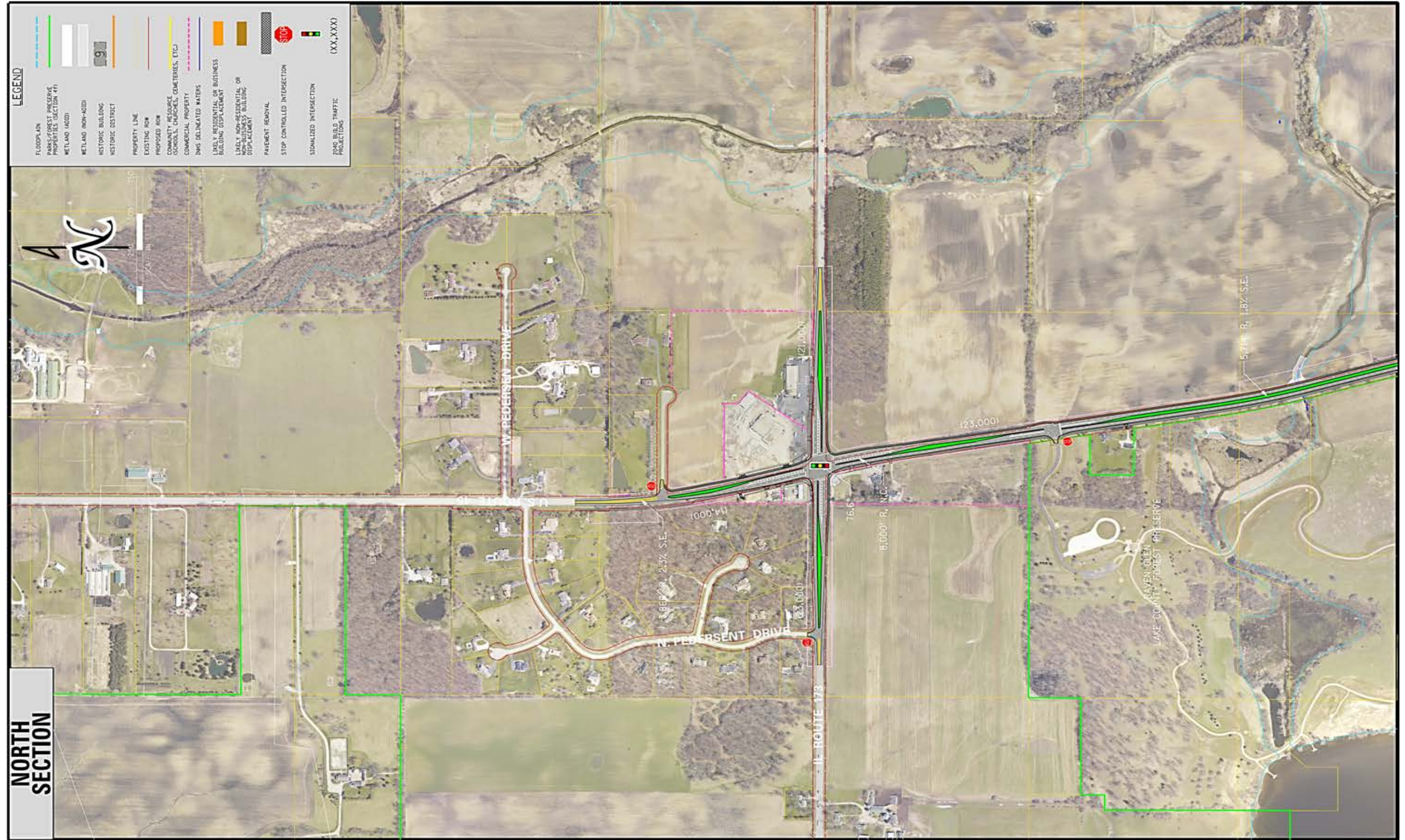


Figure 4-2 North Section Alternative B



5.0 Description and Analysis of the Selected Alternative

This section provides a detailed description and analysis of the proposed improvement plan for the selected alternative. The proposed improvement plan, including typical cross sections, proposed plan and profile, proposed right-of-way acquisition, and the intersection design study is included in Appendix A. The environmental consequences for the U.S. Route 45 North Section proposed improvements are described in greater detail in the EA.

5.1 Introduction

For the North Section, the Selected Alternative is Alternative B, which shifts a portion of the existing alignment of U.S. Route 45 and widens U.S. Route 45 throughout the project limits. This alternative will run from north of Independence Boulevard to Country Place, approximately 3.5 miles. The widened U.S. Route 45 will be a four-lane roadway with curb and gutter and barrier median. Accommodations will be provided for a 10-foot bike path running along the west side of the roadway and a 5-foot sidewalk running along the east side. The alignment shift occurs near Miller Road and continues north for approximately 975 feet towards Hastings Creek. North of Ethel's Woods, the proposed centerline is shifted approximately 15 feet east of the existing centerline and continues north to just south of Illinois Route 173. Near the Illinois Route 173 intersection, the proposed centerline is shifted approximately 20 feet east of the existing centerline. The widened U.S. Route 45 will tie into the planned U.S. Route 45 Bypass on the south and into existing conditions on the north.

The project will substantially improve the existing roadway as follows:

- New Pavement - The new construction will provide new pavement, thus improving the driving surface compared to the existing pavement.
- Auxiliary Turn Lanes - Auxiliary turn lanes will be added at all signalized and un-signalized intersections, creating better capacity at intersections, increasing safety, and increasing operational performance.
- Additional Capacity - One additional through lane in each direction will be added to U.S. Route 45 with auxiliary left and right turn lanes.
- Drainage - A curb and gutter and a storm sewer system will be included on the improved section of U.S. Route 45, which will convey all roadway runoff to proposed locations for implementing water quality best management practices and detention areas where the water can infiltrate into the existing ground and have a controlled release to the natural drainage path.
- Pedestrian and Bicycle Accommodations - The proposed improvement incorporates space for a bike path and sidewalk on U.S. Route 45.

5.2 Design Criteria

U.S. Route 45 and Illinois Route 173 are both classified as an Other Principal Arterial. Kelly Road is classified as a Major Collector. Miller Road, Burr Hollow Drive, and Pedersen Drive are classified as local roads. Design criteria established for all roadways in the project improvement limits are included in Table 5-1. Approval of the design criteria occurred at the January 8, 2010 FHWA meeting as documented in Appendix B. The proposed improvement conforms with applicable design criteria for IDOT and LCDOT unless otherwise noted in Section 5.6 (Design Exceptions). Refer to Table 5-1 for the established project design criteria.

Drainage design criteria conform to IDOT and Lake County policy:

- Pavement and Appurtenances - 10-year storm event
- Ditches/Culverts/Roadway - 50-year storm event

Refer to separately bound Location Drainage Study (Design Report - Volume IV and Volume V) for further discussion of the project drainage design criteria.

Table 5-1 Design Criteria

	US Route 45	Illinois Route 173	Kelly Road	Miller Road	Burr Hollow Drive and Pedersen Road
Jurisdiction	State	State	Village of Old Mill Creek	Antioch Township	Antioch Township
Classification	Other Principal Arterial - Non-Urban	Other Principal Arterial - Non-Urban	Major Collector – Non-Urban	Local Road	Local Road
SRA	Yes	Yes	No	No	No
FAU/FAP	FAP 344 (South of IL 173) FAP 872 (North of IL 173)	FAP 303	FAU 3701	Not Applicable	Not Applicable
Design Hourly Volume	2050-2900 (TW-DHV)	2050-2900 (TW-DHV)	< 400 (ADT))	> 2000 (ADT- West Leg) < 250 (ADT-East Leg)	< 250 (ADT)
Design Criteria	Suburban SRA ¹	Rural SRA ³	Rural Collector	Rural Local Road	Rural Local Road.
	BDE 46-3; 32	BDE 46-4; 32	BLR 32-3B; 29-4	BLR 32-2C; 29-4	BLR 32-2C; 29-4
	Open Roadway	Open Roadway			
Existing Posted Speed	55 mph	55 mph	25 mph	45 mph (west leg)/25 mph (east leg)	25 mph
Prop. Design Speed	50 mph	55 mph	30 mph	50 mph (west leg)/30 mph (east leg)	30 mph
Prop. Posted Speed	45 mph	50 mph	25 mph	45 mph (west leg)/25 mph (east leg)	25 mph
Lane width (feet)	12	12	10	12 (west leg)/9 (east leg)	9
Shoulder width (feet)	N/A	10	2	8 (west leg)/2 (east leg)	2
Curb and Gutter type	B-6.24	N/A	N/A	N/A	N/A
Median type and width	C&G, 22'	Flush, 22'	N/A	N/A	N/A

	US Route 45	Illinois Route 173	Kelly Road	Miller Road	Burr Hollow Drive and Pedersen Road
LOS	C³	C	C	D	D
SSD	425'	570'	200'	425' (west leg)/200' (east leg)	200'
ISD ⁴	555'/700'/845'	610'/770'/930'	335'/420'/510'	555'/700'/845' (west leg); 335'/420' (east leg)	335'/420'
Max Super Rate ⁶	4.0%	6.0%	4.0%	4.0%	4.0%
Minimum R (NC)	7,220'	9,410'	2,830'	7,220' (west leg)/2,830' (east leg)'	2,830'
Minimum R (e=4%) ⁵	930'	1,060'	250'	926' (west leg)/250' (east leg)	250'
Max Grade	6%	4%	9%	7% (west leg)/9% (east leg)	9%
Min Grade	0.5%	0.5%	0.5%	0.5%	0.5%
Min. K-Value (Crest/Sag)	84/96	114 / 115	19/37	84/96 (west leg) 19/37 (east leg)	19 / 37
Max. K-Value	167	167	167	167	167
Design Vehicle	WB-67	WB-67	WB-55	WB-50/SU	WB-50/SU

1 - Per IDOT SRA Reports. Developing areas along these SRA corridors have already implemented Suburban SRA cross sections.

2 - Per separate Illinois Route 173 Phase One Study

3 - LOS D auxiliary lanes acceptable.

4 - P/SU/MU ; Adjust for proper median width and number of travel lanes.

5 - If road tee's into US 45 then look at using AASHTO method 2 for low speed and urban streets.

6 - AASHO method 5 superelevation will be used.

5.3 Geometric Improvements

The following is a detailed discussion of the proposed roadway typical sections, intersection improvements, and horizontal and vertical alignment.

5.3.1 Typical Sections

The proposed typical cross-sections for U.S. Route 45 are located in Appendix A - Exhibit 7B, depicting the typical section at: non-intersection location, an intersection with dual left and right turn lanes and an intersection with single left and right turn lanes.

The typical section at a non-intersection location on U.S. Route 45 is:

- Two 12-foot lanes in each direction.
- A 22-foot wide barrier-curbed median.
- B-6.24 curb and gutter on the barrier median and outside edges of pavements.
- Ten-foot bike path offset five-foot from the proposed curb line along the west side.
- Five-foot sidewalk offset five-foot from the proposed back of curb along the east side.
- Drainage ditches behind the bike path and sidewalk.

The proposed typical cross-sections for Miller Road are located in Appendix A – Exhibit 7C. Through and auxiliary lanes vary from 8.5-foot to 11-foot wide with four-foot paved and four-foot wide aggregate shoulders on both sides of Miller Road west of U.S. Route 45 and two-foot wide aggregate shoulders on both sides of Miller Road east of U.S. Route 45. Drainage ditches are proposed behind the shoulders on both sides of Miller Road east and west of U.S. Route 45.

The proposed typical cross-sections for Illinois Route 173 are located in Appendix A - Exhibit 7D. Through and auxiliary lanes are 12 feet in width with an 18-foot wide barrier median and either paved shoulder or M-4.24 curb and gutter. There is a 10-foot wide bike path located along the north side of Illinois Route 173 which is offset varying from 5-foot to 14-foot from the edge of paved shoulder and 5-foot wide sidewalk located along the south side of Illinois Route 173 which is offset varying from 7.4-foot to 60-foot from paved shoulder or back of curb. Drainage ditches are proposed behind the bike path or paved shoulder on the north side of Illinois Route 173 and behind the paved shoulder on the south side of Illinois Route 173 if the existing ground dictates.

5.3.2 Intersection Improvements

5.3.2.1 *Signalized Intersections*

There is one signalized intersection within the proposed improvements in the North Section. An Intersection Design Study (IDS) is presented in Appendix A – Exhibit 14 for the intersection at U.S. Route 45 and Illinois Route 173.

U.S. Route 45 at Illinois Route 173

An existing traffic signal is located at the four-legged intersection of Illinois Route 173 and U.S. Route 45. U.S. Route 45 is on a new alignment through this intersection and is shifted approximately 20 feet to the east of the existing centerline. Illinois Route 173 maintains the existing alignment through the intersection. The alignment forms a 76.7-degree intersection angle. The grade varies along U.S. Route 45 with a crest vertical curve approximately 400 feet south of the intersection; a sag vertical curve approximately 215 feet south of the intersection; a sag vertical curve approximately 184 feet north of the intersection; and a crest vertical curve 734 feet north of the intersection. There are geometric improvements to each leg of the intersection. Two through lanes in each direction have been added to all four legs of the intersection.

An additional left turn lane has been added to both the north and south legs of the intersection. The dual left turn lane on the north and south legs of the intersection will have 215 feet of storage with a 300-foot taper and will be protected by a barrier median. The north and south legs of the intersection will each have a dedicated right turn lane with 215 feet of storage and a 220-foot taper.

On the west and east legs of the Illinois Route 173 intersection, the left turn and right turn lanes will each have 240 feet of storage with a 240-foot taper. The left turn lanes will be protected by a barrier median. The 18-foot wide barrier median adjacent to the left turn lane is compatible for conversion to an additional left turn lane when traffic volumes warrant dual left turn lanes

Cross walks will be provided on all legs of the intersection. (Refer to Appendix A - Exhibit 14)

5.3.2.2 Un-Signalized Intersections

Kelly Road

Kelly Road connects into U.S. Route 45 on the east and a private driveway for St. Raphael's Roman Catholic Church on the west approximately 2,140 feet north of the southern project limits. U.S. Route 45 and Kelly Road maintain existing horizontal alignments. U.S. Route 45 is in free-flow condition with Kelly Road and private driveway stop controlled. The alignments form a 77.9-degree intersection angle. The grade along U.S. Route 45 is a negative 0.50 percent with a sag vertical curve located approximately 121 feet south of the Kelly Road intersection. Kelly Road is one lane in each direction with a pedestrian crossing, with the westbound lane being a shared left and right turn lane. U.S. Route 45 includes two through lanes in each direction and a southbound shared left turn and U-turn lane and a northbound U-turn. A U-turn bump out is included with this intersection. There is a barrier median on U.S. Route 45 which breaks at the intersection to provide full access. The auxiliary turn lanes on U.S. Route 45 have storage of 215 feet and a taper of 220 feet. Pedestrian crossing is not allowed across U.S. Route 45. (Refer to Appendix A – Exhibit 12)

Miller Road

Miller Road connects into the U.S. Route 45 approximately 1,386 feet north of Miller Road. U.S. Route 45 is on a new alignment through this intersection, shifted approximately 32 feet to the west of the existing centerline. U.S. Route 45 is in free flow condition with stop control on Miller Road.

The alignments form a 74.6-degree intersection. The grade along the U.S. Route 45 at the intersection is negative 0.50 percent with a crest vertical curve located approximately 118 feet north of Miller Road. The west leg of Miller Road is one lane in each direction and includes an eastbound left turn lane at the intersection with a pedestrian crossing, with the westbound lane being a shared through and right turn lane. The alignment for the east leg of Miller Road is offset 8.6 feet north of the alignment of the west leg of Miller Road. The east leg of Miller Road is one lane in each direction with the westbound lane being a shared through and right turn lane and includes a westbound left turn lane with a pedestrian crossing. The auxiliary turn lanes on Miller Road have storage of 115 feet and a taper of 99 feet on the west leg and storage of 115 feet and taper of 258 feet on the east leg. U.S. Route 45 includes a northbound and southbound shared left turn and U-turn. There is a barrier median on U.S. Route 45 which breaks at the intersection to provide full access. The auxiliary turn lanes on U.S. Route 45 have storage of 215 feet and a taper of 220 feet. Pedestrian crossing is not allowed across U.S. Route 45. (Refer to Appendix A – Exhibit 12)

The proposed geometry at the Miller Road intersection is compatible for future traffic signals after the intersection is warranted for signals.

Burr Hollow Drive

Burr Hollow Drive, which serves one single family residence, “tees” into U.S. Route 45. U.S. Route 45 is on a new alignment through this intersection, shifted approximately 14 feet to the east of the existing centerline. U.S. Route 45 is in free flow condition with Burr Hollow Drive stop controlled on the east leg. The south leg of the intersection has a U-turn lane with storage of 115 feet and a 150-foot taper and the north leg has a left turn lane with storage of 130 feet and a 220-foot taper. There is a barrier median on the south leg of U.S. Route 45 and a painted median on the north leg of U.S. Route 45 which breaks at the intersection to provide full access. The alignment of Deer Trail Drive intersects U.S. Route 45 at an 82.9-degree angle. The grade along U.S. Route 45 at the intersection is negative 2.63 percent with a crest vertical curve located approximately 285 feet south of the Burr Hollow Drive intersection and a sag vertical curve located approximately 315 feet north of the Burr Hollow Drive intersection. The intersection is located approximately 474 feet south of the alignment point of tangency. Pedestrian crossing is not allowed across U.S. Route 45. (Refer to Appendix A – Exhibit 12)

Pedersen Drive

Pedersen Drive, which serves the Hickory Woods subdivision, “tees” into Illinois Route 173 approximately 2,140 feet east of the western project limits. Illinois Route 173 and Pedersen Road maintain existing horizontal alignments. Illinois Route 173 is in free flow condition with Pedersen Drive stop controlled on the north leg. Pedersen Drive forms an intersection angle of 92.2-degrees with Illinois Route 173. The grade along Illinois Route 173 at the intersection is negative 1.73 percent, and there is a sag vertical curve located approximately 884 feet east of the intersection. Neither Illinois Route 173 nor Pedersen Road have auxiliary turn lanes. (Refer to Appendix A – Exhibit 12)

5.3.3 Vertical Alignment

The proposed U.S. Route 45 ties into the vertical alignment of the planned U.S. Route 45 Bypass approximately 1,500 feet north of Independence Boulevard and at the existing vertical alignment approximately 1,578 feet north of Illinois Route 173. Generally, the vertical alignment of U.S. Route 45 is rolling varying from 0.50 to 3.3 percent. (Refer to Appendix A - Exhibit 12)

5.3.3.1 U.S. Route 45

The proposed profile of the North Section of the U.S. Route 45 realignment ranges from 0.5 percent to 3.3. percent and maintains design standards for vertical curve length, algebraic difference of grades, and drainage standards. The south project limit ties into the planned U.S. Route 45 Bypass vertical profile of 0.5 percent. The profile mimics the existing ground as close as possible to a sag vertical curve at Station 187+25. The profile is raised above existing ground approximately three feet to a crest vertical curve at Station 201+00 then mimics the existing ground as close as possible until Station 207+25. The profile is raised above the existing ground approximately 1-foot to a crest vertical curve at Station 214+25. The profile is raised above the existing ground approximately four feet where the grade is 0.50 percent for 1,425 feet to a crest vertical curve at Station 230+50. The profile is raised approximately three feet above the existing ground to cross the proposed multi-use path underpass north of Miller Road and Hastings Creek with a series of three box culverts to a sag vertical curve at Station 241+00 where the grade is 1.29 percent for 437.5 feet to a crest vertical curve at Station 247+75. The profile then mimics the existing ground as close as possible until Station 255+75. The proposed profile is raised above the existing ground approximately one-foot to a crest vertical curve at Station 261+00 then mimics the existing ground as close as possible until Station 267+25. The profile is raised above existing ground approximately one-foot until Station 291+55. The profile is lowered below existing ground approximately two feet until Station 295+75. The profile is raised above the existing ground approximately one-foot to meet the proposed Illinois Route 173 elevation at Station 297+15.58. North of the Illinois Route 173 intersection, the profile mimics the existing ground to a sag vertical curve at Station 310+50 until tying into the existing U.S. Route 45 profile of 3.17 percent at the north project limit.

5.3.3.2 Illinois Route 173

The proposed profile of Illinois Route 173 ranges from 0.5 percent to 3.52 percent and maintains design standards for vertical curve length and algebraic difference of grades. The west project limit ties into the Illinois Route 173 profile of 1.37%. The profile mimics the existing ground to a crest vertical curve at Station 1195+75 and is raised approximately one foot to tie into the U.S. Route 45 intersection. East of the U.S. Route 45 intersection, the profile mimics the existing ground to a crest vertical curve at Station 1205+75. The profile then ties into the Illinois Route 173 profile of 3.52% at the east project limit.

5.3.3.3 Miller Road

The proposed profile of Miller Road (west leg) ranges from 0.68 percent to 2.64 percent and maintains design standards for vertical curve length and algebraic difference of grades. The west project limit ties into the Miller Road (west leg) profile of 0.68 percent and is raised approximately one-foot to a sag vertical curve at Station 1995+50. The profile is lowered to a crest vertical curve

at Station 1998+00 where the grade is one percent for 89.5 feet with the profile lowered approximately 1.5 feet. The profile then ties into the U.S. Route 45 intersection at a grade of 1.5 percent.

The proposed profile of Miller Road (east leg) ranges from 1.50 percent to 2.71 percent and maintains design standards for vertical curve length and algebraic difference of grades. The profile is lowered east of the U.S. Route 45 intersection to a sag vertical curve located at Station 300+50 where the grade is 1.99 percent for 147.5 feet. The profile mimics the existing ground to a crest vertical curve at Station 300+25 then ties into the Miller Road (east leg) profile of 2.71 percent at the east project limit.

5.3.4 Horizontal Alignment

5.3.4.1 U.S. Route 45

The proposed horizontal alignment of U.S. Route 45 is composed of eight curves, two of which introduce superelevation. In general reverse curves are used to deviate west of the existing U.S. Route 45 alignment on the south end, followed by a long tangent section, and then reverse curves to revert back to the existing U.S. Route 45 alignment. All curves follow design standards for horizontal curve lengths.

The horizontal alignment is on tangent along the planned U.S. Route 45 Bypass from approximately 420 feet north of Independence Boulevard for a distance of 524 feet. A 13,123-foot radius curve is introduced to the east with normal crown (Station 171+22 to Station 177+48 ahead/177+98 ahead). A 2,067-foot tangent section follows with a 28,646-radius curve to the west with normal crown (Station 198+66 to Station 226+49). A 707-foot tangent section follows with a pair of 8,000-foot radius reverse curves with normal crown (Station 235+31.27 to Station 239+31.31 and Station 239+31.31 to Station 243+31.35) to the east then west. A 2,253-foot tangent section follows with a 5,714-foot radius curve to the east with 2 percent superelevation (Station 265+84 to Station 272+04). A 1,931-foot tangent section follows with an 8,000-foot radius curve to the west with normal crown (Station 291+34 to Station 299+01). A 315-foot tangent follows with a 3,860-foot radius curve to the east with 2.8 percent superelevation (Station 302+16 to Station 312+09) and continues on existing alignment to the north project limit located 1,578 feet north of Illinois Route 173.

5.3.4.2 Illinois Route 173

The proposed horizontal alignment of Illinois Route 173 follows the existing alignment. The horizontal alignment is on tangent from 1,376 feet west of U.S. Route 45 (Station 1184+74.90) to 1,364 feet east of U.S. Route 45 (Station 1212+15.32).

5.3.4.3 Miller Road

The proposed horizontal alignment of the west leg of Miller Road west leg is offset 8.6 feet south of the proposed horizontal alignment of the east leg of Miller Road. The horizontal alignment of Miller Road (west leg) is on tangent from 807 feet west of U.S. Route 45 (Station 1193+33.71) to

U.S. Route 45 (Station 2000+00.00). The horizontal alignment of Miller Road (east leg) is on tangent from U.S. Route 45 (Station 3000+00.00) to 444 feet east of U.S. Route 45 (Station 3004+43.95).

5.4 Preliminary Pavement Design

A preliminary pavement design has been prepared for U.S. Route 45 and Illinois Route 173 which has been coordinated with IDOT Bureau of Design (Refer to Appendix G). A cost analysis was performed comparing a flexible pavement design versus a rigid pavement design.

It was determined that U.S. Route 45 will be composed of:

- 10-inch PCC Pavement with 15-foot transverse joint spacing
- 4 1/2-inch hot mix asphalt stabilized sub-base
- 12-inch aggregate subgrade
- B.6-24 curb and gutter (tied with 1.5-inch dowel bars)

Illinois Route 173 is proposed to consist of:

- 9 1/2 -inch PCC Pavement with 15-foot transverse joint spacing
- 4 1/2-inch hot mix asphalt stabilized sub-base
- 12-inch aggregate subgrade
- B-6.24 curb and gutter (tied with 1.5-inch dowel bars)

Pavement design should be verified once geotechnical analysis completed for project and coordinated with IDOT.

5.5 Drainage Plan

The proposed drainage plan is described in detail in the Location Drainage Study prepared for the project and separately bound as Volume IV and Volume V of the Design Report. In general, the proposed drainage system includes a closed drainage system for the majority of the project with storm sewer and curb and gutter, which drain into several detention basins before releasing to the natural drainage path. At the southern project limits, the roadway will tie into curb and gutter from the proposed U.S. Route 45 Bypass north of the Independence Boulevard intersection. At the northern project limits, the roadway will tie into the existing rural cross section with open drainage north of Illinois Route 173. At the east and west project limits of Illinois Route 173, a rural cross section with open drainage is proposed, which is the existing condition at those locations. At the east and west project limits of Miller Road, a rural cross section with open drainage is proposed, which is the existing condition at these locations. Drainage ditches are proposed on the outside of

the roadway when the existing natural drainage pattern drains towards the roadway. A series of cross road culverts are used to maintain existing drainage patterns outside the roadway right-of-way as well as drain the roadway ditch network. A summary of the major roadway culverts is provided below.

- The existing 6 feet wide by 4 feet high reinforced concrete box culvert (RCBC) over Unnamed Tributary Number 3 to North Mill Creek crossing U.S. Route 45 will be replaced with 2-9 feet wide by 4 feet high box culverts with a length approximately 125 feet located at Station 185+75 (Crossing 13) with a tributary area of 261 acres. The proposed culverts will provide 1.19 feet freeboard for the 50-year event (due to tailwater conditions) and 100-year edge of pavement protection. The roadway will not overtop for any event up to and include the 500-year event. This culvert is not located within floodplain.
- The existing 9 feet wide by 5 feet high box culvert over Hastings Creek crossing U.S. Route 45 will be replaced with one low flow 8 feet wide by 7 feet high and 2 high flow 8 feet wide by 7 feet wide box culverts. with a length approximately 157 feet located at Station 240+10 (Crossing 16) with a tributary area of 6.1 square miles. All culverts will be embedded. The proposed culvert will provide 3.14 feet freeboard for the 50-year event and the roadway will not overtop any event up to the 500-year event. This culvert is located within regulatory floodplain and floodway.
- The existing 36-inch corrugated metal pipe culvert over Unnamed Tributary to Hastings Creek crossing U.S. Route 45 will be replaced with an 8 feet wide by 7 feet high RCBC with a length approximately 118 feet and one-foot of embedment located at Station 266+39 (Crossing 18) with a tributary area of 1-square mile. The proposed culvert will provide 3.53 feet freeboard for the 50-year event and the roadway will not overtop any event up to the 500-year event. This culvert is located within regulatory floodplain.

In addition, there are eight detention basins are proposed:

- Detention Basin No.11 was constructed as part of the U.S. Route 45 Millburn Bypass and is located approximately between Station 167+00 and Station 169+50 on the east side of U.S. Route 45 north of Independence Boulevard. This detention basin receives roadway storm runoff from existing storm sewers constructed as part of the U.S. Route 45 Millburn Bypass north limit to Station 170+25.
- Detention Basin No.13 is located approximately between Station 187+50 and Station 189+00 on the west side of U.S. Route 45. It is located on private property that is currently farmed. These detention basins receive roadway storm runoff from Station 186+75 to Station 200+00.
- Detention Basins No.14 is located approximately between Station 207+52 and 209+30 on the east side of U.S. Route 45. It is located on private property that is currently farmed.

These detention basins receive roadway storm runoff from Station 205+00 to Station 215+00.

- Detention Basin No.15 is located approximately between Station 224+00 and Station 228+00 on the west side of U.S. Route 45. It is located on private property that is currently farmed. This detention basin receives roadway storm runoff from Station 218+00 to Station 228+00.
- Detention Basin No.16 is located approximately between Station 244+20 and Station 247+47 on the east side of U.S. Route 45. It is located on private property that is currently farmed. This detention basin receives roadway storm runoff from Station 241+50 to Station 258+50.
- Detention Basin No.18B is located approximately between Station 268+50 and Station 270+18 on the east side of U.S. Route 45. It is located on private property that is currently farmed. This detention basin receives roadway storm runoff from Station 268+50 to Station 290+50.
- Detention Basin No.19 is located approximately between Station 308+00 and Station 309+00 on the west side of U.S. Route 45. It is located on private property that is currently a vacant forested lot. This detention basin receives roadway storm runoff from Station 301+00 to Station 308+00.
- Detention Basin No.24 is located approximately between Station 308+00 and Station 309+00 on the north side of Illinois. Route 173. It is located on private property that is currently farmed. This detention basin receives roadway storm runoff from offsite roadway ditches (approximately 1,200 feet west of the project limits); offsite site tributary area along the north side of Illinois Route 173; roadside swales along the east side of U.S. Route 45 from Station 297+91 to Station 300+87; proposed roadside swales and ditches from Station 1184+75 to Station 1195+00 along Illinois Route 173; and proposed storm sewers from Station 1184+75 to Station 1210+00 along Illinois Route 173.

Refer to Appendix C for drainage coordination with the Village of Old Mill Creek, Village of Lindenhurst, and Lake County Division of Transportation as well as Volume IV and Volume V containing the project Location Drainage Study.

5.6 Design Exceptions

The proposed improvement has been developed with the objective to comply with the applicable design criteria, as described in Section 5.2. Table 5-2 lists design elements of the proposed improvement that do not meet the applicable design standards with the justification. The IDOT Design Exception Forms are located in Appendix H and the summary of the coordination meeting during which approval was granted is included in Appendix B.

Table 5-2 Design Exceptions

Proposed Design Exception & Location	Standard	Provided	Justification
LOS E Eastbound Left Turn movement (AM & PM); at the intersection of U.S. Route 45 at Illinois Route 173.	Minimum LOS D per BDE Figure 46-3.E	LOS E	Due to the known crash patterns and identified safety issues at this intersection, all left turn movements are phased as protected only movements, affecting the capacity and delay. To optimize the signal timings, near minimum green time is utilized for the eastbound left turn movement with priority given to through movements on U.S. Route 45 and Illinois Route 173 to obtain the required LOS/delay. Additionally, the queue is contained within the required minimum storage bay length per stopping sight distance requirements.
LOS E Westbound Left Turn movement (AM & PM); at the intersection of U.S. Route 45 at Illinois Route 173.	Minimum LOS D per BDE Figure 46-3.E	LOS E	Due to the known crash patterns and identified safety issues at this intersection, all left turn movements are phased as protected only movements, affecting the capacity and delay. To optimize the signal timings, near minimum green time is utilized for the eastbound left turn movement with priority given to through movements on U.S. Route 45 and Illinois Route 173 to obtain the required LOS/delay. Additionally, the queue is contained within the required minimum storage bay length per stopping sight distance requirements.
540' Lane Drop Taper North leg of intersection of U.S. Route 45 and Illinois Route 173 – northbound U.S. Route 45.	600' minimum Lane Drop Taper per BDE Figure 36-5.A	540' Lane Drop Taper	The proposed lane drop terminates south of the first residential street (Burr Hollow Drive).
516' Deceleration Length North leg of intersection of U.S. Route 45 and Illinois Route 173 – northbound U.S. Route 45.	585' Deceleration Length from stop bar for lane drop per BDE Figure 36-5.A	516' Deceleration Length	The proposed lane drop terminates south of the first residential street (Burr Hollow Drive).

Table 5-2 Design Exceptions

Proposed Design Exception & Location	Standard	Provided	Justification
115' Auxiliary Lane Storage Length South leg of intersection of U.S. Route 45 and Burr Hollow Drive – northbound U.S. Route 45 U-Turn lane.	215' Auxiliary Lane Storage Length per BDE Figure 36-3.I	115' Auxiliary Lane Storage Length	The northbound taper and storage for the Left U-Turn lane is within the 540' lane drop for northbound U.S. Route 45. The Left U-Turn taper and storage next to the long lane drop can create confusion and be used as a through lane. The northbound Left U-Turn lane meets the minimum storage length for 3R criteria.
150' Auxiliary Lane Taper Length South leg of intersection of U.S. Route 45 and Burr Hollow Drive – northbound U.S. Route 45 U-Turn lane.	220' Auxiliary Lane Taper Length per BDE Figure 36-3.I	150' Auxiliary Lane Taper Length	The northbound taper and storage for the Left U-Turn lane is within the 540' lane drop for northbound U.S. Route 45. The Left U-Turn taper and storage next to the long lane drop can create confusion and can be used as a through lane. The northbound Left U-Turn lane meets the minimum taper length for 3R criteria.
130' Auxiliary Lane Storage Length North leg of intersection of U.S. Route 45 and Burr Hollow Drive - southbound U.S. Route 45 left turn lane	215' Auxiliary Lane Storage Length per BDE Figure 36-3.I	130' Auxiliary Lane Storage Length	Extension of the southbound left turn lane to meet the minimum storage length would impact properties on both sides of U.S. Route 45 north of Burr Hollow Drive.
Unshadowed Turn Lane (80' Taper) Southbound U.S. Route 45 at Burr Hollow Drive left turn lane	400' (50:1) Approach Taper BDE Figure 36-3.J	Unshadowed Turn Lane (80' Taper)	Providing 400' Approach Taper would impact properties and require additional right-of-way acquisition from what was identified in the Environmental Assessment (EA) on both sides of U.S. Route 45 north of Burr Hollow Drive and would extend the north project limit. Burr Hollow Drive is a "dead end" local road which serves one residential property.
K = 72 Sag vertical curve at U.S. Route 45 PVI Station 310+50	K = 103 for Design Speed = 50 mph or K = 84 for Design Speed = 45 mph with 3% grade BDE Figure 33-4.F	K = 72	The location of this design exception is at the northern project limit, and therefore the proposed profile is dictated by the existing roadway profile, which maintains existing drainage patterns. Additionally, maintaining the existing profile at this location is compatible with the proposed drainage plan, which includes replacing an existing cross road culvert and new detention basin (west side).

Table 5-2 Design Exceptions

Proposed Design Exception & Location	Standard	Provided	Justification
115' storage Westbound Miller Road (East) at U.S. Route 45	125' storage per BDE Figure 36-3I	115' storage	Miller Road is a designated local road east of U.S. Route 45, has no connectivity, and serves two residential properties. BLRS Figure 34-3.D with justification of Miller Road (East Leg) as a low volume (2040 Peak AM (PM) = 15 (15)) residential local roadway was utilized as the design standard.
8.6' offset Miller Road East Leg at U.S. Route 45	6.7' offset per BDE 36-1.05(c)	8.6' offset	Maintain existing north edge of pavement with widening to the south to avoid right-of-way acquisition from Lake County Forest Preserve District Property on the north side of Miller Road (East). East leg is a low volume (ADT = 900) residential local roadway serving two residential properties. The existing east leg of Miller Road under existing conditions is offset approximately 5.5'.
115' Storage Length Miller Road West Leg at U.S. Route 45	215' Storage Length per BDE Figure 36-3.I	115' Storage Length	Miller Road is a designated local road west of U.S. Route 45 providing connectivity to Savage Road to the west and U.S. Route 45 to the east with a low volume ADT varying from 700 to 900. Providing 215' storage length would require additional right-of-way acquisition from the residential property on the south side of Miller Road and extend the west project limit beyond the Environmental Survey study area identified in the EA. BLRS Figure 34-3.D was utilized as the design standard.
99' Taper Length Miller Road West Leg at U.S. Route 45	220' Taper Length per BDE Figure 36-3.I	99' Taper Length	Miller Road is a designated local road west of U.S. Route 45 providing connectivity to Savage Road to the west and U.S. Route 45 to the east with a low volume ADT varying from 700 to 900. Providing 220' taper length would require additional right-of-way acquisition from the residential property on the south side of Miller Road and extend the west project limit beyond the Environmental Survey study area identified in the EA. BLRS Figure 34-3.D was utilized as the design standard.

Table 5-2 Design Exceptions

Proposed Design Exception & Location	Standard	Provided	Justification
30:1 median approach taper rate Miller Road West Leg at U.S. Route 45	40:1 median approach taper rate per BDE Figure 36-3.J	30:1 median approach taper rate	Providing 40:1 median approach taper rate would require additional right-of-way acquisition from the residential properties on the south side of Miller Road and extend the west project limit beyond the Environmental Survey study area identified in the EA.
11.6% Commercial Entrance on U.S. Route 45 at Station 294+11.96 LT, between Miller Road and Illinois Route 173, and Commercial Entrance at Station 300+00.00 LT, between Illinois Route 173 and Burr Hollow Drive.	6% Access to State Highways Chapter V, Section D	11.6%	Extending the driveway using a 6% grade would impact the use of the existing commercial parking lots and possibly the structures.
10% Commercial Entrance on Illinois Route 173 at Station 1204+44.03 LT, east of U.S. Route 45.	6% Access to State Highways Chapter V, Section D	10%	Extending the driveway using a 6% grade would impact the use of the existing commercial parking lot.
8.8% and 11.0% Residential Entrance on U.S. Route 45 at Station 222+67.92 LT, between Kelly Road and Miller Road.	8% Access to State Highways Chapter IV, Section C	8.8% and 11.0%	Extending the driveway using an 8% grade would not meet the existing topography adjacent to the roadway within a reasonable distance and impact an existing structure.
2.5:1 U.S. Route 45-Station 236+00 LT to 237+00 LT	3:1 Front Slope BDE Figure 34-4.B	2.3:1	A 2.5:1 front slope is needed to minimize proposed right-of-way acquisition from the adjacent Lake County Forest Preserve District property.

5.7 Right-of-Way

Right-of-way and easement acquisition is required for this project as reflected in Table 5-3 and Appendix A - Exhibit 13 with a total of 24.51 acres being required for the proposed improvement and 1.01 acres of temporary construction easements in the North Section. The right-of-way acquisition was minimized as much as possible by creating a profile that mimics the existing ground where feasible. Some of the proposed improvement is on new alignment to avoid impacts to

LCFPD properties. The proposed right-of-way along the improved U.S. Route 45 is typically 140 feet wide, but varies in certain locations to accommodate drainage ditches, detention ponds, and best management practice areas.

Table 5-3 Proposed Property Acquisition Summary

P.I.N.	Property Location	Temporary Easement		Right-of-Way		Plan Sheet No.
		SQ. FT.	AC.	SQ. FT.	AC.	
02-25-400-012	West side of U.S 45 north of Millburn Bypass	6,458	0.15	166,801	3.83	2/3
02-25-200-002	East side of U.S 45 north of 02-25-400-002	6,090	-	145,677	0.14	2/3/4/5
02-25-200-006	West side of U.S 45 north of 02-25-400-012	95	0.002	39,098	0.90	3/4/5
02-25-200-004	West side of U.S 45 between 02-25-200-006	95	0.002	4,555	0.10	4
02-24-403-003	West side of U.S 45 north of 02-25-200-006	156	0.003	19,884	0.46	5/6
02-24-400-004	East side of U.S 45 north of 02-25-200-002	-	-	5,892	0.14	5/6
02-24-402-009	East side of U.S 45 north of 02-24-400-004	617	0.01	10,763	0.25	6
02-24-402-021	East side of U.S 45 north of 02-24-402-009	515	0.01	1,186	0.03	6
02-24-403-002	West side of U.S 45 north of 02-24-403-003	276	0.01	1,570	0.04	6
02-24-402-019	East side of U.S 45 north of 02-24-402-021	1,383	0.03	14,455	0.33	6
02-24-403-001	SW quad. U.S 45/Miller Rd. int.	151	0.003	9,436	0.22	6/14
02-24-402-014	SE quad. U.S 45/Miller Rd. int.	375	0.01	1,573	0.04	6/14
02-24-300-009	South side of Miller Rd. west of 02-24-403-001	-	-	3,194	0.07	14
02-24-401-001	West side of U.S 45 north of 02-24-403-001	5,250	0.12	14,347	0.33	6/7/14
02-24-300-002	North side of Miller Rd. west of 02-24-401-001	-	-	357	0.008	14
02-24-400-005	East side of U.S 45 north of 02-24-104-001	-	-	49,310	1.13	7
02-24-200-006	East side of U.S 45 north of 02-24-400-005	-	-	71,483	1.64	7/8

Table 5-3 Proposed Property Acquisition Summary

P.I.N.	Property Location	Temporary Easement		Right-of-Way		Plan Sheet No.
		SQ. FT.	AC.	SQ. FT.	AC.	
02-24-100-006	West side of U.S 45 north of 02-24-400-001	95	0.002	250	0.006	8/9
02-24-100-003	East side of U.S 45 north of 02-24-200-006	409	0.009	138,183	3.17	8/9/10
02-24-100-002	West side of U.S 45 north of 02-24-100-004	2,504	0.06	250	0.006	9/10
02-13-300-006	West side of U.S 45 north of 02-24-100-002	539	0.01	-	-	10
02-13-300-004	East side of U.S 45 north of 02-24-100-003	-	-	36,862	0.85	10/11
02-13-300-005	West side of U.S 45 between 02-13-300-003	190	0.004	-	-	10
02-13-300-003	West side of U.S 45 north of 02-13-300-006	2,317	0.05	-	-	10/11
02-13-400-001	SE quad. U.S 45/IL 173 int.	-	-	98,392	2.26	11/12/ 16
02-13-400-002	West side of U.S 45 north of 02-13-300-003	1,912	0.04	16,011	0.37	11/12
02-13-300-001	South side of IL 173 west of 02-13-300-002	-	-	29,375	0.67	12/15
02-13-100-014	NE quad. U.S 45/IL 173 int.	5,005	0.11	23,063	0.53	12
02-13-100-028	North side of IL 173 east of 02-13-100-014	3,337	0.08	23,887	0.55	12/13/ 16
02-13-200-014	North side of IL 173 east of 02-13-100-028	-	-	32,420	0.74	16
02-13-100-040	NW quad. U.S 45/IL 173 int.	3,417	0.08	4,214	0.10	12
02-13-102-016	North side of IL 173 west of 02-13-100-040	-	-	7,597	0.17	12/15
02-13-102-015	West side of U.S 45 west of 02-13-102-016	-	-	12,941	0.30	15
02-13-102-014	North side of IL 173 west of 02-13-102-015	-	-	11,711	0.27	15
02-13-101-015	North side of IL 173 west of 02-13-102-014	-	-	6,453	0.15	15
02-13-100-039	West side of U.S 45 north of 02-13-100-040	2,758	0.06	3,279	0.08	12/13
02-13-102-010	West side of U.S 45 north of 02-13-100-039	-	-	4,458	0.10	12/13

Table 5-3 Proposed Property Acquisition Summary

P.I.N.	Property Location	Temporary Easement		Right-of-Way		Plan Sheet No.
		SQ. FT.	AC.	SQ. FT.	AC.	
02-13-102-007	West side of U.S 45 north of 02-13-102-010	-	-	37,533	0.86	13
02-13-100-024	East side of U.S 45 north of 02-13-100-028	-	-	5,710	0.13	13
02-13-102-006	West side of U.S 45 north of 02-13-102-007	-	-	14,080	0.32	13
02-13-100-031	East side of U.S 45 north of 02-13-100-024	-	-	1,789	0.04	13
	TOTAL	432,944	1.01	1,068,039	24.51	

5.8 Jurisdictional Transfer

There are no roads within the North Section that are proposed for a jurisdictional transfer.

5.9 Structures (Bridges/Large Culverts)

The existing 6 feet wide by 4 feet high reinforced concrete box culvert (RCBC) over Unnamed Tributary Number 3 to North Mill Creek crossing U.S. Route 45 will be replaced with 2-9 feet wide by 4 feet high box culverts with a length approximately 125 feet located at Station 185+75.

The existing 9 feet wide by 5 feet high box culvert over Hastings Creek crossing U.S. Route 45 will be replaced with one low flow 8 feet wide by 7 feet high and two high flow 8 feet wide by 7 feet wide box culverts with a length approximately 157 feet located at Station 240+10.

The existing 36-inch corrugated metal pipe culvert over Unnamed Tributary to Hastings Creek crossing U.S. Route 45 will be replaced with an 8 feet wide by 7 feet high RCBC with a length approximately 118 feet located at Station 266+39.

5.10 Guardrail

There are five proposed locations of guardrail along the U.S. Route 45 North Section.

- Although curb and gutter is located adjacent to the northbound lanes, one guardrail is proposed to prevent vehicles from off-tracking into the detention area (ditch depth greater than 2 feet with 3:1 front slopes on the east side of U.S. Route 45 from Station 167+25 to Station 169+12.
- Although curb and gutter is located along the northbound approach at the crossing over Hastings Creek (Station 240+10), one guardrail is proposed on the northbound approach to prevent vehicles from off-tracking into the compensatory storage location (ditch depth greater than 2 feet and 3:1 front slopes) on the east side of U.S. Route 45
- Although curb and gutter is located along the southbound approach at the crossing over Hastings Creek (Station 240+10) one guardrail is proposed on the southbound approach to prevent vehicles from off-tracking onto unrecoverable 2:1 front slopes on the west side of U.S. Route 45.
- Although curb and gutter is located for the northbound approach at the crossing over the Unnamed Tributary to Hastings Creek (Station 266+39), one guardrail is proposed to prevent vehicles from off-tracking into the proposed compensatory storage location (ditch depth greater than 2 feet with 3:1 front slopes) on the east side of U.S. Route 45.
- Although curb and gutter is located for the southbound approach at the crossing over the Unnamed Tributary to Hastings Creek (Station 266+39), one guardrail is proposed to prevent vehicles from off-tracking into the south bank of the Unnamed Tributary to Hastings Creek (ditch depth greater than 2 feet with 3:1 front slopes) on the west side of U.S. Route 45.

Refer to Appendix A- Exhibit 15 for the guardrail warrant analysis at both locations.

5.11 Traffic Signal Modernization

There is one existing signalized intersection at Illinois Route 173 and U.S. Route 45 within the U.S. Route 45 North Section Project Limits. The traffic signal will be modernized as part of the proposed improvements. Refer to Appendix A - Exhibit 11 for 2040 Build ADT's and peak hour volumes and Exhibit 14 for the Intersection Design Study.

The proposed signalized intersection operates at a level of service C in the a.m. peak period and level of service C in the p.m. peak period, with 33.9 and 34.3 seconds average per vehicle delay respectively.

5.12 Roadway Lighting

The IDOT Bureau of Traffic-Electrical Operations reviewed the entire U.S. Route 45 corridor from Illinois Route 132 to Illinois Route 173 for roadway lighting needs. Based on their review coordination with the Village of Lindenhurst, Village of Old Mill Creek, and Antioch Township, no continuous or intersection lighting is proposed. Roadway lighting coordination is located in Appendix B - IDOT.

5.13 Sidewalks

Proposed sidewalks are located along the east side of U.S. Route 45 from the south project limit north of Independence Boulevard and will connect with the proposed sidewalk on the south side of Illinois Route 173 from the west project limit to the east project limit.

Sidewalks will be constructed in locations where local agencies agree to cost participate and maintain post construction. If the local agency declines, the sidewalks will not be constructed; however, the right-of-way will be acquired and graded as part of this project for future implementation. Coordination was initiated with the Village of Lindenhurst, Village of Old Mill Creek, and Antioch Township. Refer to Appendix C for local agency coordination.

The location of existing and proposed sidewalks may be found in Appendix A - Exhibit 12. Curb ramps were evaluated to determine if the Americans with Disabilities Act (ADA) requirements were met. ADA curb ramp details for each curb ramp within the project area may be found in Appendix A – Exhibit 16.

5.14 Bike Paths

The proposed bike path design includes a ten-foot wide paved bike path with a minimum of five-foot wide separation from the proposed curb and gutter located along the west side of U.S. Route 45 from the south project limit north of Independence Boulevard to the north project limit and will connect with the proposed bike path on the north side of Illinois Route 173.

Bike paths will only be constructed unless there is sufficient support and cost participation from local agencies. If the local agency declines, the bike paths will not be constructed, however the right-of-way will be acquired and graded as part of this project for future implementation. Coordination was initiated with the Village of Lindenhurst, and Village of Old Mill Creek, and Antioch Township. Refer to Appendix C for local agency coordination.

The location of existing and proposed bike paths may be found in Appendix A - Exhibit 12.

5.15 Landscaping

In addition to tree replacement in accordance with IDOT policy, additional landscaping and corridor aesthetics are proposed as part of the proposed improvement. The Village of Lindenhurst has expressed some interest in potential median landscaping and/or gateway/kiosk type landscaping within the project limits. This will require further coordination during Phase II engineering concerning type and location, and to resolve any associated village cost participation and maintenance responsibilities.

5.16 Mass Transportation and Public Service

The nearest bus route (PACE Route 565) to the proposed improvement is at U.S. Route 45 and Illinois Route 132. There are no plans to extend any PACE bus service through the project study area (See Appendix C for PACE coordination).

5.17 Utility Conflicts

Based on coordination that has occurred, utilities with transmission facilities located within the project area include:

- AT&T – Phone
- Sprint - Phone
- West Shore Pipeline
- Nicor Gas - Natural Gas
- Commonwealth Edison - Electric
- Comcast - Cable
- Lake County Public Works --Sanitary Sewer

These companies and agencies were contacted for information describing their facilities in the U.S. Route 45 project study area. Coordination is included in Appendix C and all utility plans are incorporated into the design plans in Appendix A - Exhibit 12.

Adjustment and relocation of utilities will be required in order to implement the proposed improvement. Exact locations of AT&T, ComEd, and Northshore Gas underground utilities need to be located in Phase II. Based on preliminary coordination, some of their utilities are located outside the existing right-of-way and exact location is unknown. Known utility impacts are listed below:

U.S. Route 45

- Along existing alignment, widening of U.S. Route 45 will impact ComEd power poles and overhead lines along the east side of U.S. Route 45 (Station 175+00 to Station 215+09; Station 216+90 to Station 229+00). Along existing alignment, widening of U.S. Route 45 will impact ComEd power poles and overhead lines along the west side of U.S. Route 45 (Station 282+94 to Station 296+50; Station 299+78 to Station 302+66). Along the shifted alignment to the east, widening of U.S. Route 45 will impact ComEd power poles and overhead lines along the east side of U.S. Route 45 (Station 240+80 to Station 310+69). Along the shift alignment to the west, widening of U.S. Route 45 will impact ComEd power poles and overhead lines along the west side of U.S. Route 45 (Station 215+88 to Station 237+82)

- Along the existing alignment, widening of U.S. Route 45 will impact AT&T underground telephone along the east side of U.S. Route 45 (Station 175+00 to Station 181+00; Station 295+67 to Station 297+47). Along the existing alignment, widening of U.S. Route 45 will impact AT&T underground telephone along the west side of U.S. Route 45 (Station 199+20 to Station 215+88).
- Along the shifted alignment to the east, widening of U.S. Route 45 will impact Lake County Public Works Sanitary Sewer along the east side of U.S. Route 45 (Station 266+61 to Station 269+54).
- Along the existing alignment, widening of U.S. Route 45 will impact North Shore Gas line along the west side of U.S. Route 45 (Station 187+81 to Station 188+75; Station 198+44 to Station 199+56; Station 200+41 to Station 201+36; Station 202+02 to Station 203+22; Station 214+31 to Station 226+49). Along the shifted alignment to the west, widening of U.S. Route 45 will impact North Shore Gas line along the west side of U.S. Route 45 (Station 226+49 to Station 240+00). Along the shifted alignment to the east, construction of the shared use path will impact North Shore Gas line along the west side of U.S. Route 45 (Station 283+78 to Station 295+74; Station 299+13 to Station 307+81).

Illinois Route 173

- Roadway widening and construction of the multi-use path will impact ComEd power poles and overhead lines on the south side of Illinois Route 173 from Station 1190+26 to Station 1209+08. Roadway widening will impact ComEd power poles and overhead lines on the north side of Illinois Route 173 from Station 1189+02 to Station 1195+84. Roadway widening and grading for Drainage Basin No. 24 will impact ComEd power poles and overhead lines on the north side of Illinois Route 173 from Station 1198+90 to Station 1210+56.
- Roadway widening will impact AT&T underground telephone along the north side of Illinois Route 173 from Station 1204+28 to Station 1206+85.
- Roadway widening will impact the North Shore Gas line along the south side of Illinois Route 173 from Station 1190+94 to Station 1197+92 to Station 1208+83 and from Station 1197+92 to Station 1208+83.

Miller Road

- Roadway widening will impact ComEd power poles and overhead power lines on the south side of Miller Road from Station 1994+55 to Station 1999+48 (west leg) and from Station 300+49 to Station 3002+14 (east leg).
- Roadway widening will impact North Shore Gas line along the south side of Miller Road from Station 1994+12 to Station 2000+00 (west leg) and from Station 3000+05 to Station 3003+39 (east leg).

Any utility adjustment and/or relocation will be done within the limits of right-of-way by the respective utility owner and coordinated with the roadway construction to avoid disruption to local service.

5.18 Retaining Walls

There are no existing retaining walls affected by the improvement. Proposed retaining walls are being planned at three locations to minimize the roadway footprint. Refer to Table 5-4 for a summary of location and size, and Appendix A - Exhibit 12

Table 5-4 Proposed Retaining Wall Locations

Location	Length (Feet)	Max. Height (Feet)	Average Height (Feet)	Area (sq. ft.)	Reason for retaining wall
Sta. 237+54 to Sta. 240+04 (Left)	250	6.9	5.8	883	Limit impacts to LCFPD property and Wetland Site 3 located on the west side of U.S. Route 45.
Sta. 240+03 to Sta. 242+53 (Right)	250	6.3	5.7	1,575	Limit impacts to Wetland Site 3 located on the east side of U.S. Route 45
Sta. 309+30 to Sta. 310+70 (Right)	140	6.9	6.2	1,159	Limit impacts to the residential property including the retention pond on the east side of U.S. Route 45.

5.19 Safety

The proposed improvement includes the addition of one travel lane in each direction as well as auxiliary turn lanes at intersections. Curb and gutter and barrier median will be incorporated with a new drainage system. Traffic signals at the existing signalized intersection of Illinois Route 173 will be modernized.

- U-turn lanes and bump outs are provided at the Kelly Road intersection, the Raven Glen Forest Preserve Entrance, and Burr Hollow Drive intersection, and at mid-block locations on U.S. Route 45 within the North Section, and west and east of U.S. Route 45 on Illinois Route 173 creates channelization and storage space reducing the possibility for Rear-End collisions and adequate turning space to complete U-turns.
- Dual left turn lanes on the north and south legs and additional right turn lanes on all four legs of the Illinois Route 173 at U.S. Route 45 intersection; additional left turn lanes on the north, south, and west legs and right turn lanes on the north and south legs of the Miller Road at U.S. Route 45 intersection; and additional left turn lanes on the north legs of the Kelly Road and Burr Hollow Road and on the south leg of the Raven Glen Forest Preserve Entrance at U.S. Route 45 intersections creates channelization and storage areas for turning vehicles, reducing the possibility for Rear-End collisions.
- Modern signal equipment will be used, which will increase visibility of the intersection traffic control as compared to existing signal equipment, as well as create longer sight lines

to the intersection and increase stopping sight distance. Replacement of the existing traffic will include the standard increased signal head size and the latest technology in emergency vehicle preemption.

- New pavement will be provided which will create a smoother riding surface with increased friction for maneuvering and stopping.
- A new drainage system will be incorporated within the entire project improvement.
- Capacity improvements were incorporated with the entire improvement with the addition of travel lanes and turn lanes with proper storage. This will provide for smoother and safer traffic flow through the intersections and will reduce the probability of Rear-End crashes.

5.20 Traffic Service

U.S. Route 45 is an important Strategic Regional Arterial, north-south, Class II truck route which serves not only local but regional through traffic from surrounding suburbs as well as the interstate system. As depicted on Exhibit 11 in Appendix A, U.S. Route 45 is expected to serve 14,000 to 23,000 vehicles per day.

Illinois Route 173 is an important Strategic Regional Arterial, east-west roadway which serves not only local but regional through traffic from surrounding suburbs as well as the interstate system. As depicted on Exhibit 11 in Appendix A, Illinois Route 173 is expected to serve 21,000 to 23,000 vehicles per day.

The speed limit will be 50 mph on U.S. Route 45 and 55 mph on Illinois Route 173. Speed studies will be conducted post construction to determine suitable speed limits.

Local travel patterns will be temporarily disrupted during construction activities. Access to all residences and businesses shall be maintained during construction of this project. However, some temporary access to individual properties will be disrupted during short periods when work is being performed.

5.21 Preliminary Estimate of Construction Cost

As shown in Table 5-5 the preliminary estimate of construction cost for the project based on available IDOT 2018 unit prices is \$28.00 million. Additional costs include land acquisition, Phase II engineering, and Phase III engineering.

Table 5-5 Preliminary Estimate of Construction Cost ¹

Items	U.S. Route 45	IL Route 173	Miller Road (West)	Miller Road (East)	Total
Earthwork	\$ 2,296,535.09	\$ 196,477.14	\$ 36,445.63	\$ 27,723.68	\$ 2,557,181.53
Roadway	\$ 9,913,627.77	\$ 1,420,217.26	\$ 207,122.10	\$ 109,330.27	\$ 11,650,297.40
Structures and Retaining Wall	\$ 1,101,475.00	\$ -	\$ -	\$ -	\$ 1,101,475.00
Sidewalk and Bikepath	\$ 860,937.67	\$ 129,307.23	\$ -	\$ -	\$ 990,244.91
Roadway Removals	\$ 797,983.37	\$ 226,830.73	\$ 20,314.62	\$ 13,305.33	\$ 1,058,434.06
Drainage	\$ 2,128,024.00	\$ 357,765.00	\$ 16,520.00	\$ -	\$ 2,502,309.00
Drainage Removals	\$ 29,990.00	\$ 625.00	\$ -	\$ -	\$ 30,615.00
Traffic Signals	\$ 400,000.00	\$ -	\$ -	\$ -	\$ 400,000.00
Construction Subtotal:	\$ 17,528,572.89	\$ 2,331,222.36	\$ 280,402.35	\$ 150,359.28	\$ 20,290,556.89
Miscellaneous					
Mobilization (4%)	\$ 876,428.64	\$ 116,561.12	\$ 14,020.12	\$ 7,517.96	\$ 1,014,527.84
Traffic Control and Protection (2%)	\$ 350,571.46	\$ 46,624.45	\$ 5,608.05	\$ 3,007.19	\$ 405,811.14
Construction Layout (1%)	\$ 175,285.73	\$ 23,312.22	\$ 2,804.02	\$ 1,503.59	\$ 202,905.57
Erosion Control Systems (1%)	\$ 175,285.73	\$ 23,312.22	\$ 2,804.02	\$ 1,503.59	\$ 202,905.57
Utilities (5%)	\$ 876,428.64	\$ 116,561.12	\$ 14,020.12	\$ 7,517.96	\$ 1,014,527.84
Landscaping and Restoration (2%)	\$ 175,285.73	\$ 23,312.22	\$ 2,804.02	\$ 1,503.59	\$ 202,905.57
Miscellaneous Subtotal:	\$ 20,157,858.83	\$ 2,680,905.72	\$ 322,462.70	\$ 172,913.18	\$ 23,334,140.42
Contingency (20%)	\$ 4,031,571.77	\$ 536,181.14	\$ 64,492.54	\$ 34,582.64	\$ 4,666,828.08
CONSTRUCTION TOTAL	\$ 24,189,430.59	\$ 3,217,086.86	\$ 386,955.24	\$ 207,495.81	\$ 28,000,968.51

1. Based on available 2018 IDOT Unit Prices

5.22 Traffic Management Analysis

The Traffic Management Analysis (TMA) addresses the overall strategy for maintaining traffic flow during the construction of the proposed improvement of U.S. Route 45, Illinois Route 173, and Miller Road. Several utilities will need to be relocated as discussed in Section 5.17. U.S. Route 45 is an existing facility on both existing alignment and on both an eastward and westward alignment shift. Illinois Route 173 is an existing facility on existing alignment. Miller Road is an existing facility on existing alignment. A majority of U.S. Route 45, Illinois Route 173, and Miller Road can be constructed without significantly impacting existing traffic. A multi-stage construction approach is proposed for the north and south transitions back to the existing U.S. Route 45 alignment from the proposed alignment shift as well as Illinois Route 173 and Miller Road on existing alignment.

5.22.1 Traffic Characteristics

U.S. Route 45 is a principal arterial and strategic regional arterial roadway. Due to some disturbances during construction it is expected that some motorists will use alternate routes. Truck traffic represents approximately 8 to 14.5 percent of the total traffic depending on the time of the day. A large majority of the traffic on U.S. Route 45 is through traffic with origins and destinations outside the project limits. Illinois Route 173 is a principal arterial with a projected ADT during the construction year. Due to the lack of east-west routes, it is expected that a majority of the traffic will remain using Illinois Route 173 during construction. Miller Road is a local route. Due to the lack of east-west routes, it is expected that a majority of the traffic will remain using Miller Road during construction.

5.22.2 Access

Local travel patterns will be temporarily disrupted during construction activities. Access to all residential and commercial driveways will be maintained during construction of this project. However, some temporary access to individual properties will be disrupted during short periods when work is being performed.

5.22.3 Traffic Management Plan

Traffic flow will be maintained through the project limits during construction of U.S. Route 45, with access being maintained on Kelly Road, Miller Road, Illinois Route 173, and Burr Hollow Drive, and during construction of Illinois Route 173 with access maintained on Pedersen Drive as well as residential and commercial driveways. In general, substantial portions of the new alignment facilities can be constructed without interruption to the existing roadway network. For the portions of improvements that involve the existing roadways, construction will be carried out using temporary widening on existing shoulders and generally staged to shift traffic to one side of the roadway while the other is being reconstructed. Two main construction stages are anticipated as discussed below. Additional sub-stages may be determined to be required for utility relocations,

local street connections, etc. Maintenance of traffic typical sections are located in Appendix A – Exhibit 8.

The anticipated stages of U.S. Route 45 construction are as follows:

Pre-Stage – Construct temporary pavement on the east side of U.S. Route 45.

Stage 1 – Maintain one lane of traffic in each direction on the existing U.S. Route 45 pavement and temporary pavement. Construct southbound lanes.

Stage 2 – Shift one lane of traffic in each direction on the newly constructed U.S. Route 45 southbound lanes and construct northbound lanes.

Stage 3 – Shift one lane of traffic of northbound and southbound traffic on the newly constructed U.S. Route 45 lanes and construct median, left turn lanes, and U-turn lanes.

Stage 4 – Final grading, landscaping, seeding and restoration.

The anticipated stages of Illinois Route 173 are as follows:

Pre-Stage – Construct temporary pavement on the south side of Illinois Route 173.

Stage 1 – Maintain one lane of traffic in each direction on the temporary pavement and existing eastbound lane on Illinois Route 173 and maintain left turn lanes at the U.S. Route 45 intersection. Construct pavement on the north half of Illinois Route 173.

Stage 2 – Shift one lane of traffic in each direction on the newly constructed north half of Illinois Route 173 and maintain left turn lanes at the U.S. Route 45 intersection. Construct pavement on the south half of Illinois Route 173.

Stage 3 – Final grading, landscaping, seeding and restoration.

The anticipated stages of Miller Road are as follows:

Stage 1 – Maintain one lane of traffic in each direction on existing pavement. Construct widened pavement on the south side of Miller Road.

Stage 2 – Final grading, landscaping, seeding and restoration

5.23 Environmental Consequences

The environmental consequences of the proposed improvement are discussed in detail in the separately bound EA prepared for the project, the EA Errata, and the Finding of No Significant Impact (FONSI). A summary of the environmental consequences of the proposed improvement are below.

5.23.1 Social/Economic

5.23.1.1 *Relocations – Business and Residential*

The proposed U.S. Route 45 North Section improvements will not require residential or business relocations. However, changes to the roadway profile and alignments will require right-of-way and temporary easements for parkway, ditch, driveway grading, and detention.

There is no public subsidized housing affected by the Selected Alternative. Residences will be relocated in accordance with the “Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended”, and IDOT’s *Land Acquisition Procedures Manual* (IDOT, 2011). Participation under the state and federal policies is without discrimination.

5.23.1.2 *Changes in Travel Patterns*

A barrier curbed median is proposed for U.S. Route 45 with median breaks at dedicated local streets and other major access points where practical and feasible. The barrier curbed median may require some property owners with access points directly on U.S. Route 45 to make U-turns associated with ingress/egress to their property. The proposed improvement plan is designed to accommodate U-turns at median openings where practical and feasible. Refer to Appendix A – Exhibit 12 for detailed locations.

5.23.1.3 *Economic Impacts*

The proposed project will improve the capacity, mobility, safety, and existing operational deficiencies along U.S. Route 45. Travel efficiency to and from surrounding businesses will be improved, resulting in potential positive effects to the businesses within the area. No businesses or tax based loss will occur as a result of the proposed project. No on-street parking impacts are anticipated. No negative economic impacts will be associated with the proposed improvements.

5.23.1.4 *Change in Land Use and Economic Development*

The land-use adjacent to U.S. Route 45 within the North Section project limits varies with a mix of residential, agricultural, commercial, open space, and vacant parcels. East of U.S. Route 45 from north of Independence Boulevard to Illinois Route 173, the land use is predominantly agricultural, with residential areas between Kelly Road and Miller Road and vacant land near the south project limit. West of U.S. Route 45 from north of Independence Boulevard to Illinois Route 173, the land use is predominantly open space and agricultural with residential areas between Kelly Road and

Miller Road. Land use at the Illinois Route 173 intersection is predominantly commercial areas with residential areas north of Illinois Route 173 (Refer to Appendix A - Exhibit 3).

Based on a review of local zoning maps and comprehensive plans, future land use in the vicinity of the U.S. Route 45 corridor is anticipated to be predominantly residential followed by smaller areas of commercial, industrial, agricultural, open space, and institutional land uses. Access to the area is already provided. With the proposed project’s improvements to capacity, mobility, and safety, it is possible that land use conversion will occur based on improved development potential. The project is consistent with regional and local land use plans, and is not anticipated to induce any major development or development change that is not already in the foreseeable planning stage. Refer to Appendix A - Exhibit 3 for existing and proposed land uses.

The Chicago Metropolitan Agency for Planning (CMAP), with data from the 2010 U.S. Census Bureau and regional land use development information, prepares population and employment projections for the northeastern Illinois region. Table 5-6 shows population and employment growth for Lake County and municipalities adjacent to or near the project study area by the year 2040. In general, population and employment growth within and adjacent to the project study area are projected to increase by the year 2040 as a result of planned development. In general, all municipalities adjacent to or near the project study area are projected to have substantially higher population growth than the Lake County average (with the exception of population growth for the Village of Lindenhurst). Employment opportunities are also anticipated to increase, albeit not as rapidly as the population in this area. This projected growth is anticipated to result in an increase in associated travel demand.

Table 5-6 Projected Population and Employment Growth

Location	Population Growth			Employment Growth		
	2010	2040	percent growth	2010	2040	% growth
Lake County	703,462	953,673	35.6	384,259	470,939	22.6
Lindenhurst	14,264	17,239	20.9	2,142	2,934	37.0
Old Mill Creek	178	5,058	2,741.6	1,183	1,388	17.3
Lake Villa	8,741	21,046	140.8	3,613	4,354	20.5
Antioch	14,430	26,624	84.5	5,226	6,055	15.9
Fox Lake	10,579	18,063	70.7	4,432	5,175	16.8
Gurnee	31,295	49,201	57.2	20,156	28,130	39.6

On this basis, roadway improvements to ensure effective mobility to and through the project study area after the development is completed, is an essential goal/objective of LCDOT and IDOT for this area. The anticipated growth in this area will add considerable travel demand to the existing roadway network, with an increased potential of adverse travel to access the arterial roadway

network, and a resulting increased incidence of cut-through traffic on local residential streets in the project study area.

Dependable transportation is important in helping to retain and attract businesses to an area. With the proposed project and its resultant capacity, mobility, and safety improvements, development potential is improved. This, in turn, could enhance redevelopment potential of underutilized properties, stimulate land use change, and create potential development and redevelopment opportunities throughout the project area.

5.23.1.5 Community Cohesion

The project area includes areas within the Villages of Lindenhurst and Old Mill Creek as well as unincorporated portions of Lake County. The proposed improvement generally lies within the municipal boundaries of the Village of Lindenhurst, predominantly on the west side of U.S. Route 45, and the Village of Old Mill Creek, predominantly on the east, and within unincorporated Antioch Township on both the west and east side of U.S. Route 45 north of Kelly Road.

Residential uses within the North Section primarily consists of rural residential homes on large lots. The rural residential lots currently divided by U.S. Route 45 have diminished opportunities for neighborhood interaction because U.S. Route 45 is currently a higher volume two-lane highway with no pedestrian facilities and because the rural residential lots along U.S. Route 45 are spaced apart. The proposed improvement will accommodate a 10 feet wide multi-use path along the west side of U.S. Route 45, and the east side of U.S. Route 45 will provide a 5 feet wide sidewalk for the full project limits. Implementation and use of the paths/sidewalks are anticipated to improve community cohesion in the local area.

Public services and facilities within the project area are primarily located near the residential subdivisions. Other public services and facilities within (or immediately adjacent to the project study area) include various municipal parks and an early learning centers. The majority of these facilities provide places for people to congregate and/or create a sense of community and well-being. Access to these facilities by foot, bicycle, or from local streets is not anticipated to change substantially from existing conditions and may improve with the implementation of the additional trails and sidewalks.

5.23.1.6 Public Facilities and Services

Public services and facilities within (or immediately adjacent to the project study area) include forest preserves and a church. Potential impacts to these public services and facilities are discussed below.

St. Raphael the Archangel Roman Catholic Church is located on the southwest corner of Kelly Road and U.S. Route 45. Also included in this parcel are the church office and open space currently used for agricultural purposes and is owned by the Archdiocese of Chicago. The proposed improvement will impact approximately one acre along the west side of the open space within the

St. Raphael Church parcel. No other public services or facilities will be affected by the proposed project.

The roadways in the area are used by school buses, and emergency vehicles (e.g., fire, police, and ambulance). Emergency services, such as fire and police, throughout the project corridor and adjacent area are provided by local municipalities, townships, and/or Lake County.

This project has been presented at two public meetings and discussed at individual community meetings (Refer to Chapter 6.0). Other than the temporary disruption of traffic movement during construction, no negative impacts to public facilities and services are anticipated as a result of the proposed project.

5.23.1.7 Title VI and Other Projected Groups; Environmental Justice

The demographic assessment of the immediate project and the municipalities and townships near the project showed minority and age population variation as compared to Lake County and the State of Illinois, within Census Tract 8616.09 in Warren Township (east of U.S. Route 45 and north of Illinois Route 132). However, the proposed action will not include the acquisition of homes or businesses in this area, and the action does not result in disproportionately high and adverse impacts upon this group. Refer to the EA developed for the project for more detailed information.

5.23.1.8 Pedestrian and Bicycle Facilities

The LCFPD has plans to extend the Millennium Trail (a planned 35-mile regional trail) to connect central, western, and northern Lake County communities and forest preserves. Plans for the Millennium Trail system including a section to Raven Glen Forest Preserve and Ethel's Woods Forest Preserve near Miller Road, and to the Mill Creek Forest Preserve to the southeast. (Refer to Appendix A - Exhibit 5).

Included as part of the extension of the Millennium Trail is the U.S. Route 45 underpass project located north of Miller Road. The underpass will be 18 feet wide, wall to wall with headwalls located outside the existing IDOT right-of-way and outside the proposed right-of-way associated with the reconstruction and widening of U.S. Route 45 from the Millburn Bypass to Illinois Route 173. The underpass will be drained by a storm sewer located within the Raven Glen Forest Preserve. This underpass is anticipated to be constructed prior to the widening and reconstruction of U.S. Route 45 and will be maintained by the LCFPD (Refer to Appendix A- Exhibit 18 and Appendix C – Lake County Forest Preserve District Coordination).

Based on the Lindenhurst Community Pedestrian and Bike Trail Comprehensive Plan (2008), the project site lies near a number of existing and planned trails. One planned trail in the vicinity of the project area is the Priority #2 Segment. This trail will generally start north of the intersection of U.S. Route 45 and Independence Boulevard and continue north along the west side of U.S. Route 45 to Raven Glen Forest Preserve and Ethel's Woods Forest Preserve near Miller Road. (Refer to Appendix A - Exhibit 6)

The proposed improvement will accommodate a 10 feet wide multi-use trail along the west side of U.S. Route 45 and a 5 feet sidewalk along the east side of U.S. Route 45 for the full project limits. The proposed multi-use trail and sidewalk will connect with the planned multi-use trail by the LCFPD connecting Raven Glen Forest Preserve with Ethel's Woods Forest Preserve and to the Mill Creek Forest Preserve to the southeast via an underpass across U.S. Route 45 north of Miller Road. A trail and sidewalk will also be provided on the north and south sides respectively along Illinois Route 173 within the study area. These trails/sidewalks will improve community cohesion, provide links to existing trail systems, and/or opportunities for future trail connections.

5.23.2 Agricultural

Potential impacts to agricultural land as a result of the proposed project have been coordinated with the NRCS and the Illinois Department of Agriculture (IDOA). In a letter dated May 2, 2012, IDOA stated that the Selected Alternative complies with IDOT's Agricultural Land Preservation Policy and the Farmland Preservation Act (505 ILCS 75/1 et seq.). A copy of the IDOA determination letter and a completed copy of USDA NRCS Form AD-1006 are included in the EA Section 3.2.

5.23.3 Cultural

5.23.3.1 Archaeological

In a letter dated April 20, 2011, IDOT/BDE determined that no historic properties subject to protection under Section 106 of the National Historic Preservation Act of 1966, as amended, will be affected by the proposed project. The State Historic Preservation Officer (SHPO) concurred on April 20, 2011. On April 25, 2011, Archaeological Resource Clearance was received for the project and is included in Appendix B and the EA Section 3.3.

5.23.3.2 Historic Bridges

Based on a review of the Illinois Historic Bridge Survey, there are no known historic bridges involved with the project. No impacts to historic bridges are anticipated.

5.23.3.3 Historic Districts and Buildings

There are no known historic districts and buildings involved with the project.

5.23.4 Air Quality

5.23.4.1 Air Quality Conformity

Based on 2040 traffic projections and anticipated percentage of truck traffic, it has been determined that the project will not cause or contribute to any new localized PM_{2.5} or PM₁₀ violations or increase the frequency or severity of any PM_{2.5} or PM₁₀ violations. USEPA has determined that such projects meet the Clean Air Act's requirements without any further Hot-Spot analysis.

5.23.4.2 Micro scale Analysis

The results from this proposed roadway improvement indicate that a COSIM 3.0 air quality analysis is not required, as the results for the worst-case receptor are below the 8-hour average NAAQS for CO of 9.0 ppm, which is necessary to protect the public health and welfare. See the project EA for more detailed information.

5.23.4.3 Construction-Related Particulate Matter

Demolition and construction activities can result in short-term increases in fugitive dust and equipment-related particulate emissions in and around the project area. (Equipment-related particulate emissions can be minimized if the equipment is well maintained.) The potential air quality impacts will be short-term, occurring only while demolition and construction work is in progress and local conditions are appropriate.

The potential for fugitive dust emissions typically is associated with building demolition, ground clearing, site preparation, grading, stockpiling of materials, on-site movement of equipment, and transportation of materials. The potential is greatest during dry periods, periods of intense construction activity, and during high wind conditions.

The Department's Standard Specifications for Road and Bridge Construction include provisions on dust control. Under these provisions, dust and airborne dirt generated by construction activities will be controlled through dust control procedures or a specific dust control plan, when warranted. The contractor and the Department will meet to review the nature and extent of dust-generating activities and will cooperatively develop specific types of control techniques appropriate to the specific situation. Techniques that may warrant consideration include measures such as minimizing track-out of soil onto nearby publicly-traveled roads, reducing speed on unpaved roads, covering haul vehicles, and applying chemical dust suppressants or water to exposed surfaces, particularly those on which construction vehicles travel. With the application of appropriate measures to limit dust emissions during construction, this project will not cause any substantial, short-term particulate matter air quality impacts.

In addition to dust control, IDOT has developed Special Provisions to reduce diesel exhaust air pollution from construction activities. These Special Provisions include: the use of cleaner burning diesel fuel (e.g., Ultra Low Sulfur Diesel Fuel), idling reduction requirements for construction equipment, and installation of retrofit emission control devices for older diesel fuel powered construction equipment. The Special Provisions can be found at <http://www.dot.state.il.us/airquality.html>. Contractor/subcontractor adherence to the Special Provisions will reduce diesel exhaust air pollution during construction activities associated with this project.

5.23.4.4 Mobile Source Air Toxics

The localized level of MSAT emissions for the Selected Alternative could be higher relative to the No-Build Alternative, but this could be offset due to increases in speeds and reductions in congestion, which are associated with lower MSAT emissions. Also, MSAT will be lower in other

locations when traffic shifts away from them. However, on a regional basis, USEPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be substantially lower than today.

5.23.5 Noise

A Traffic Noise Technical Report was completed in May 2012 using the FHWA Traffic Noise Model (TNM) 2.5 to model the existing (2011) and predict the future (2040) Build and No-Build traffic noise levels for representative receptors. The criteria used to evaluate the noise impacts are contained in Title 23 CFR 772. Refer to the EA Section 3.5 for detailed information regarding the noise analysis conducted for this project.

As a result of the additional travel lanes on U.S. Route 45 within the North Section project area, there are properties that will see an increase in traffic noise. However, the increase in traffic noise will not approach or exceed the Noise Abatement Criteria level (NAC) of 67 dB(A). On this basis, noise abatement walls will not be constructed at any location along U.S. Route 45 within the North Section project limits.

Coordination with local officials having jurisdiction over adjacent undeveloped lands within the project area has occurred. Letters were sent to the Village of Lindenhurst, the Village of Old Mill Creek, and the Lake County Planning Department to provide the results of the traffic noise study, and to provide information on estimated future noise levels that may be useful with respect to protecting future land development from being incompatible with anticipated future traffic noise levels. A follow coordination meeting was held with the Village of Lindenhurst. Refer to Appendix C for coordination and the EA Section 3.5.

5.23.6 Energy

Construction of the proposed improvement will have required indirect consumption of energy for processing materials, construction activities, and maintenance for the lane miles to be added within the project limits. Energy consumption by vehicles in the project area may increase during construction due to possible traffic delay or re-routing.

Construction of the proposed improvement will reduce traffic congestion and turning conflicts along the route and thereby vehicular stopping and slowing conditions. Additional benefits will be realized from increased capacity and smoother riding surfaces. This will result in less direct and indirect vehicular operational energy consumption for the proposed improvement than for the no-build alternatives. In the long term, post-construction operational energy requirements should offset construction and maintenance energy requirements and result in a net savings in energy usage.

The proposed improvement also includes bicycle and pedestrian accommodations, thereby encouraging travel by these no-motorized modes of transportation, which do not consume energy.

5.23.7 Natural Resources

5.23.7.1 Endangered and Threatened Species

Federal-Listed Species

Based on a letter from U.S. Fish and Wildlife Service (USFWS), dated March 6, 2009, there are no known locations of federal listed species within the proposed project corridor. The results of the wetland and botanical survey were submitted to the Illinois Department of Natural Resources (IDNR), USFWS, and the U.S. Army Corps of Engineers (USACE) on January 8, 2010. Clearances are included in Appendix B.

No impacts to federal-listed threatened or endangered species are anticipated as a result of the proposed improvements.

State-Listed Species

Consultation with respect to state-listed threatened and endangered species and Natural Areas was initiated with the IDNR through the Ecological Compliance Assessment Tool (EcoCAT) for the project. In letters terminating consultation for this project dated March 9, 2009 and August 20, 2009, IDNR concluded that adverse effects to state-listed threatened and endangered species and Natural Areas are unlikely. Updated clearance with respect to natural resources review was received from IDNR on February 7, 2012 (Appendix B).

No impacts to state-listed threatened or endangered species are anticipated as a result of the proposed improvements. Refer to the EA Section 3.6.3 for more detailed information.

5.23.7.2 Wetlands

Based on current federal and state methodology, INHS conducted wetland determinations within the study area on September 1-3, 28-30, and November 2-3, 2009. A total of 0.26 acre of wetland impacts from three wetlands are associated with the proposed North Section improvements. Refer to Appendix B for clearances and the EA Section 3.10 for more detailed information.

5.23.7.3 Streams

Unnamed Tributary (Number 3) to North Mill Creek

North Mill Creek flows south along the eastern border of the project area to its confluence with Millburn Creek south of the Millburn Road and Crawford Road intersection. Within the project area, neither North Mill Creek nor the Unnamed Tributary (Number 3) to North Mill Creek are rated for biological integrity or diversity, based on the IDNR Biological Stream Rating Report (2008). The Unnamed Tributary (Number 3) to North Mill Creek is not mapped as ADID within the project corridor.

Impacts to the Unnamed Tributary (Number 3) to North Mill Creek will occur as a result of the project. The existing 6 feet wide by 4 feet high reinforced concrete box culvert (RCBC) will be

replaced with 2-9 feet wide by 4 feet high box culverts with a length approximately 125 feet located at Station 185+75.

Hastings Creek

Hastings Creek flows west to east through the northern portion of the project corridor and crosses under U.S. Route 45 approximately 1,000 feet north of Miller Road. Hastings Creek is tributary to North Mill Creek. Within the project area, neither Hastings Creek are rated for biological integrity or diversity in the vicinity of the project corridor, based on the IDNR Biological Stream Rating Report (2008).

Impacts to Hastings Creek will occur as a result of this project. The existing 9 feet wide by 5 feet high box culvert will be replaced with low flow 8 feet wide by 7 feet high and 2-8 feet wide by 7 feet wide box culverts. with a length approximately 157 feet located at Station 240+10.

Unnamed Tributary to Hastings Creek

Hastings Creek flows west to east through the northern portion of the project corridor and crosses under U.S. Route 45 approximately 1,000 feet north of Miller Road. Hastings Creek is tributary to North Mill Creek. Within the project area, neither Hastings Creek nor the Unnamed Tributary to Hastings Creek are rated for biological integrity or diversity in the vicinity of the project corridor, based on the IDNR Biological Stream Rating Report (2008).

Impacts to the Unnamed Tributary to Hastings Creek will occur as a result of this project. The existing 36-inch corrugated metal pipe culvert will be replaced with an 8 feet wide by 7 feet high RCBC with a length approximately 118 feet located at Station 266+39.

Refer to Section 5.9 for structural information and the EA for additional water resources information.

5.23.7.4 Trees

Based on the tree study completed for this project, two woodland types dominate the project corridor: closed woodland and wooded fencerows. Much of the closed woodland consists of relatively small, scattered wooded lots with several larger closed woodland areas located off-site (but extending into the project corridor). There are no dense, unfragmented woodland sites that exceed 20 acres within the project corridor. The wooded fencerows consist of narrow tree lines primarily containing one row of trees and shrubs between the existing roadway and adjacent open fields.

Woodland impacts associated with the proposed project include vegetation removal and potential impacts due to root zone encroachment, soil compaction and hydrologic modification. Impacts could be either direct or indirect. Direct woodland impacts will result from roadway construction, pavement widening, grading for drainage and the construction of storm water management facilities. Indirect impacts could result from root zone encroachment due to adjacent construction

activities, soil compaction, change in hydrology, further fragmentation of woodland resources, and increased edge effect for remaining fragmented woodland.

Based on the results of a tree study completed for this project, and the current limits of the roadway improvement right-of-way, approximately 660 trees will be directly impacted within the proposed North Section construction area.

Efforts will be made to preserve specimen trees and trees that function as screening, as practical and feasible. Tree and vegetation replacement will be guided by IDOT's Policy D&E-18, Preservation and Replacement of Trees, and Chapter 59 ("Landscape Design") of the BDE Manual, where practicable and feasible. (Refer to Appendix F – Tree Survey)

5.23.7.5 Forest Preserve & Parks

Based on coordination with IDNR and/or the LCFPD, it was determined the following properties were purchased using Open Space Lands Acquisition (OSLAD) and/or Open Land Trust (OLT) (525 ILCS 33/1 *et seq.*) funds: north portion of Raven Glen Forest Preserve adjacent to the west side of U.S. Route 45 (OSLAD) and the southwest corner of Ethel's Woods Forest Preserve adjacent to the east side of U.S. Route 45 (OLT). No impacts to the portions of Raven Glen Forest Preserve purchased with OSLAD funds and portions of Ethel's Woods purchased with OLT funds are proposed as part of proposed improvements. The U.S. Route 45 North Section improvements requires approximately 0.54 acres of right-of-way from parts of Raven Glen Forest Preserve which were not purchased using OSLAD funds.

LCFPD was included in the project Community Advisory Group (CAG). Coordination meetings have been held with the LCFPD. Refer to Appendix C for all LCFPD coordination.

5.23.7.6 Coordination

In a meeting with the Lake County Forest Preserve District on February 21, 2011, the LCFPD expressed interest in connecting several Lake County forest preserves through an integrated trail system, including connecting McDonald Woods on the south with Raven Glen Forest Preserve and Ethel's Woods Forest Preserve to the north (also with other forest preserves located north of Illinois Route 173), extending the trail system to the east, and connecting with the newly acquired Mill Creek Forest Preserve to the southeast. The LCFPD stated that an underpass option between Raven Glen Forest Preserve and Ethel's Woods Forest Preserve north of Miller Road was preferable (Refer to Appendix C).

In a meeting with the LCFPD on October 21, 2011, the LCFPD envisioned providing a connection between the proposed path going under U.S. Route 45 north of Miller Road within the Raven Glen Forest Preserve and the proposed path along the west side of U.S. Route 45. The LCFPD requested that this connection be represented on the proposed plans as a future connection by the LCFPD (Refer to Appendix C).

In a letter dated May 20, 2013 and signed by LCFPD on May 24, 2013, LCFPD provided their concurrence, indicating that the selected alternative will not adversely affect the overall recreational activities, features, and attributes of the Raven Glen Forest Preserve. On this basis and based on the Section 4(f) *de minimis* impact finding at the FHWA coordination meeting on July 10, 2013 (Refer to Appendix B).

In a meeting with the LCFPD on September 6, 2018, the LCFPD presented the proposed location of the Millennium Trail extension and the proposed underpass under U.S. Route 45 north of Miller Road. This underpass is anticipated to be constructed prior to the widening and reconstruction of U.S. Route 45 and will be maintained by the LCFPD (Refer to Appendix A- Exhibit 18 and Appendix C – Lake County Forest Preserve District Coordination).

5.23.7.7 Water Quality/Resources

Based on a memo prepared by IDOT, dated June 28, 2010, the IDNR Natural Heritage Database (as of June 28, 2010) did not depict state-listed threatened or endangered species, natural areas, nature preserves, land and water reserves, or high-quality streams as occurring within the project area. The creeks that pass through the project area are not listed as wild and scenic rivers or candidates for wild and scenic river status. As of September 2010, the Pollution Control Board had not designated any of the creeks that pass through the project corridor as Outstanding Resource Waters. INHS conducted field surveys of streams within the project corridor in September and November 2009 and July 2010. Unnamed Tributary (Number 3) to North Mill Creek, Hastings Creek, and Unnamed Tributary to Hastings Creek were identified near the project corridor

North Mill Creek flows south along the eastern border of the project area to its confluence with Millburn Creek south of the Millburn Road and Crawford Road intersection. Within the project area, neither North Mill Creek nor the Unnamed Tributary (Number 3) to North Mill Creek are rated for biological integrity or diversity, based on the IDNR Biological Stream Rating Report (2008). The Unnamed Tributary (Number 3) to North Mill Creek is not mapped as ADID within the project corridor.

Hastings Creek flows west to east through the northern portion of the project corridor and crosses under U.S. Route 45 approximately 1,000 feet north of Miller Road. Hastings Creek is tributary to North Mill Creek. Within the project area, neither Hastings Creek nor the Unnamed Tributary to Hastings Creek are rated for biological integrity or diversity in the vicinity of the project corridor, based on the IDNR Biological Stream Rating Report (2008).

Storm water runoff will be collected through a system of storm sewers and conveyed to outside detention basins. The current storm water management system only uses drainage ditches to collect storm water runoff before discharging runoff to the receiving stream. Ditches extending more than 100 feet in length and vegetated will likely provide a reduction in suspended solids and heavy metals before discharge. The proposed conveyance of storm water runoff into the detention ponds provides an opportunity for settling of large sediment particles.

Additional right-of-way is proposed and is positioned near the outlets for storm water BMPs. These BMPs will slow water velocity and allow settling and filtering of particulates. Vegetation on the right-of way will further remove pollutants through biological processes.

Further design of the detention basins and best management practice areas will occur in Phase II Engineering.

5.23.7.8 Groundwater Resources/Quality

The project study area contains groundwater resources and aquifers within the surficial glacial deposits (unconsolidated system) and within the shallow and deep bedrock systems. Within the surficial deposits, the accessible shallow aquifers can be found in the lenses of sands and gravels of the glacial till.

Based on available well data, most wells near the project corridor are finished within the glacial till; however, a few are finished within bedrock at a depth of approximately 250 feet. Most wells are finished between 100 and 200 feet deep within sand and gravel deposits.

Wells and Groundwater Protection Areas

Based on the Preliminary Environmental Site Assessment (PESA) for this project, 56 water wells were identified within 200 feet of the study limits - as investigated by the Illinois State Geological Survey (ISGS). ISGS identified nine public water wells serving the communities of Lindenhurst, Old Mill Creek, and unincorporated Lake County as located either within the study limits or less than 1000 feet from the study limits.

Additionally, this project crosses nine wellhead protection recharge areas for the public wells (non-community and community water supply wells). Of the nine public wells, eight were non-community water supply wells associated with commercial facilities, learning institutions, and/or forest preserve property. One community water supply well for Lindenhurst was identified; this well is located west of the proposed improvements near Independence Boulevard.

Potential for Contamination of Shallow Aquifers

The project will not create any new potential “routes” (i.e., dry wells, borrow pits) for groundwater pollution or any new potential “sources” (i.e., bulk road oil or deicing salt storage facilities) of groundwater pollution as defined in the Illinois Environmental Protection Act (415 ILCS 5/3, et seq.). Accordingly, the project is not subject to compliance with the minimum setback requirements for community water supply wells or other potable water supply wells, as set forth in 415 ILCS 5/14, et seq. Since no LCDOT or IDOT facilities exist or are planned for this project, there should be no impact on the 1,000-foot setback zones around these wells as determined by the IEPA Division of Public Water Supplies.

The proposed improvement will result in the relocation of three residences. Based on available well data, two of the three residences have wells that will have to be properly abandoned in accordance

with state regulations. Undocumented wells that may be encountered during construction and identified as functional within the proposed corridor of the Selected Alternative will also have to be properly abandoned in accordance with state regulations.

Potential Non-Point Source Pollution

Potential non-point source pollution as a result of this project is anticipated to be negligible. As part of this project, storm water BMPs are proposed to minimize the potential impact of the proposed transportation improvements on wetlands and other water resources. Additionally, direct impacts to wetlands and waters of the U.S. have been avoided or minimized to the extent practical. Additional information regarding the treatment of storm water runoff and protection of surface water resources can be found in the EA Section 3.7 and information on indirect and cumulative impacts are discussed in Section 3.14.

5.23.8 Flood Plains

5.23.8.1 100-Year Flood Plain

Unnamed Tributary (Number 3) to North Mill Creek at Station 185+75

The existing 6 feet wide by 4 feet high reinforced concrete box culvert (RCBC) at Station 185+75 is located approximately 2,400 north of Independence Boulevard. The existing culvert will be replaced with 2-9 feet wide by 4 feet high box culverts. There is an unstudied Zone A floodplain associated with the Unnamed Tributary (Number 3) to North Mill Creek located just east of the U.S. Route 45 alignment. Based on the FIRM, the floodplain limit is outside of the proposed right-of-way and no encroachment will occur.

The project will not result in any significant adverse impacts on the natural and beneficial floodplain values; will not result in any significant change in flood risks or damage; and do not have significant potential for interruption or termination of emergency service of emergency evacuation routes.

Hastings Creek at Station 240+10

The existing 9 feet wide by 5 feet high box culvert at Station 240+10 is located approximately 1,100 north of Miller Road. The existing culvert will be replaced with low flow 8 feet wide by 7 feet high and 2-8 feet wide by 7 feet wide box culverts. The Zone AE floodplain associated with Hastings Creek coincides with the regulatory floodway. Based on the modeled floodplain limit from the Hydraulic Report, the floodplain at the proposed crossing is approximately 80 feet wide downstream of U.S. Route 45 and 100 feet wide upstream. The mapping shows the floodplain over the road; however, based on the 1-foot topographic mapping and published base flood elevations, the 100-year flood is contained within the existing culvert. Requests for the regulatory hydraulic model were made to FEMA, IDOT, and the Illinois State Water Survey. The model was not available from any source. Therefore, a new hydraulic model was created from surveyed cross sections and ran using the published FEMA flood flows. Using accepted modeling techniques, the model was adjusted to match the published FEMA flood elevations as closely as possible.

The proposed US Route 45 improvements at Hastings Creek are designed not to cause adverse impacts to base flood conveyance. A hydraulic analysis has been completed, and an increase in flood heights and flood limits is not anticipated. Floodway encroachment associated with this project will not result in a significant change in flood risks or damage and does not have significant potential for interruption or termination of emergency service or emergency evacuation routes; therefore, it has been determined that this encroachment is not significant.

Unnamed Tributary to Hastings Creek at Station 266+39

The existing 36-inch corrugated metal pipe culvert at Station 266+39 is located approximately 3,900 feet south of Illinois Route 173. The existing culvert will be replaced with an 8 feet wide by 7 feet high RCBC. The floodplain associated with the Unnamed Tributary to Hastings Creek is unstudied Zone A, meaning no base flood elevation has been determined. Based on the modeled floodplain limit from the Hydraulic Report, the floodplain at the proposed crossing is approximately 135 feet wide upstream of U.S. Route 45. However, based on the 1-foot topographic mapping, this floodplain is shown to vary at the site from elevation 755 to elevation 760.

The proposed structure carrying US Route 45 over the Unnamed Tributary to Hastings Creek has been designed not to cause adverse impacts to base flood conveyance. Hydrologic and hydraulic analyses have been completed, and an increase in flood heights and flood limits is not anticipated.

The project will not result in any significant adverse impacts on the natural and beneficial floodplain values; will not result in any significant change in flood risks or damage; and does not have significant potential for interruption or termination of emergency service or emergency evacuation routes.

Refer to Volume IV Section 3-00 for additional information.

5.23.9 Special Waste

A Preliminary Environmental Site Assessment (PESA) has been completed for this project and is included in the EA Section 3.11. The PESA Review cover memo, dated July 14, 2010, states that there are Recognized Environmental Conditions (RECs) along the project route (Refer to Appendix B for clearances). The PESA was updated and the updated PESA Review cover memo, dated January 5, 2018, states that there are REC's along the project route and that a preliminary site investigation (PSI) is required if the project will require new right of way or easement (temporary or permanent), excavation, or subsurface utility relocation on existing right-of-way adjacent to an identified REC site.

Construction of the proposed improvements will require right-of-way acquisition and temporary easements. Further studies may be required if the project will require land acquisition, temporary easements, or excavation (including subsurface utility relocation) on or adjacent to a property with RECs. Evaluations will be completed in Phase II to determine if any of the sites with RECs or

right-of-way adjacent to the site with RECs will be impacted by the proposed work and/or if any right-of-way will be required at any of the REC locations.

It is the responsibility of Phase II to determine if any of the sites with RECs or right-of-way adjacent to the site with RECs will be impacted with the proposed work and/or if any right-of-way will be required at any of the REC locations. Any acquisition shall be discussed with the Bureau of Land Acquisition prior to responding to the PESA to request further studies.

In some cases, the portion of the project that involves the REC can be risk managed and 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 Preliminary Site Investigation (PSI), to determine the nature and extent of possible contamination.

Special waste issues that may arise in the construction phase will be managed in accordance with the IDOT “Standard Specifications for Road and Bridge Construction and Supplemental Specifications and Recurring Special Provisions.”

5.23.10 Section 4(f) Evaluation

Two 4(f) lands are located proximate to the proposed improvements. Raven Glen Forest Preserve and Ethel’s Woods Forest Preserve are managed by the LCFPD and are immediately adjacent to portions of existing U.S. Route 45 north of Miller Road. The southwest portion of Ethel’s Woods just north of Miller Road and east of existing U.S. Route 45 was purchased by LCFPD with OLT funds. In order to avoid right-of-way acquisition from this portion of Ethel’s Woods Forest Preserve, the proposed centerline of U.S. Route 45 was shifted to the west. As a result, some right-of-way acquisition is required from the Raven Glen Forest Preserve along the west side of U.S. Route 45 from Miller Road to Hastings Creek to the north. North of this area, the proposed centerline of U.S. Route 45 was shifted east to avoid additional right-of-way acquisition from Raven Glen Forest Preserve, which includes some areas purchased by LCFPD with OSLAD funds. A temporary easement is required at the existing entrance to Raven Glen Forest Preserve in order to re-establish the entrances as part of the improvements to U.S. Route 45.

At a meeting on October 19, 2011, the LCFPD concurred with the alignment shift to the west near Miller Road to avoid right-of-way acquisition from the Ethel’s Woods Forest Preserve. In a letter dated May 20, 2013 and signed by LCFPD on May 24, 2013, LCFPD provided their concurrence, indicating that this project will not adversely affect the overall recreational activities, features, and attributes of the Raven Glen Forest Preserve. On this basis and based on the Section 4(f) *de minimis* Impact Documentation package prepared and submitted, the FHWA approved a *de minimis* impact finding at the FHWA coordination meeting on July 10, 2013. (Refer to Appendix B)

5.23.11 Permits

The primary federal and state permits and approvals required for this project are listed below and briefly described in the following subsections.

- Section 404 of the CWA permit from USACE
- Confirmation that the soil erosion and sediment control plan meet technical standards from LCSMC
- Section 402 of the CWA NPDES construction permit from IEPA
- Construction in floodplains and floodways of rivers, lakes, and streams permits from IDNR-OWR
- Interagency Wetland Policy Act (IWPA) approval
- IDNR Standard Action Review Concurrence

5.23.11.1 Section 404 of the Clean Water Act

The Selected Alternative will have impacts on waters of the U.S. (e.g., creeks and wetlands). The discharge of dredge or fill materials into jurisdictional waters of the U.S. (including wetlands), is subject to the requirements of Section 404 of the CWA. Projects in Lake County, Illinois, that will have minimal individual and cumulative impacts on aquatic resources may be eligible for the Chicago District USACE, Regional Permit Program. The Section 404 CWA permit is contingent upon receipt of Section 401 (CWA) water quality certification.

5.23.11.2 Section 401 of the Clean Water Act

In Illinois, IEPA issues Section 401 water quality certification. IEPA has granted Section 401 water quality certification for projects that qualify for the USACE Regional Permit Program Review of Soil Erosion and Sediment Control Plans. A cooperative agreement between the USACE and the Lake County Storm Water Management Commission (LCSMC) requires a detailed review of soil erosion and sediment control in conjunction with Section 404 permitting. In Lake County, review will be conducted by the LCSMC. During Section 404 permitting (if required by the USACE), a soil erosion and sediment control plan for the Selected Alternative will be prepared and submitted to LCSMC for confirmation that the plan meets technical standards. The soil erosion and sediment control plan will require installation, maintenance, repair, and inspection of soil erosion and sediment control BMPs throughout the construction process.

5.23.11.3 NPDES Construction Permit

This project is anticipated to result in the disturbance of one or more acres of total land area. Accordingly, the project is subject to the requirement for an NPDES permit for storm water discharges from the construction sites. Permit coverage for the project will be obtained either under the IEPA General Permit for Storm Water Discharges from Construction Site Activities (NPDES Permit Number ILR10) or under an individual NPDES permit. Requirements applicable to such a

permit will be followed, including the preparation of a Storm Water Pollution Prevention Plan (SWPPP). Such a plan shall identify potential sources of pollution that may reasonably be expected to affect the quality of storm water discharges from the construction site. The SWPPP also shall describe and ensure the implementation of practices that will be used to reduce the pollutants in discharges associated with construction site activity and to assure compliance with the terms of the permit. This permit also requires permanent stormwater quality BMPs.

5.23.11.4 Floodway and Floodplain Construction Permits

The preferred alternative will not require an IDNR-OWR construction permit for work within regulatory floodways or for the encroachment of regulatory floodplains since the tributary area is less than 640 acres. The purpose of 17 Illinois Administrative Code 3708 is to provide rules governing construction and filling in the regulatory floodway of rivers, lakes, and streams of Cook, DuPage, Kane, Lake, McHenry, and Will counties, excluding the City of Chicago. 17 Illinois Administrative Code 3700 applies to all rivers, lakes, and streams under IDNR jurisdiction, except those defined by 17 Illinois Administrative Code 3708 and 3700.

5.23.11.5 Interagency Wetland Policy Act (IWPA)-Related Approval

Additional state agency requirements are established under the Illinois IWPA of 1989, so that there is no overall net loss of the state's existing wetland acres or their functional value. The act pertains to state activities (or activities accomplished with state funds) that impact wetlands.

5.23.12 Environmental Commitments

There are no environmental commitments for the North Section of U.S. Route 45.

5.24 Special Design and Construction Considerations

This section summarizes Special Design and Construction Considerations resulting from the project development process, including coordination with various agencies, the communities, and stakeholders.

- A Preliminary Environmental Site Assessment (PESA) has been completed for this project. It is the responsibility of Phase II to determine if any sites or ROW adjacent to the sites will be impacted with the proposed work and/or if any ROW will be required at any of the locations.
- Improvements at the Illinois Route 173 intersection are intended to be consistent with the results of a separate Phase One Study on a separate schedule for Illinois Route 173 from Illinois Route 59 to U.S. Route 41 in which further coordination may be required.
- The proposed U.S. Route 45 profile north of Miller Road is compatible with a future underpass and bike trail connecting Raven Glen Forest Preserve and Ethel's Woods Forest Preserve to be constructed by the LCFPD as a component of the Millennium Trail (a planned 35-mile regional trail) which was a condition of the *de minimis* impact finding.

- Consideration should be given to preserving specimen trees and trees that function as screening, as practical and feasible. Replacement for trees on forest preserve property should be coordinated with the LCFPD.
- Detention basins that retain a certain amount of water to promote wetland like vegetation as well as have varying bottom elevation are preferred by local agencies. The amount of water detention and detention basin bottom grading should be determined in Phase II after consultation and coordination with the LCFPD and Lake County Stormwater Management Commission. The LCFPD is interested in the water quality, design, and function of the detention basins due to the proximity to their holdings and being downstream of the proposed improvement.
- The Lake County Forest Preserve prefers that the side slopes of the detention basin vary to fit in with the surrounding environment to create a natural design.
- All roadway front and back ditch slopes should be 4:1 where feasible with the proposed right-of-way.
- The current roadway design includes proposed guardrail near the Unnamed Tributary to Hastings Creek (Station 262+00 to Station 267+00) and 3:1 front slopes based on compensatory storage requirements and to minimize wetland impacts. With final drainage design as part of Phase II Engineering, along with updated wetland delineations and adjacent land use modifications, potential alternatives to the proposed guardrail should be evaluated if practical.
- LCFPD plans to move forward with the underpass north of Miller Road in advance of U.S. Route 45 reconstruction. A lead Phase II Engineering task will be to survey any work completed by LCFPD to incorporate this information into final roadway and drainage design for U.S. Route 45.

6.0 Coordination and Public Involvement

As part of the overall project development process for the U.S. Route 45 EA within the limits from Illinois Route 132 to Illinois Route 173, coordination occurred with project stakeholders, local government officials, as well as state and federal agencies through a structured coordination and communication program. The opportunity for participation was open with no persons excluded because of income, race, color, religion, national origin, sex, age, or handicap. This chapter summarizes the agency coordination and public involvement activities that occurred during project development, including the early coordination process, coordination activities with resource agency officials, and meetings with area officials, interested groups, and the public.

A Public Involvement Plan (PIP) was prepared which provided for a range of public involvement opportunities for the overall EA project development process. The PIP was used as a “blueprint” for defining methods and tools to educate project stakeholders and provide opportunities for stakeholder input as part of the project decision-making process. The PIP also established the Project Study Group that was made up of representatives from LCDOT, IDOT, FHWA and the project consultants. The Project Study Group was responsible for the ultimate project decisions made at each project development milestone based on stakeholder input as well as other factors such as transportation performance, design considerations, and environmental impacts. A copy of the PIP is available on the project website (www.route45project.com).

A summary of coordination efforts, key issues, comments, and pertinent information obtained through the agency coordination and public involvement process is provided below.

6.1 State and Federal Agency Coordination

6.1.1 NEPA/404 Merger Process

The EA was coordinated under the Statewide Implementation Agreement for concurrent National Environmental Policy Act (NEPA) and Section 404 review processes. This process involved regular NEPA/404 Merger meetings, as well as supplemental meetings, to discuss the project. Although the NEPA/404 Merger meetings were utilized to obtain agency concurrence on the overall project purpose and need within the EA limits, the remainder of the discussion as part of the NEPA/404 Merger meetings with respect to concurrence on alternatives carried forward and the preferred alternative was limited to the Millburn Bypass section of the EA. Ultimately, based on the Waters of U.S./Wetland impacts for the overall project within the EA limits being less than 1.0 acres in the aggregate, and no more than 0.25 acres per site, it was determined by FHWA that further project coordination via the NEPA/404 Merger process was not required. Refer to the EA for information on the dates, times, and content of NEPA/404 Merger meetings that occurred as part of the overall EA development process.

6.2 Federal Highway Administration (FHWA)

Oversight of the project by the Federal Highway Administration (FHWA) occurred to ensure the project follows all applicable federal project development procedures. Eighteen coordination meetings were held with FHWA throughout the course of project development. Summaries of the coordination meetings are included in Appendix B.

6.3 Public Involvement

6.3.1 Community Advisory Group

One of the more formal methods used to facilitate stakeholder involvement for the overall EA project development process was the establishment of the Community Advisory Group (CAG). Although the primary focus of discussions with the CAG was the alternatives development and evaluation process for the Millburn Bypass section within the larger EA project limits, the CAG was also kept informed on the overall improvements being considered along the sections of U.S. Route 45 north and south of the Millburn Bypass limits. The role of the CAG was to provide input to the Project Study Group throughout the course of the project development process.

The CAG included a mix of agency and community representatives that are familiar with the project study area and were able to provide valuable input on project needs and relative comparison of alternatives. The CAG representatives were from multiple communities, agencies and organizations, as well as individuals as listed in the PIP. Below is a brief summary of the topics covered at each CAG meeting. Refer to the EA for full CAG meeting summaries.

Community Advisory Group Meeting #1 (June 16, 2009):

- Project overview and review the NEPA project development procedures
- Review the PIP and the CAG ground rules and objectives
- Review March 3, 2009 Public Meeting results on project issues and concerns survey
- **Workshop:** Develop CAG Project Problem statement as input to Project Purpose and Need Statement

Community Advisory Group Meeting #2 (November 3, 2009)

- Review the draft Project Purpose and Need Statement
- Discuss methodology for alternatives analysis process and methodology
- **Workshop:** CAG input on screening of the initial 18 potential bypass alternatives

Community Advisory Group Meeting #3 (April 27, 2010)

- Review the results for concept level development and evaluation of the nine preliminary bypass alternatives
- Review the evaluation results for the nine preliminary bypass alternatives

- **Workshop:** CAG input on screening of the nine preliminary bypass alternatives

Community Advisory Group Meeting #4 (August 19, 2010)

- Present the three Finalist Bypass Alternatives based on results from CAG #3 and subsequent coordination with the Project Study Group and other jurisdictional resource agencies (IHPA, ACOE, USEPA, ILEPA, IDNR, USFWS, etc.)
- Present a modification to Finalist Bypass Alternative C4 due to the identified Historic Millburn Burial Site
- Preview of Public Meeting #2
- Discussion of the remaining project development procedures after Public Meeting #2

Community Advisory Group Meeting #5 (July 26, 2011)

- Presentation of the factors involved in the Project Study Group decision that Alternative A4 is the Selected West Bypass Alternative
- Answer CAG questions concerning the Selected West Bypass Alternative
- **Workshop:** CAG input on design issues/concerns associated with the Selected West Bypass Alternative
- Discussion of the remaining project development procedures for the full EA project limits

Community Advisory Group Meeting #6 (March 12, 2013)

- Presentation of the project status, project development since CAG #5, and discussion of the next steps.
- Preview of the Public Hearing including presentation of the proposed improvement plans for the preferred alternative for the full EA project limits from Illinois Route 132 to Illinois Route 173.

6.3.2 Village of Lindenhurst

Project coordination meetings were held with the Village of Lindenhurst on April 26, 2010; September 22, 2011; June 28, 2012; March 14, 2013; and October 30, 2014 as part of the overall project development process. Multiple representatives from the Village of Lindenhurst were also members of the project CAG. The purpose of these coordination meetings was to introduce the U.S. Route 45 project, review the alternatives development and evaluation process, to provide an opportunity for the Village of Lindenhurst to provide input on the project outside of the CAG process, and to solicit Village review comments with respect to geometric and drainage plan development. Refer to Appendix C for summaries of the Village of Lindenhurst coordination meetings that occurred and other correspondence.

6.3.3 Village of Old Mill Creek

Project coordination with the Village of Old Mill Creek; September 14, 2011; June 28, 2012; July 19, 2012; March 14, 2013; November 3, 2014; and November 24, 2014 (email) occurred as part of

the overall project development process. Multiple representatives from the Village of Old Mill Creek were also members of the project CAG. The purpose of these coordination meetings was to introduce the U.S. Route 45 project and early project data gathering, and to discuss specifics with respect to the Bypass Alternatives considered. Refer to Appendix C for summaries of the Village of Old Mill Creek coordination meetings that occurred and other correspondence.

6.3.4 Lake County Forest Preserve District

Project coordination meetings were held with the Lake County Forest Preserve District (LCFPD) on April 14, 2010; March 1, 2011; October 19, 2011; July 9, 2012, July 11, 2013; and October 30, 2014 as part of the overall project development process. A representative from the LCFPD was also a member of the project CAG. The purpose of this coordination meeting was to introduce the U.S. Route 45 project, review the alternatives development and evaluation process, and to provide an opportunity for LCFPD input on the project outside of the CAG process. Refer to Appendix C for summaries of the LCFPD coordination meetings that occurred and other correspondence.

6.3.5 Lake County Storm Water Management Commission

Project coordination meeting were held with the Lake County Stormwater Management Commission (LCSMC) on March 31, 2010 and October 30, 2014 as part of the overall project development process. A representative from the LCSMC was also a member of the project CAG. The purpose of this coordination meeting was to introduce the U.S. Route 45 project, review the alternatives development and evaluation process, and to provide an opportunity for LCSMC input on the project outside of the CAG process. Refer to Appendix C for a summary of the LCSMC coordination meeting.

6.3.6 PACE Suburban Bus

Coordination occurred with PACE to determine the presence of existing PACE bus routes in the project area and the need to accommodate any future planned PACE bus routes. In a letter dated June 18, 2010 (Refer to Appendix C), PACE indicated that only PACE Route 570 operates in the project area in an east-west direction along Illinois Route 132. Subsequent to this coordination, PACE Route 570 no longer operates in an east-west direction along Illinois Route 132 in the project area. PACE Route 565 currently operates in a north-east direction along U.S. Route 45 and Illinois Route 132 in the project area. No additional bus route accommodations were requested as part of the proposed improvements.

6.4 Public Meetings

6.4.1 Public Meeting

An initial public information meeting for the Millburn Bypass study was held on March 3, 2009 at Millburn Middle School in Lindenhurst. Refer to the EA for a summary of that Public Information Meeting. Subsequent to this meeting, it was determined that the EA needed to evaluate the section

of U.S. Route 45 within logical project termini from Illinois Route 132 to Illinois Route 173. This transition to the EA project development process for larger project limits was presented at a Public Meeting held on September 2, 2010 at Millburn Middle School in Lindenhurst from 4:00 p.m. to 7:00 p.m. The purpose of the meeting was to provide a summary of the overall proposed improvements within the project limits from Illinois Route 132 to Illinois Route 173, and to provide a status update with respect to the alternatives development and evaluation process for the Millburn Bypass section of the project. Refer to Appendix D for the Public Meeting summary.

Public notices were placed in the August 13 and August 27, 2010 editions of the *Daily Herald* newspaper, the August 14 and August 28, 2010 editions of the *News Sun* newspaper, and the week of August 19, 2010 *Pioneer Local* newspaper. Letters of invitation were sent to public officials and agencies, representatives of local communities, utilities, other governmental agencies, and property owners within the study area. Approximately 676 letters announcing the Public Meeting were mailed for this project.

The meeting was an open house format with a continuous PowerPoint presentation, exhibit boards for review, and large-scale aerials of the study area to which meeting attendees provided comments, suggestions, issues and concerns. A total of 300 people signed the attendance register. Attendees were provided with a project brochure, and then were directed to view the project exhibits, which were arranged in a series of six information stations as follows:

1. Study Overview (PowerPoint Presentation)
2. Study Progress / Purpose and Need Overview
3. Public Involvement / CAG Proceedings
4. Alternatives Development and Evaluation Process
5. Typical Sections for U.S. Route 45 improvements within the full EA limits and the Finalist Alternatives and Evaluation for the Millburn Bypass section of the project
6. Public Comments

LCDOT, IDOT and consultant representatives were available at each station to provide information, answer questions, and discuss individual concerns with members of the public at the meeting. Comment sheets were available for those choosing to provide written comments at the meeting or for mailing to the LCDOT after the meeting. Refer to Appendix D for a summary of the comments received.

6.5 Public Hearing

The Public Hearing for the full EA project limits was held on March 21, 2013 from 4:30 p.m. to 7:30 p.m. at the Millburn Middle School in the Village of Lindenhurst. Refer to Appendix D for a detailed Public Hearing summary.

Public notice was placed in the February 28, March 4, and March 14, 2013 editions of the *Daily Herald* newspaper and the *News Sun* newspaper. Letters of invitation were sent to public officials

and agencies, representatives of local communities, utilities, and property owners within the study area. Approximately 765 letters announcing the Public Hearing were mailed for this project. The EA was made available for review at LCDOT and IDOT offices and was posted on the project website (www.route45project.com) beginning March 4, 2013.

The objective of the Public Hearing was to present the purpose and need for the project, present the proposed improvement plan for the full EA project limits, and provide an opportunity for interested persons to discuss the project with IDOT and LCDOT, and to submit comments. Multiple hard copies of the EA were on display at the Public Hearing for attendees to review. A court reporter was available for questions/comments to be submitted verbally, and a comment box was available for written questions/comments. Comments were also accepted via mail to IDOT or via the project website through April 8th. Approximately 26 representatives from IDOT, LCDOT, and the Phase I engineering consultant team attended the Public Hearing to discuss the project with Public Hearing attendees and answer questions.

The hearing was held in an open house format beginning with a registration table near the entrance of the facility. Each attendee was provided with a copy of the project brochure and a Frequently Ask Questions (FAQ) handout. The project brochure included a more detailed explanation of the purpose of the Public Hearing, the purpose and need for the project, a description of the proposed improvement plan, environmental considerations, and the project schedule. Attendees were directed to first view an audio-visual presentation that was continuously shown in two separate rooms throughout the duration of the Public Hearing to provide an overview of the project purpose and need, and the proposed improvement plan. Attendees were then directed to view project exhibits, which were arranged in a series of seven information stations, which included 21 separate exhibits. Detailed plan and profile sheets, the proposed cross sections, and the proposed drainage plan were also available for review by Public Hearing attendees.

The hearing was attended by approximately 395 people, including a few elected officials. There were 170 separate questions/comments received during the comment period from March 4th to April 8th. Many of the submitted comments addressed the Millburn Bypass section of the project. All comments and questions were considered. The FAQ handout was updated to address the most common questions/comments received at the Public Hearing and reposted to the project website. The updated FAQ handout and response letter are included in Appendix D - Public Hearing Response as well as separate response letters which were sent to individuals with questions that are not addressed by the updated FAQ handout.

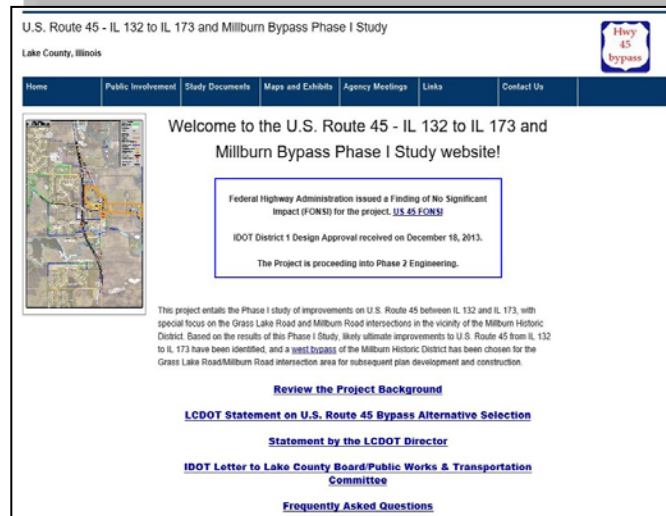
6.6 Project Website

A project website was established and was updated throughout the EA project development process and remains active. The project website can be found at: www.route45project.com.

The website consists of a homepage and various topic-specific pages. Project documentation and materials were posted to the website for public review. Project information posted on the project website includes but is not limited to the following:

- Location Maps
- Study Documents
- Public Meeting Materials and Summaries
- Public Hearing Materials and Summary, including the proposed improvement plans for the full EA project limits including the U.S. Route 45 North Section
- Links to Websites of Other Agencies Involved in the Project

The project website is planned to be active throughout the remainder of the project development process, including project implementation.



7.0 Conclusions and Recommendations

This Design Report summarizes the proposed improvements for the U.S. Route 45 North Section from north of Independence Boulevard where it matches the proposed improvements with the Millburn Bypass Section within the larger EA project limits to Illinois Route 173. The purpose of this improvement is to address the existing and future capacity, mobility, safety and operational deficiencies associated along this section of U.S. Route 45.

The proposed improvement includes two 12 feet wide travel lanes in each direction, separated by a 22 feet wide barrier curbed median that varies in width at the south limit and at the Illinois Route 173 intersection to accommodate dual left turn lanes. The proposed improvement includes an alignment shift to the west near Miller Road to avoid property acquisition from a portion of the Ethel's Woods Forest Preserve that was purchased with Federal OLT funding; an alignment shift to the east north of Ethel's Woods Forest Preserve in order to avoid further property acquisition from the Rave Glen Forest Preserve; and an alignment shift to the east near the Illinois Route 173 intersection to avoid commercial properties on the west side of U.S. Route 45. The proposed improvements meet the project purpose and need, and are anticipated to provide improved mobility and safety along this section of U.S. Route 45. The proposed improvement provides accommodations for a 10 feet wide bike path along the west side of the roadway and a 5 feet wide sidewalk along the east side of the roadway within the proposed right-of-way.

The project development process incorporated a CSS project development approach. As discussed in the PIP developed for the project, stakeholders were provided a range of opportunities to be informed and provide input to the Project Study Group that was comprised of the LCDOT and IDOT in coordination with the FHWA. These stakeholder involvement opportunities included public meetings, a public hearing, the CAG, and multiple individual meetings with communities, agencies, and organizations as discussed within this document.

Environmental impacts associated with the proposed improvement have been minimized to the extent practical. Permits required for implementation of the proposed improvement are outlined in Section 5.23.11 of this document, and are also outlined in the EA. There are no environmental commitments associated with the U.S. Route 45 North Section. There is one special design and construction considerations identified in Section 5.24.

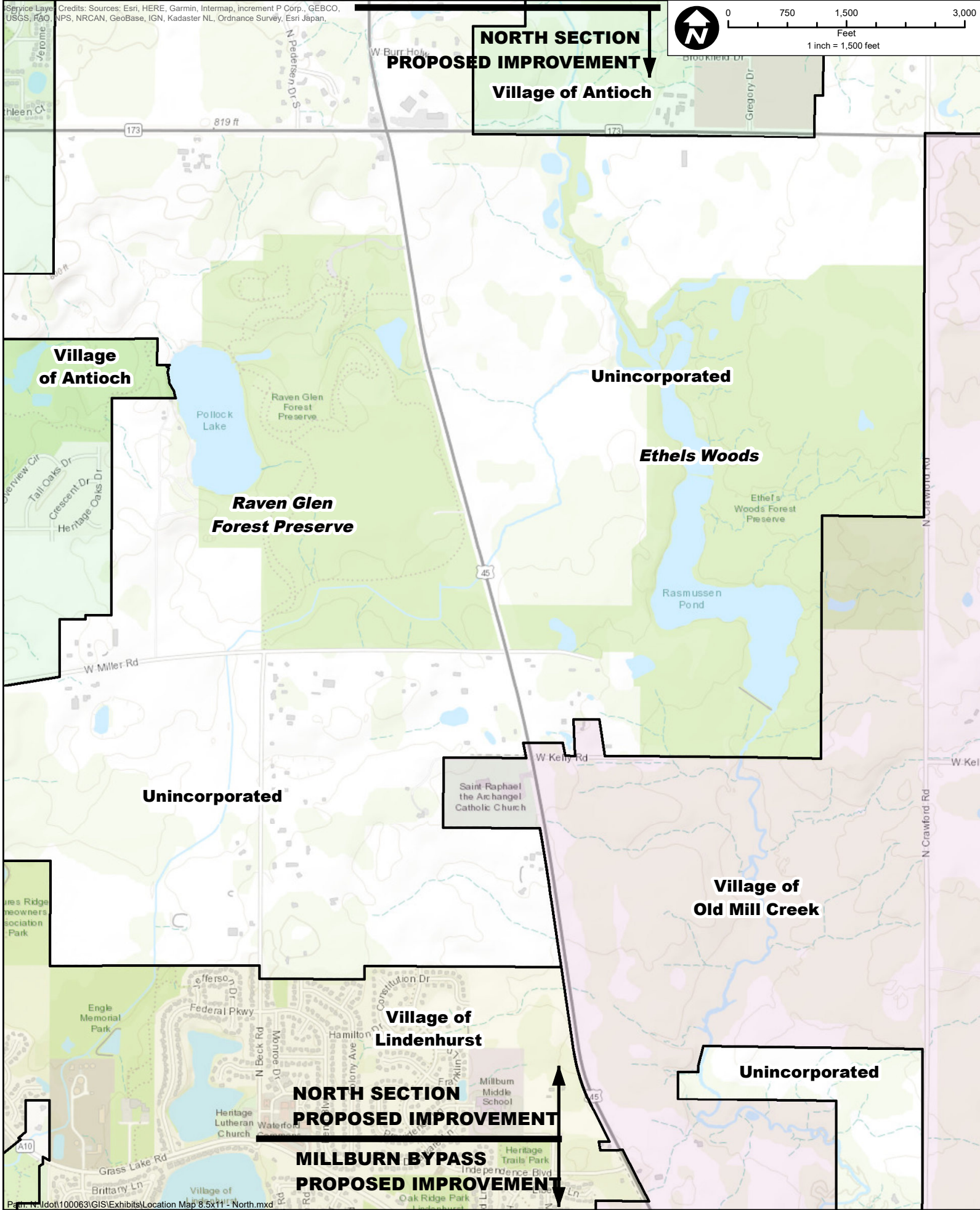
As part of the next phase of project development, close coordination will be required with the Village of Lindenhurst, Village of Old Mill Creek, Antioch Township, and LCFPD regarding various elements of the proposed improvement as well as potential local cost participation for bike paths and sidewalks that will be included with the proposed improvement. Some potential interest in landscaping along U.S. Route 45 that would require local cost participation was also indicated, however, no definitive positions were determined.

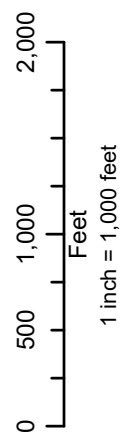
APPENDIX A

EXHIBITS

EXHIBIT 1	OVERALL PROJECT LOCATION MAP
EXHIBIT 2	MUNICIPAL BOUNDARIES AND ROADWAY JURISDICTION
EXHIBIT 3	LAND USE PLAN (EXISTING & PROPOSED)
EXHIBIT 4	ENVIRONMENTAL RESOURCES
EXHIBIT 5	LAKE COUNTY FOREST PRESERVE PRELIMINARY U.S. 45 BIKE AND PEDESTRIAN PLAN
EXHIBIT 6	LINDENHURST COMMUNITY PEDESTRIAN & BICYCLE COMPREHENSIVE PLAN - OVERALL MASTER PLAN
EXHIBIT 7A	EXISTING TYPICAL SECTIONS
EXHIBIT 7B	PROPOSED TYPICAL SECTIONS U.S. ROUTE 45
EXHIBIT 7C	PROPOSED TYPICAL SECTIONS MILLER ROAD
EXHIBIT 7D	PROPOSED TYPICAL SECTIONS ILLINOIS ROUTE 173
EXHIBIT 8	MAINTENANCE OF TRAFFIC TYPICAL SECTIONS U.S. ROUTE 45
EXHIBIT 9	2009 PEAK HOUR VOLUMES & ADT
EXHIBIT 10	2040 NO BUILD PEAK HOUR VOLUMES & ADT
EXHIBIT 11	2040 SELECTED ALTERNATIVE (A4) BUILD PEAK HOUR VOLUMES & ADT
EXHIBIT 12	PROPOSED IMPROVEMENT PLAN AND PROFILE
EXHIBIT 13	RIGHT-OF-WAY PLANS

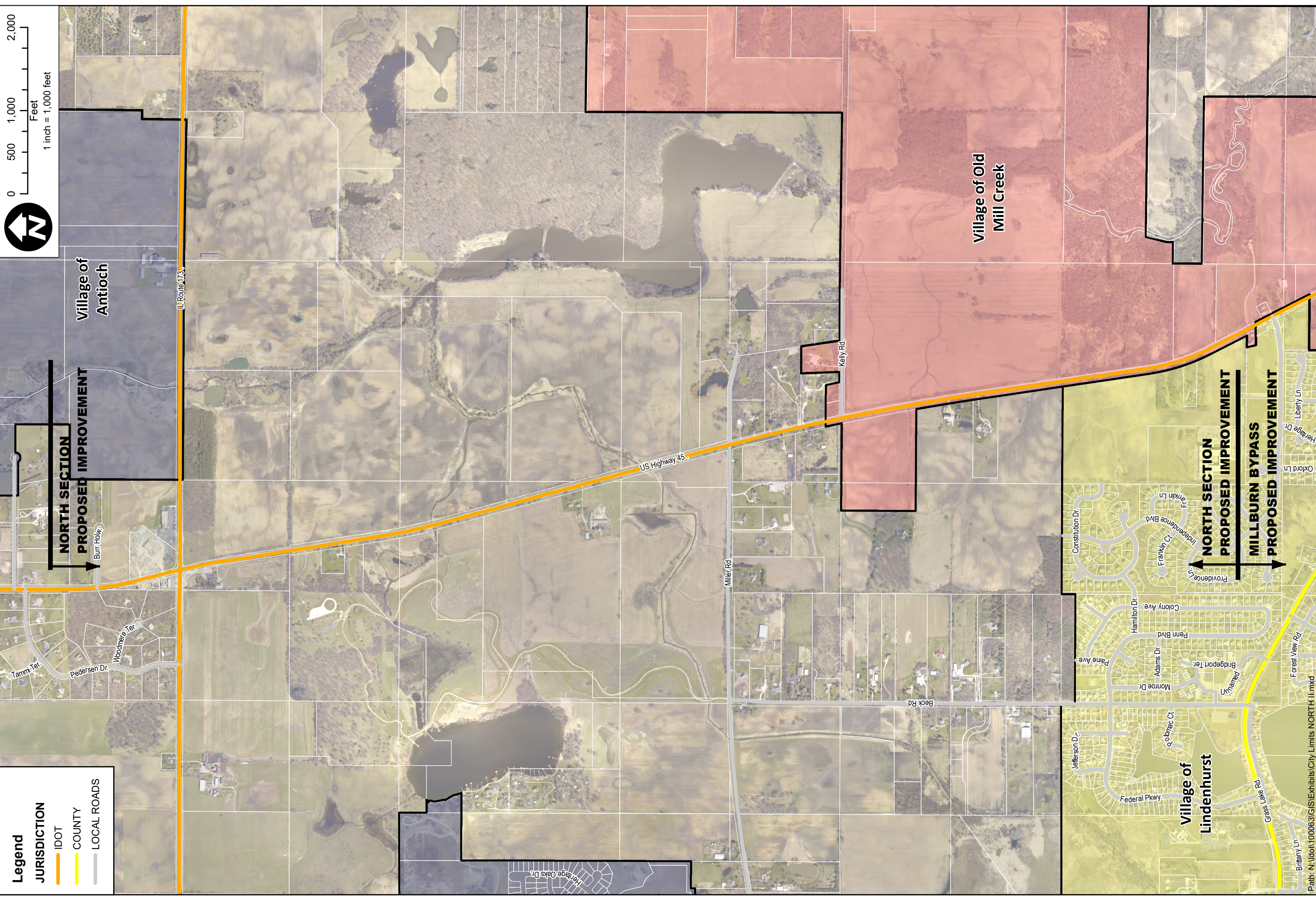
EXHIBIT 14	INTERSECTION DESIGN STUDY
EXHIBIT 15	BARRIER WARRANT ANALYSIS
EXHIBIT 16	ADA CURB RAMP DETAILS
EXHIBIT 17	WB-65 TURNING ANALYSIS
EXHIBIT 18	LAKE COUNTY FOREST PRESERVE DISTRICT MILLENNIUM TRAIL UNDERPASS TYPE, SIZE, AND LOCATION





Legend

JURISDICTION	
	IDOT
	COUNTY
	LOCAL ROADS



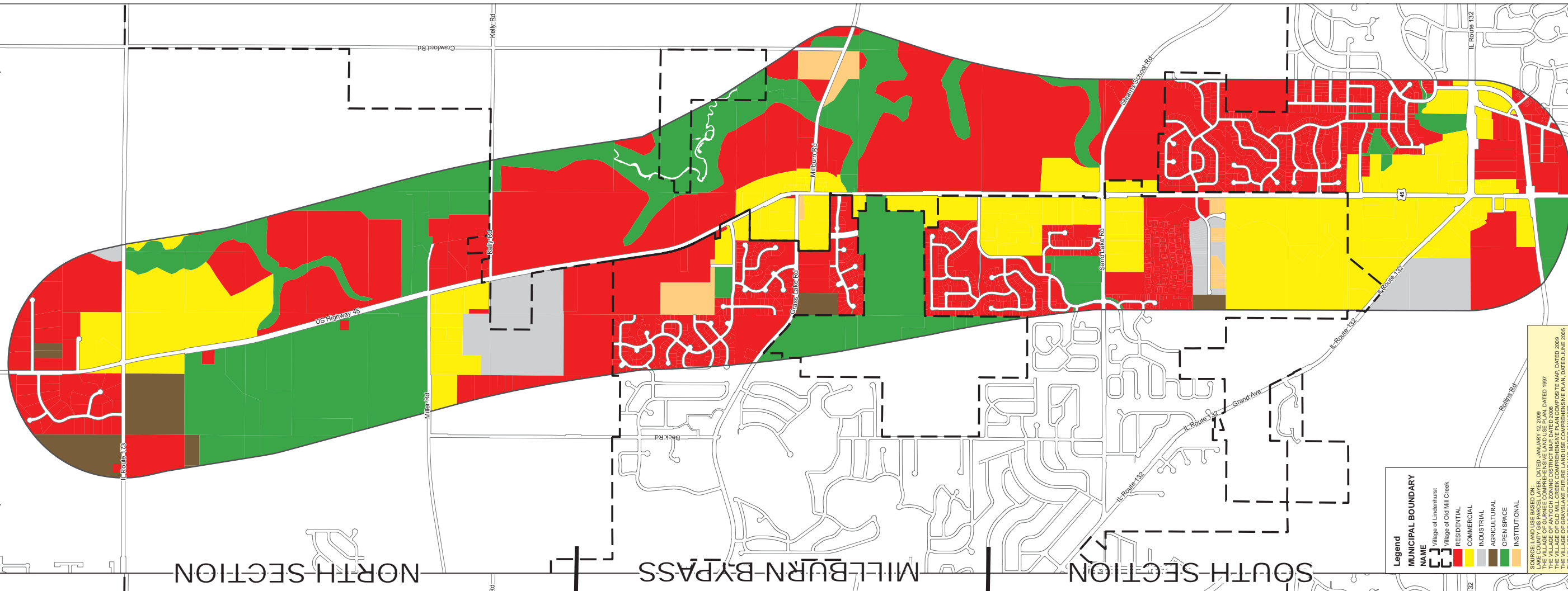
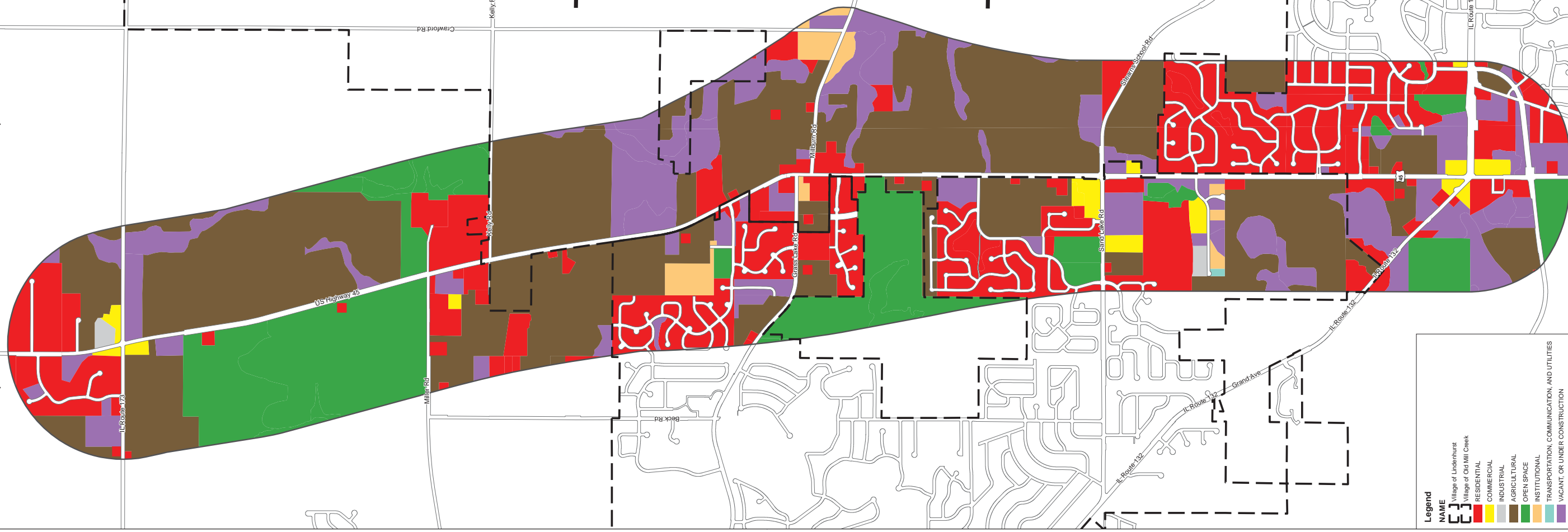
**ILLINOIS DEPARTMENT
OF TRANSPORTATION**

**EXHIBIT 2
US ROUTE 45 - NORTH SECTION
MUNICIPAL BOUNDARIES & ROADWAY JURISDICTION**

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EXISTING LAND USE
(FROM CMAP & OBSERVATION)

FUTURE LAND USE
(FROM COMMUNITY & COUNTY LAND USE PLANS)



NORTH SECTION

MILLBURN BYPASS

SOUTH SECTION

Legend

NAME	Symbol
Village of Lindenhurst	[Dashed line]
Village of Old Mill Creek	[Dashed line]
RESIDENTIAL	[Red]
COMMERCIAL	[Yellow]
INDUSTRIAL	[Brown]
AGRICULTURAL	[Green]
OPEN SPACE	[Light Green]
INSTITUTIONAL	[Purple]
TRANSPORTATION, COMMUNICATION, AND UTILITIES	[Light Blue]
VACANT, OR UNDER CONSTRUCTION	[Light Purple]

SOURCE: BASED ON CMAP 2005 LAND USE INVENTORY (VERSION 1.0)

Legend

MUNICIPAL BOUNDARY	NAME
[Dashed line]	Village of Lindenhurst
[Dashed line]	Village of Old Mill Creek
[Red]	RESIDENTIAL
[Yellow]	COMMERCIAL
[Brown]	INDUSTRIAL
[Green]	AGRICULTURAL
[Light Green]	OPEN SPACE
[Orange]	INSTITUTIONAL

SOURCE: LAND USE BASED ON:
LAKE COUNTY GIS PARCEL LAYER, DATED JANUARY 12, 2008
LAKE COUNTY ZONING DISTRICT MAP, DATED 1997
THE VILLAGE OF OLD MILL CREEK COMPREHENSIVE PLAN COMPOSITE MAP, DATED 2009
THE VILLAGE OF ANTOCH ZONING DISTRICT MAP, DATED 2008
THE VILLAGE OF MILL CREEK COMPREHENSIVE PLAN COMPOSITE MAP, DATED 2009
THE VILLAGE OF LINDEHURST ZONING MAP, DATED JUNE 2005
THE VILLAGE OF LINDEHURST ZONING MAP, DATED MAY 2007
THE VILLAGE OF THIRD LAKE OFFICIAL ZONING MAP, DATED OCTOBER 2008



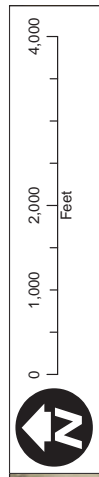
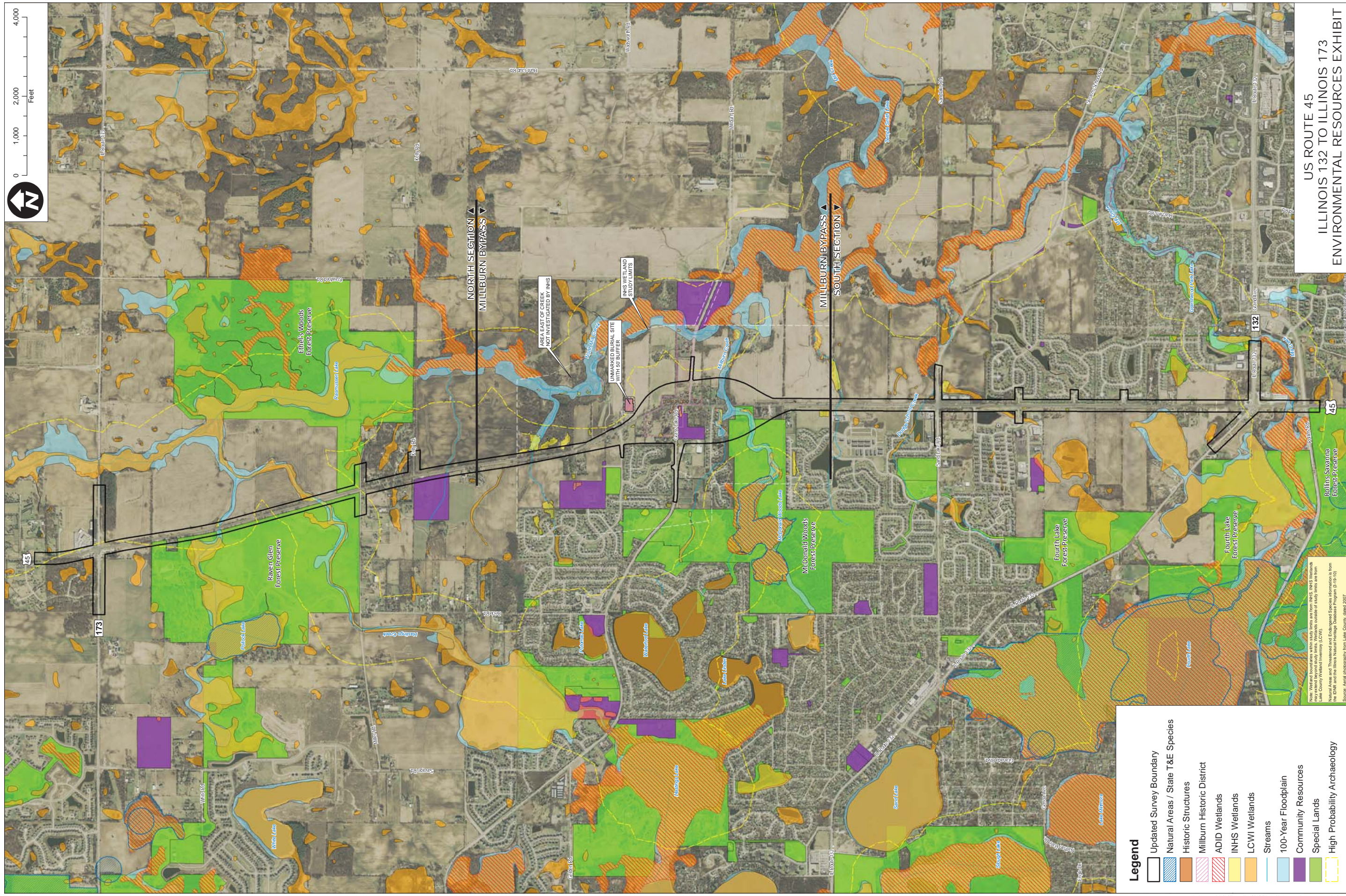
Illinois Department of Transportation
201 West Center Court
Schaumburg, IL 60196

US ROUTE 45 - MILLBURN BYPASS

**EXISTING AND COMPREHENSIVE
LAND USE PLAN**

EXHIBIT 3

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Date: 2/25/2016



- Legend**
- Updated Survey Boundary
 - Natural Areas / State T&E Species
 - Historic Structures
 - Millburn Historic District
 - ADID Wetlands
 - INHS Wetlands
 - LCWI Wetlands
 - Streams
 - 100-Year Floodplain
 - Community Resources
 - Special Lands
 - High Probability Archaeology

Note: Wetland boundaries within study areas are from NHDNL. INHS Wetland maps extend beyond study areas. Wetlands outside of study limits are from Lake County Wetlands Natural Heritage Database Program (1/1/14).
Natural Areas and Threatened and Endangered Species information is from the State and Federal Natural Heritage Database Program (1/1/14).
Source: Aerial photography from Lake County, dated 2007.

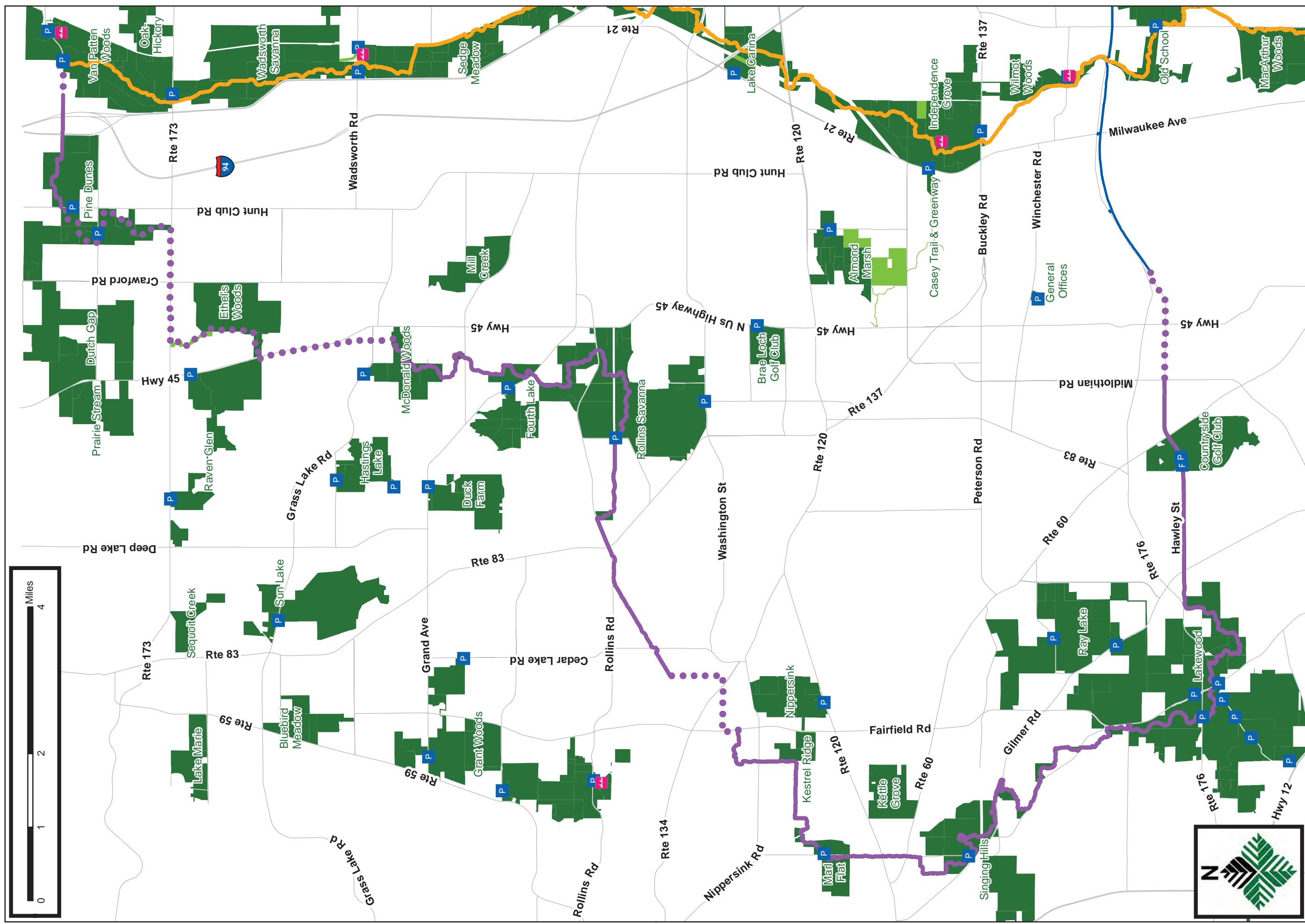
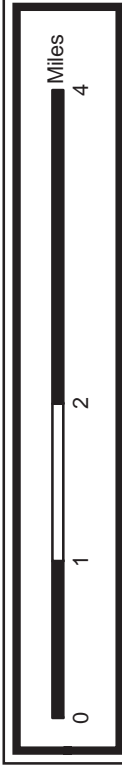
**US ROUTE 45
ILLINOIS 132 TO ILLINOIS 173
ENVIRONMENTAL RESOURCES EXHIBIT**

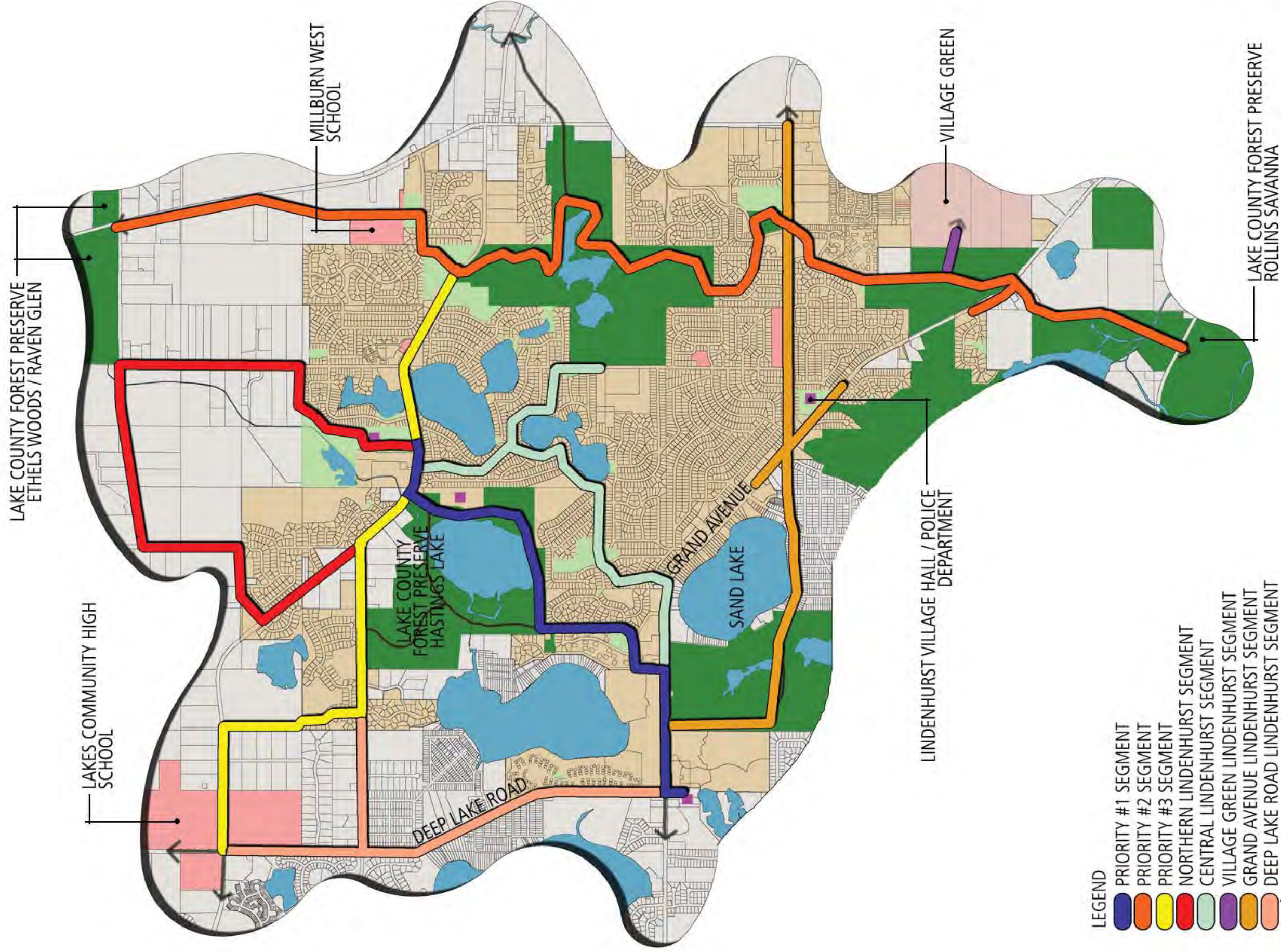
EXHIBIT 4

Millennium Trail & Greenway

Legend

- Forest Preserve Property
- Forest Preserve Easements
- Millennium Trail & Greenway
- Millennium Trail & Greenway - Planned
- Des Plaines River Trail
- McClory Trail-North Shore Path
- Canoe Launch
- Parking

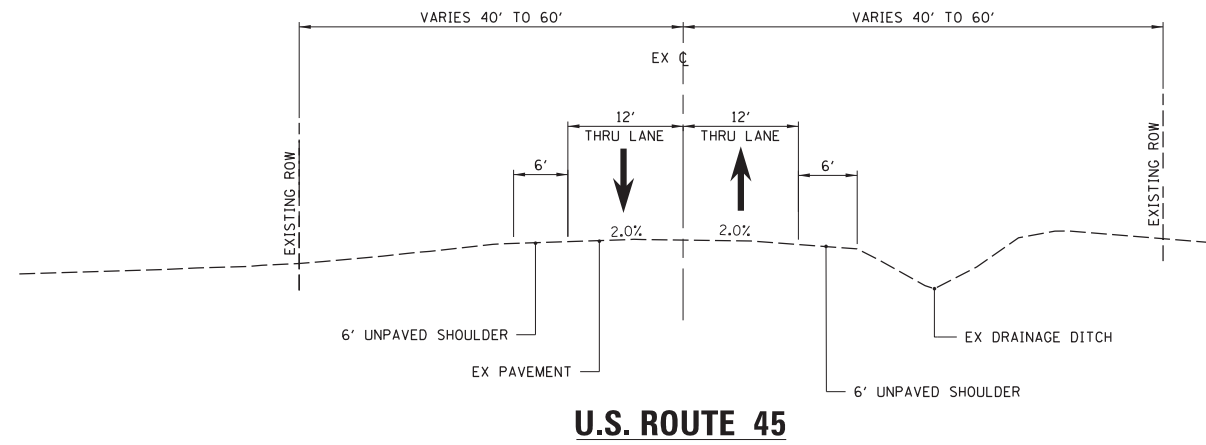




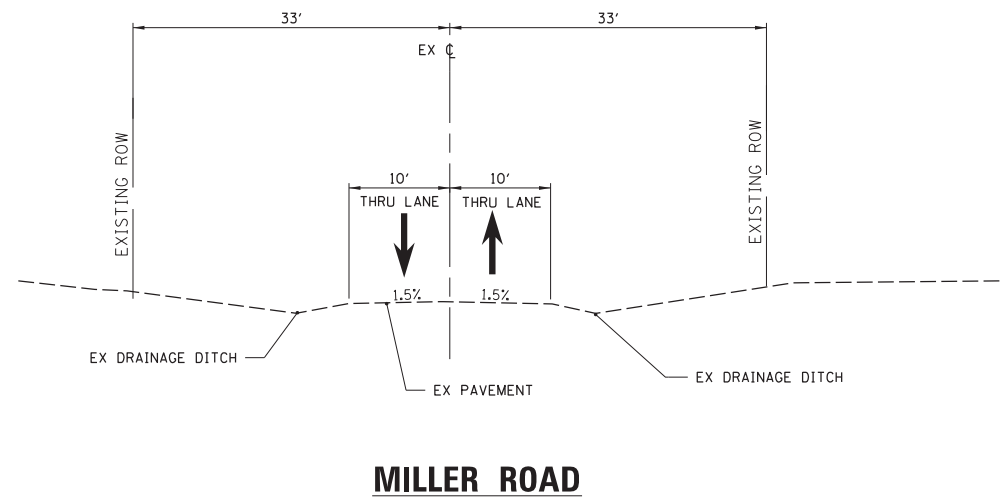
LEGEND

- █ PRIORITY #1 SEGMENT
- █ PRIORITY #2 SEGMENT
- █ PRIORITY #3 SEGMENT
- █ NORTHERN LINDENHURST SEGMENT
- █ CENTRAL LINDENHURST SEGMENT
- █ VILLAGE GREEN LINDENHURST SEGMENT
- █ GRAND AVENUE LINDENHURST SEGMENT
- █ DEEP LAKE ROAD LINDENHURST SEGMENT

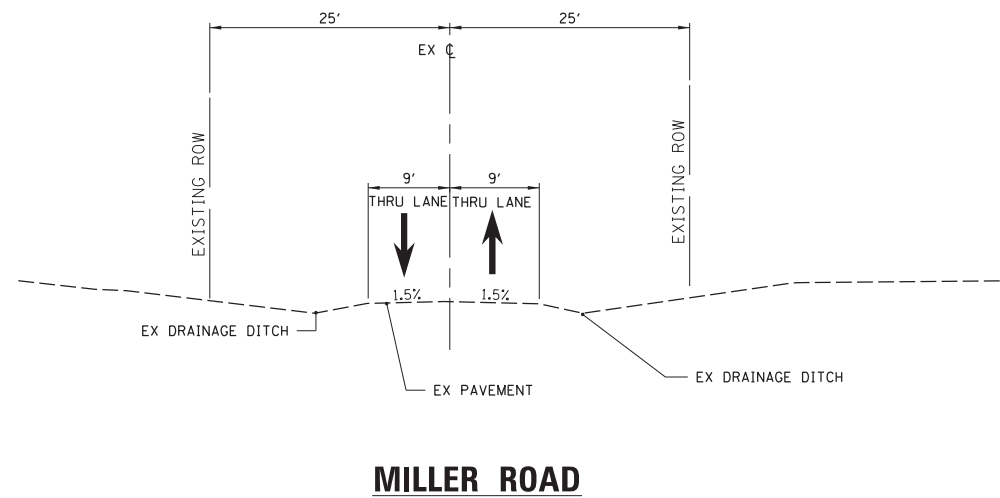




STA. 223 + 50 TO STA. 312 + 82



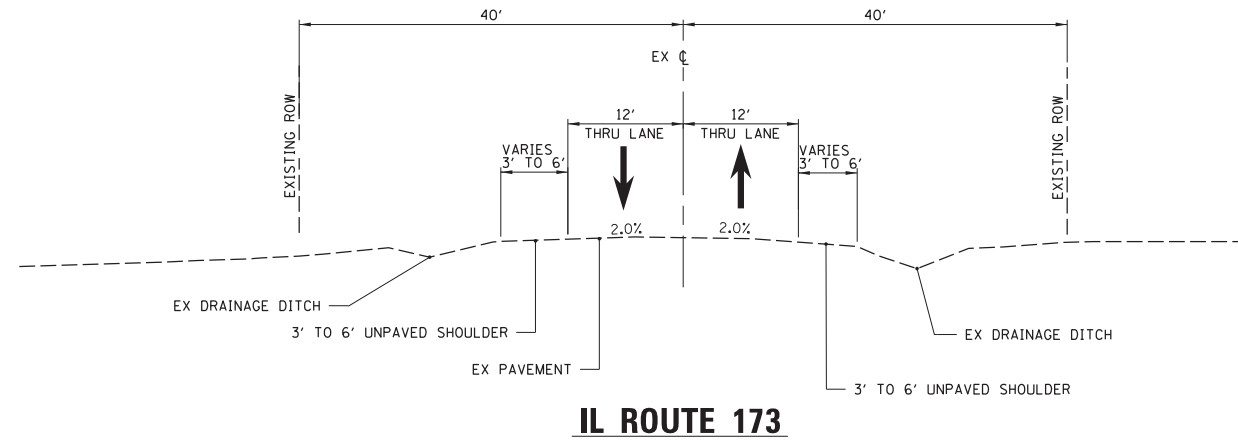
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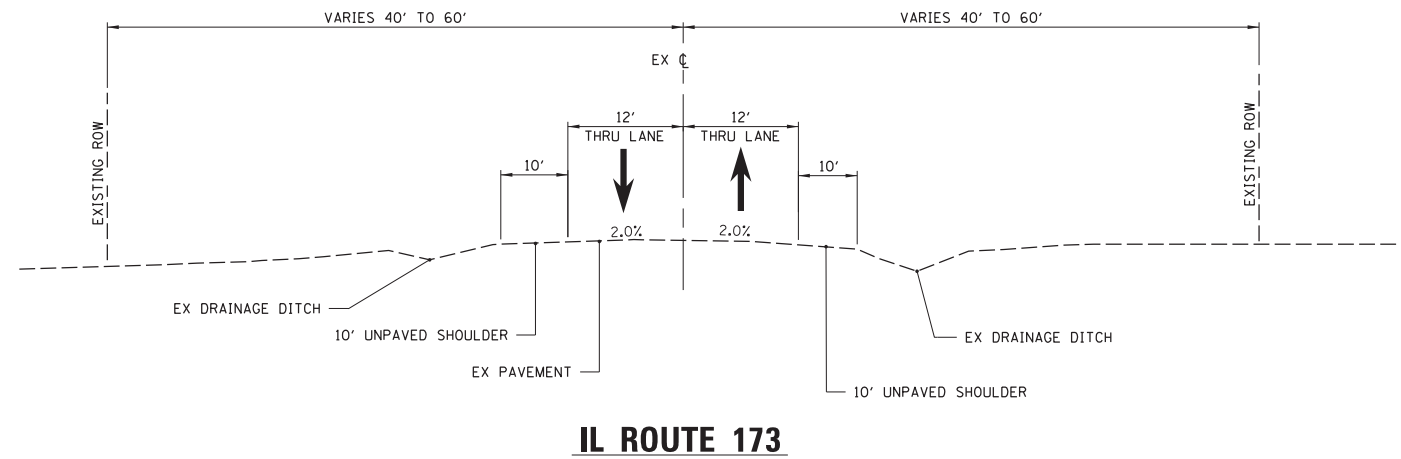
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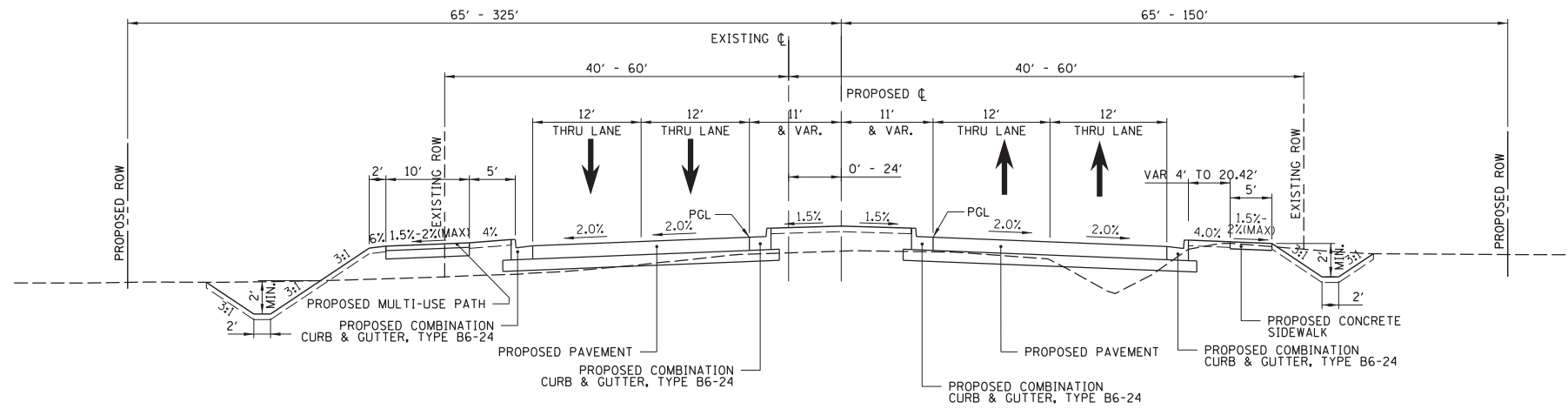
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STA. 1208 + 25 TO STA. 1212 + 15



STA. 1188 + 25 TO STA. 1208 + 25

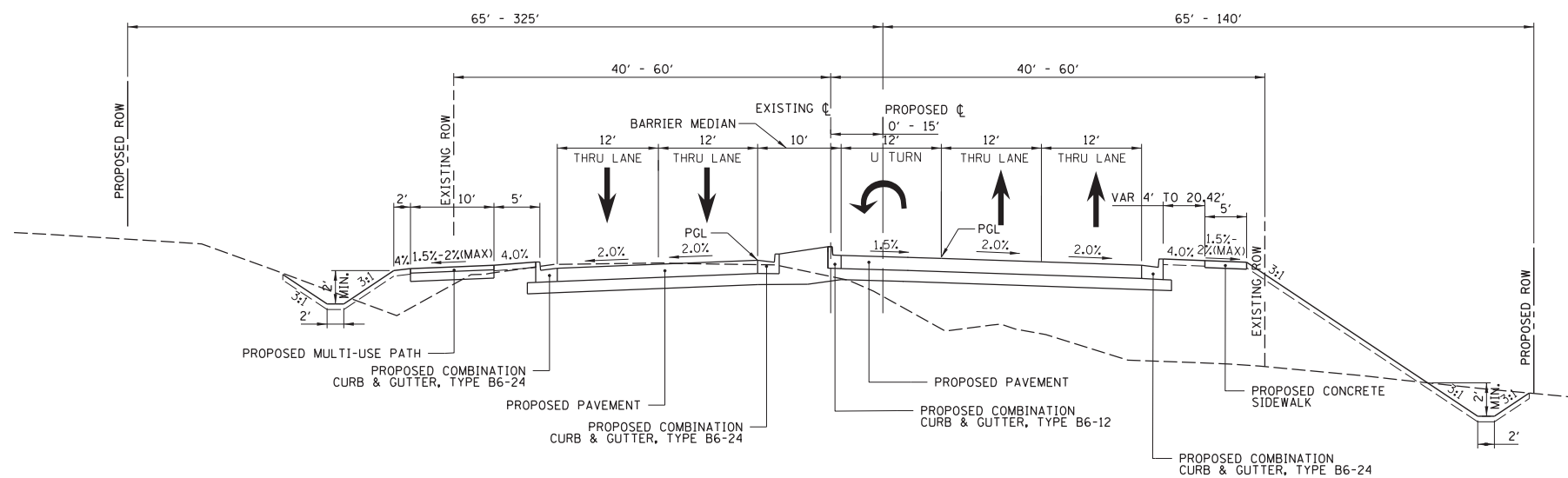
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U.S. ROUTE 45

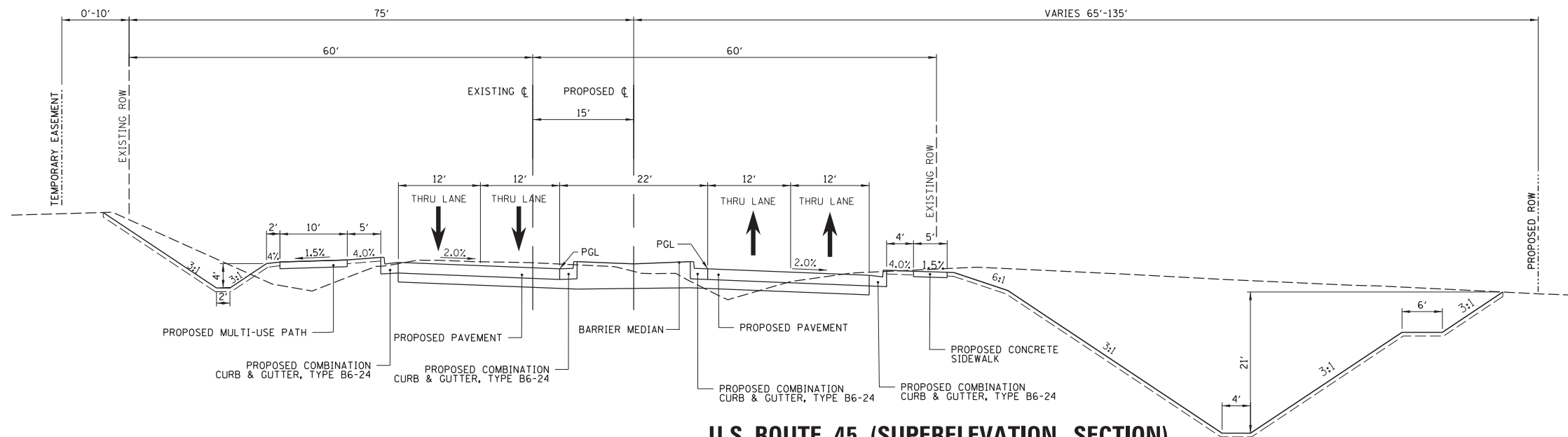
STA. 175 + 00 TO STA. 183 + 85
 STA. 193 + 25 TO STA. 196 + 45
 STA. 205 + 85 TO STA. 210 + 35
 STA. 220 + 76 TO STA. 222 + 58
 STA. 234 + 54 TO STA. 243 + 05
 STA. 248 + 10 TO STA. 256 + 75
 STA. 261 + 80 TO STA. 265 + 84
 STA. 272 + 04 TO STA. 293 + 13
 STA. 301 + 20 TO STA. 312 + 94



U.S. ROUTE 45 (U TURN)

NB
 STA. 185 + 05 TO STA. 187 + 20
 STA. 198 + 65 TO STA. 199 + 80
 STA. 245 + 25 TO STA. 247 + 40
 STA. 279 + 52 TO STA. 281 + 68

SB
 STA. 189 + 90 TO STA. 191 + 05
 STA. 202 + 50 TO STA. 203 + 65
 STA. 257 + 45 TO STA. 259 + 60
 STA. 282 + 82 TO STA. 284 + 97

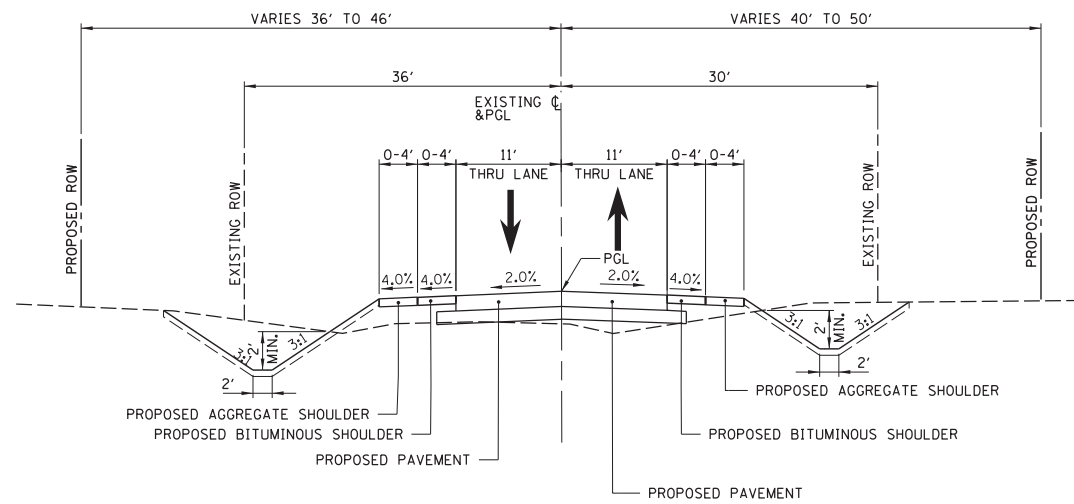


U.S. ROUTE 45 (SUPERELEVATION SECTION)

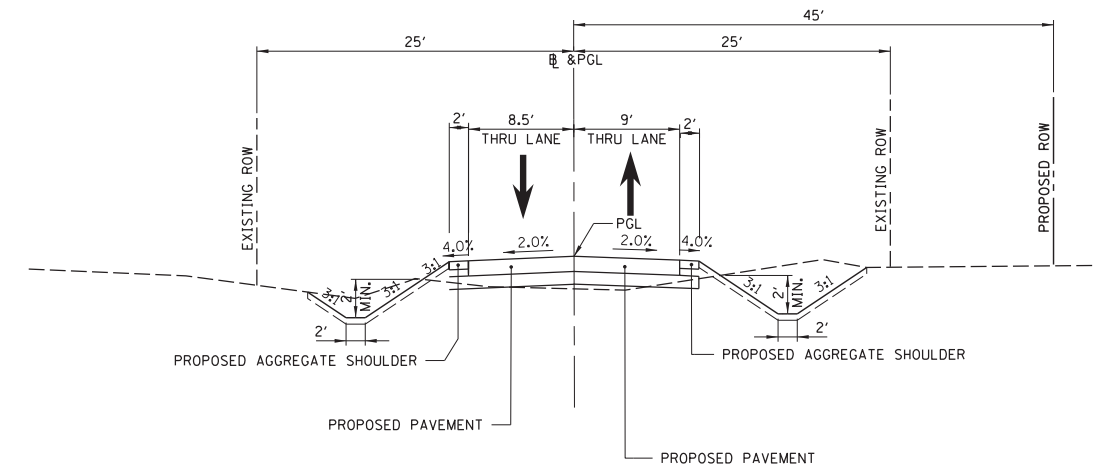
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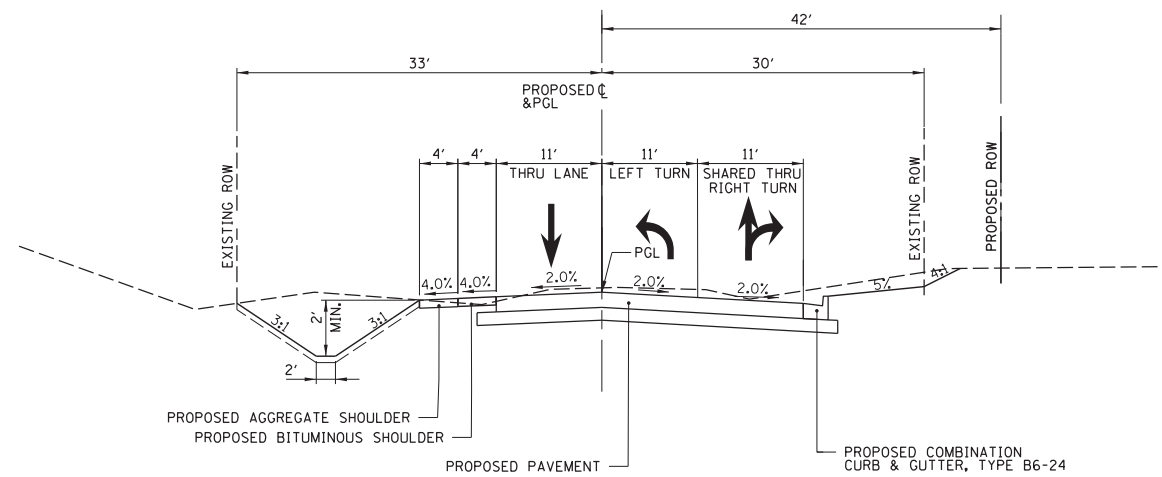
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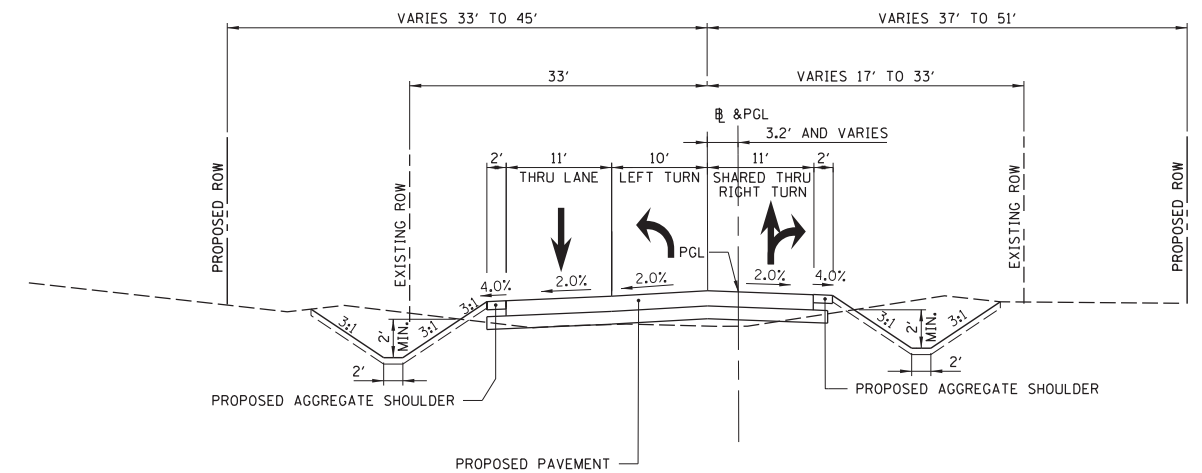
MILLER ROAD (WEST LEG)
STA. 1993 + 34 TO STA. 1998 + 09



MILLER ROAD (EAST LEG)
STA. 3001 + 86 TO STA. 3004 + 44



MILLER ROAD AT US 45 INTERSECTION (LEFT TURN-WEST LEG)
STA. 1998 + 09 TO STA. 1999 + 23



MILLER ROAD AT US 45 INTERSECTION (LEFT TURN-EAST LEG)
STA. 3000 + 71 TO STA. 3001 + 86

EXHIBIT 7C

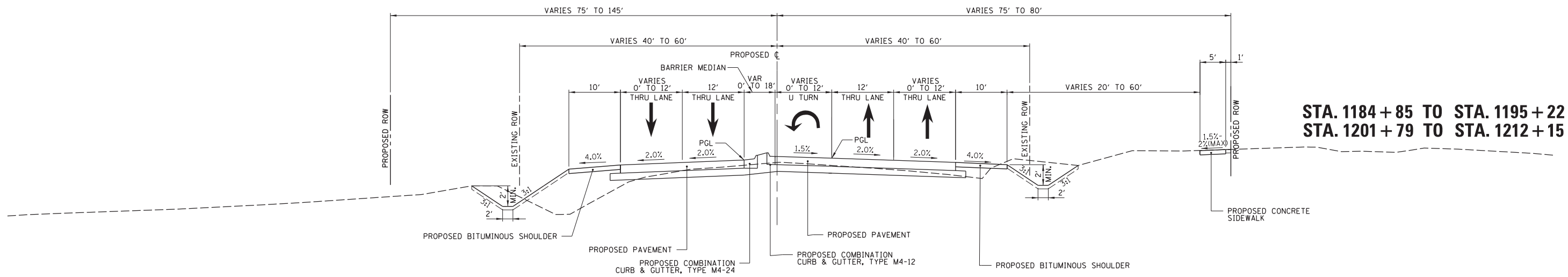
FILE NAME =	USER NAME = psontos	DESIGNED - JA	REVISED -
N:\dot\100063\CADD_Sheets\PI38810.N\sh\typical-007.dgn		DRAWN - TOM	REVISED -
	PLOT SCALE = 10'	CHECKED - MJH	REVISED -
	PLOT DATE = 12/27/2018	DATE - 08/30/2018	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

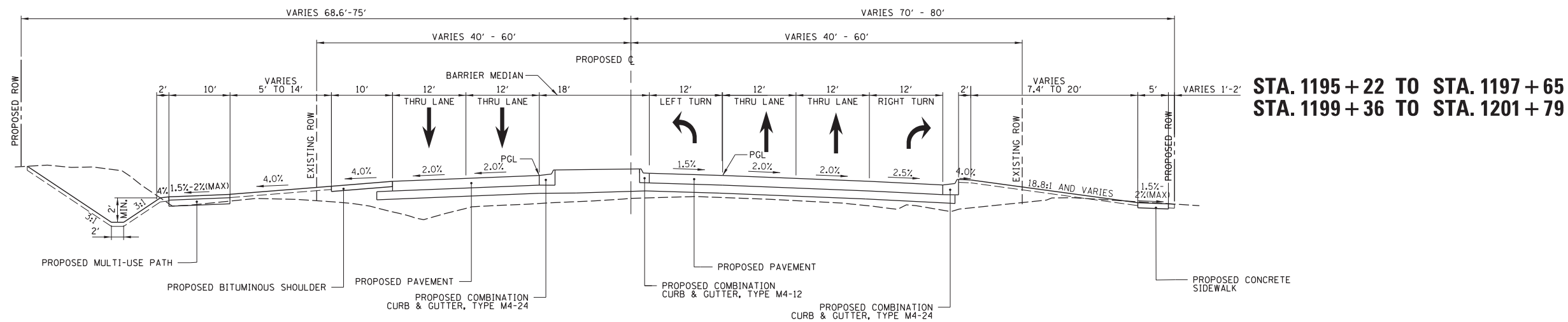
PROPOSED TYPICAL SECTIONS
MILLER ROAD

SCALE: N.T.S. SHEET NO. 6 OF 24 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
344	05-00262-06-RO	LAKE	25	7
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



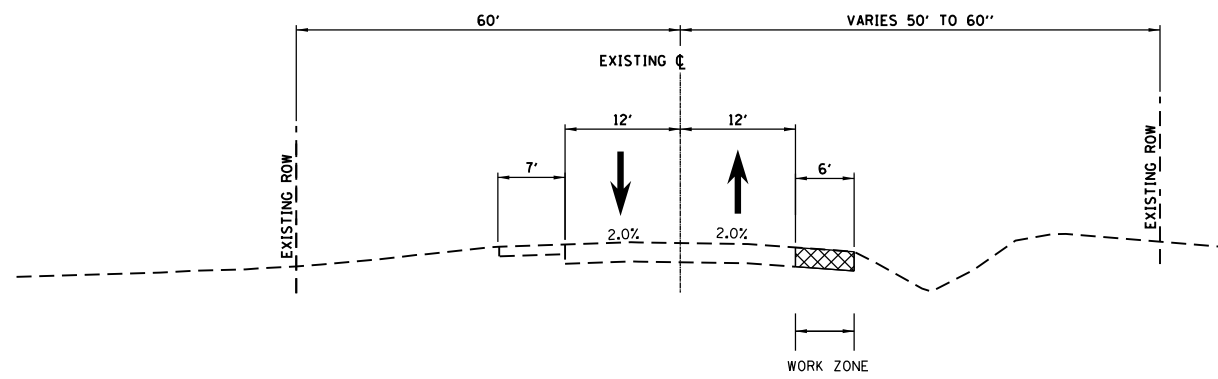
IL ROUTE 173 AT U.S. ROUTE 45 INTERSECTION (U TURN)



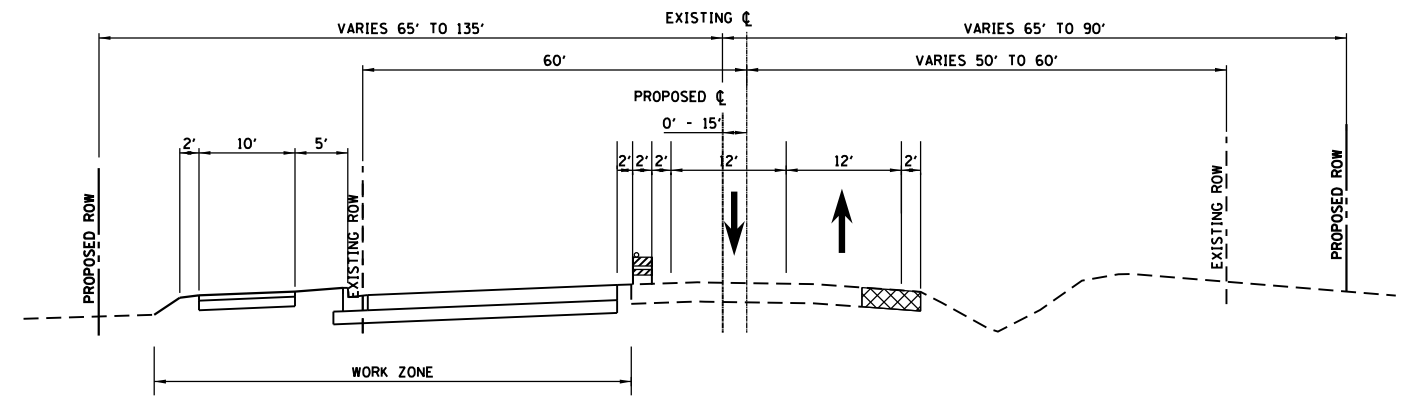
IL ROUTE 173 AT U.S. ROUTE 45 INTERSECTION (LEFT TURN)

EXHIBIT 7D

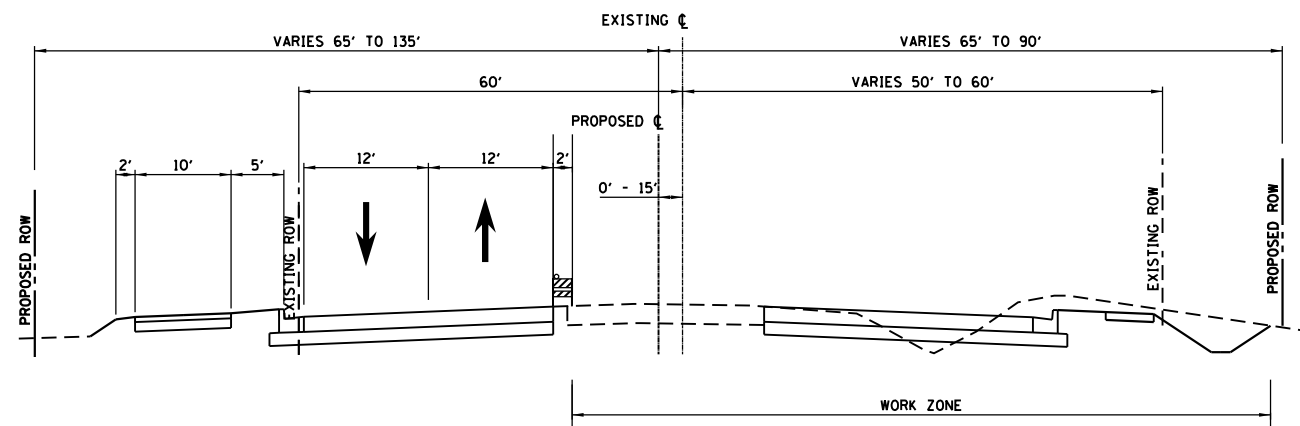
FILE NAME =	USER NAME = psantos	DESIGNED - JA	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PROPOSED TYPICAL SECTIONS IL ROUTE 173			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\dot\100063\CADD_Sheets\PI38810.N\sh	typical-008.dgn	DRAWN - TOM	REVISED -					344	05-00262-06-RO	LAKE	25	8
	PLOT SCALE = 10'	CHECKED - MJH	REVISED -		CONTRACT NO.							
	PLOT DATE = 12/27/2018	DATE - 08/30/2018	REVISED -		SCALE: N.T.S.	SHEET NO. 7 OF 24 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT			



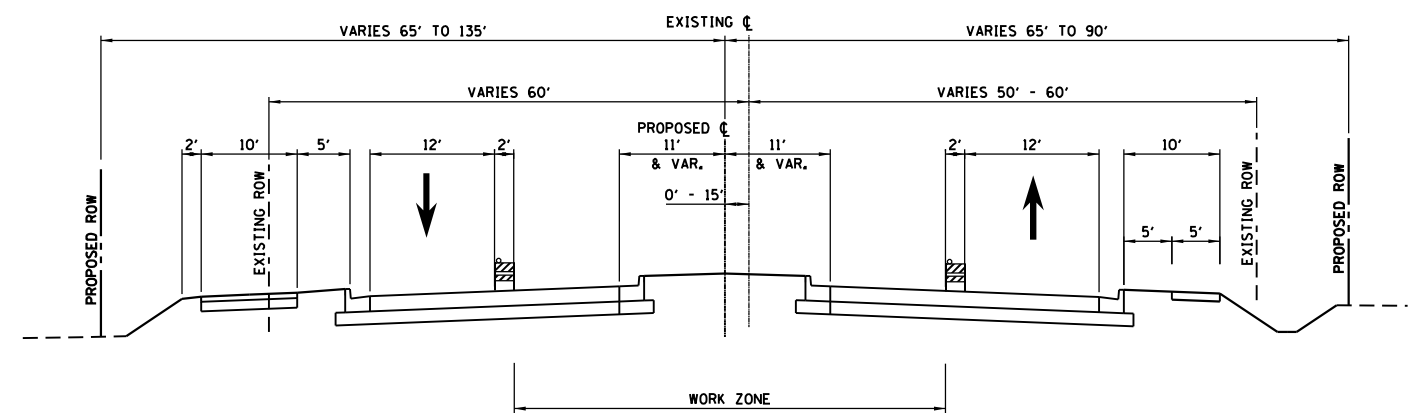
U.S. ROUTE 45 PRE-STAGE



U.S. ROUTE 45 STAGE ONE



U.S. ROUTE 45 STAGE TWO



U.S. ROUTE 45 STAGE THREE

EXHIBIT 8

FILE NAME =	USER NAME = psantos	DESIGNED - MJH	REVISED
N:\idot\100063\CADD_Sheets\PI38810_N-sh	typical-staging.dgn	DRAWN -	REVISED
	PLOT SCALE = 20.0000' / in.	CHECKED -	REVISED
	PLOT DATE = 12/27/2018	DATE - \$sub_date	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CONSTRUCTION STAGING CONCEPT
U.S. ROUTE 45 - NORTH SECTION**

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
344	05-00262-06-RO	LAKE		
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

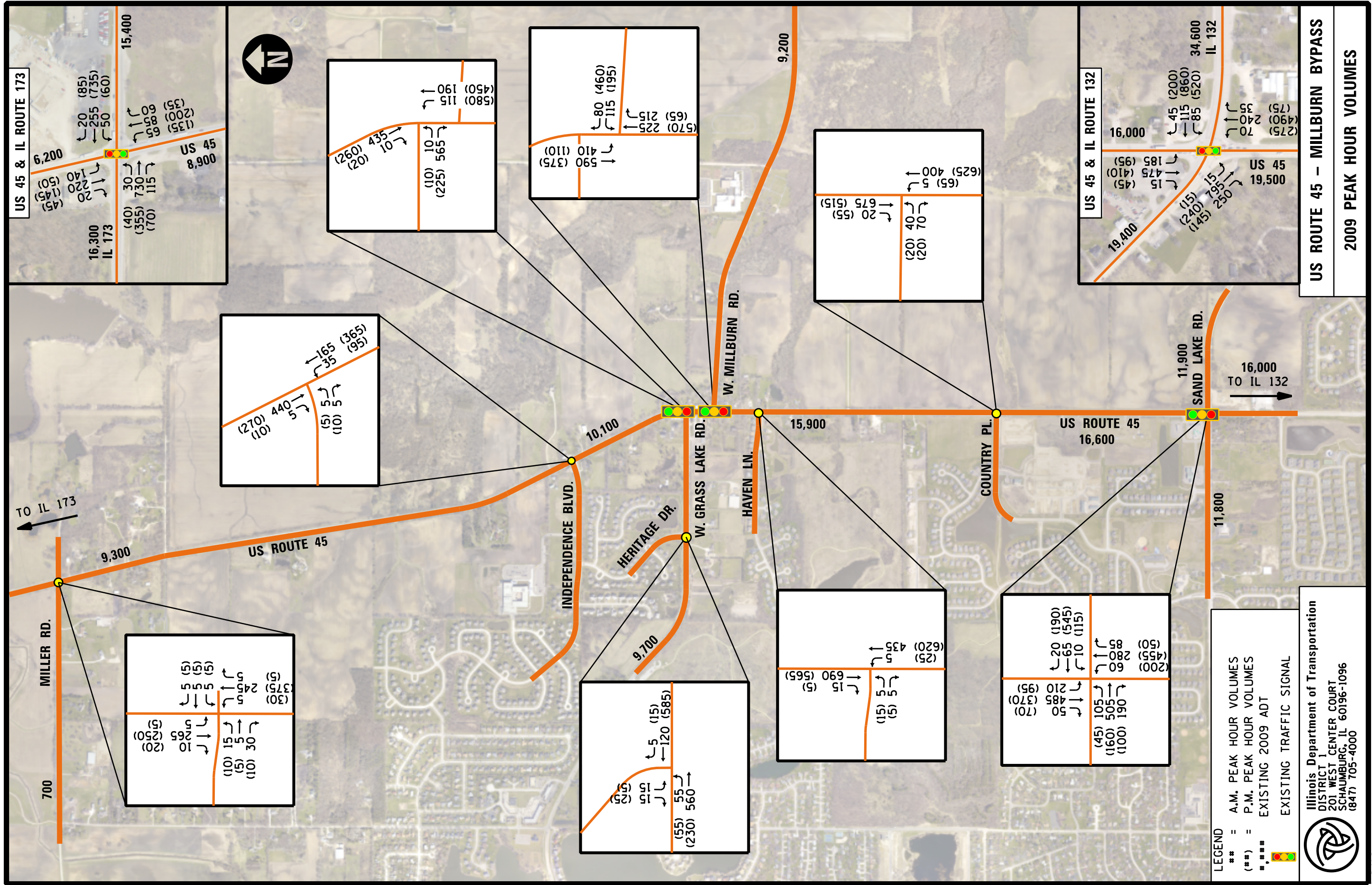


EXHIBIT 9

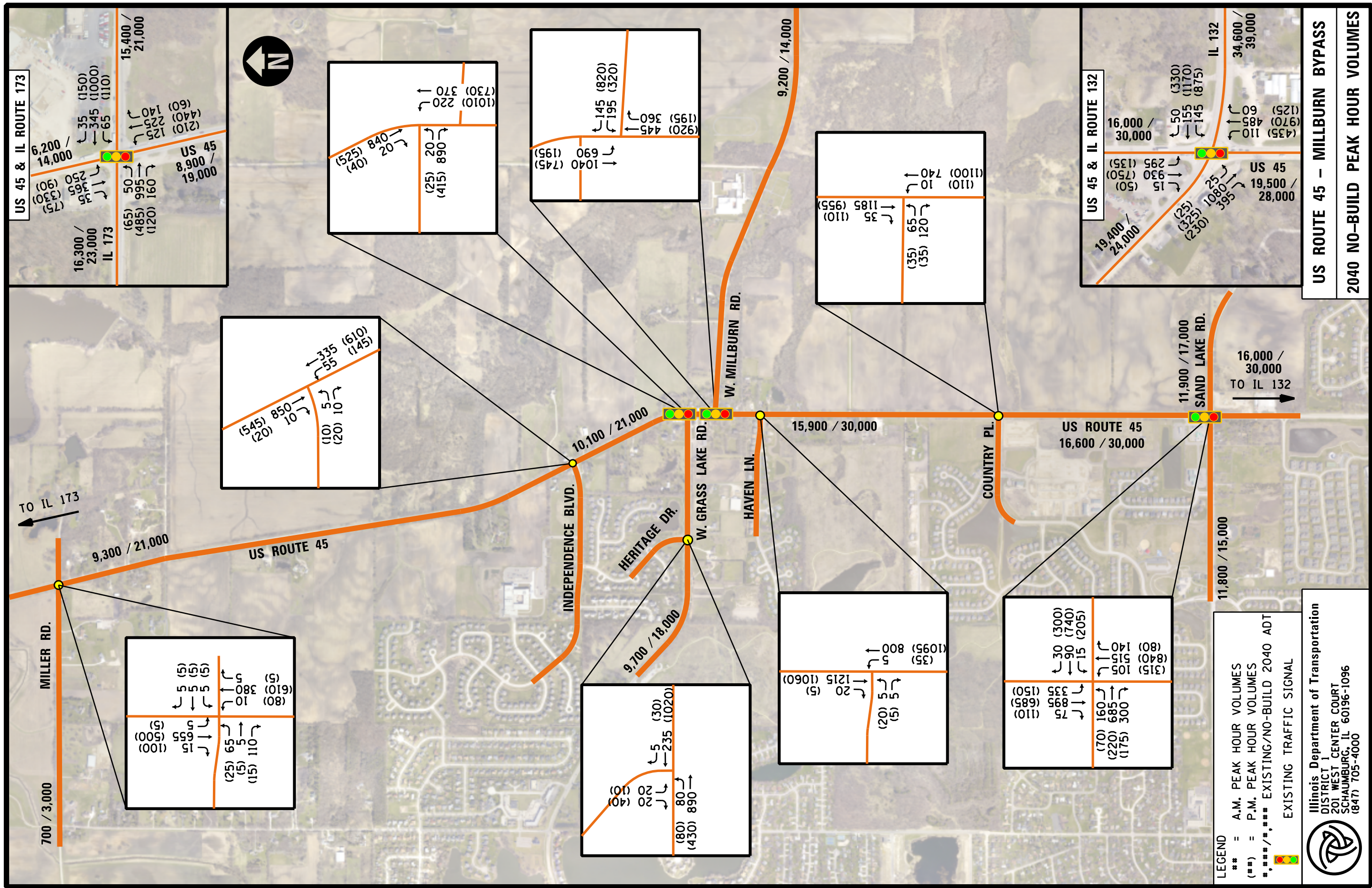
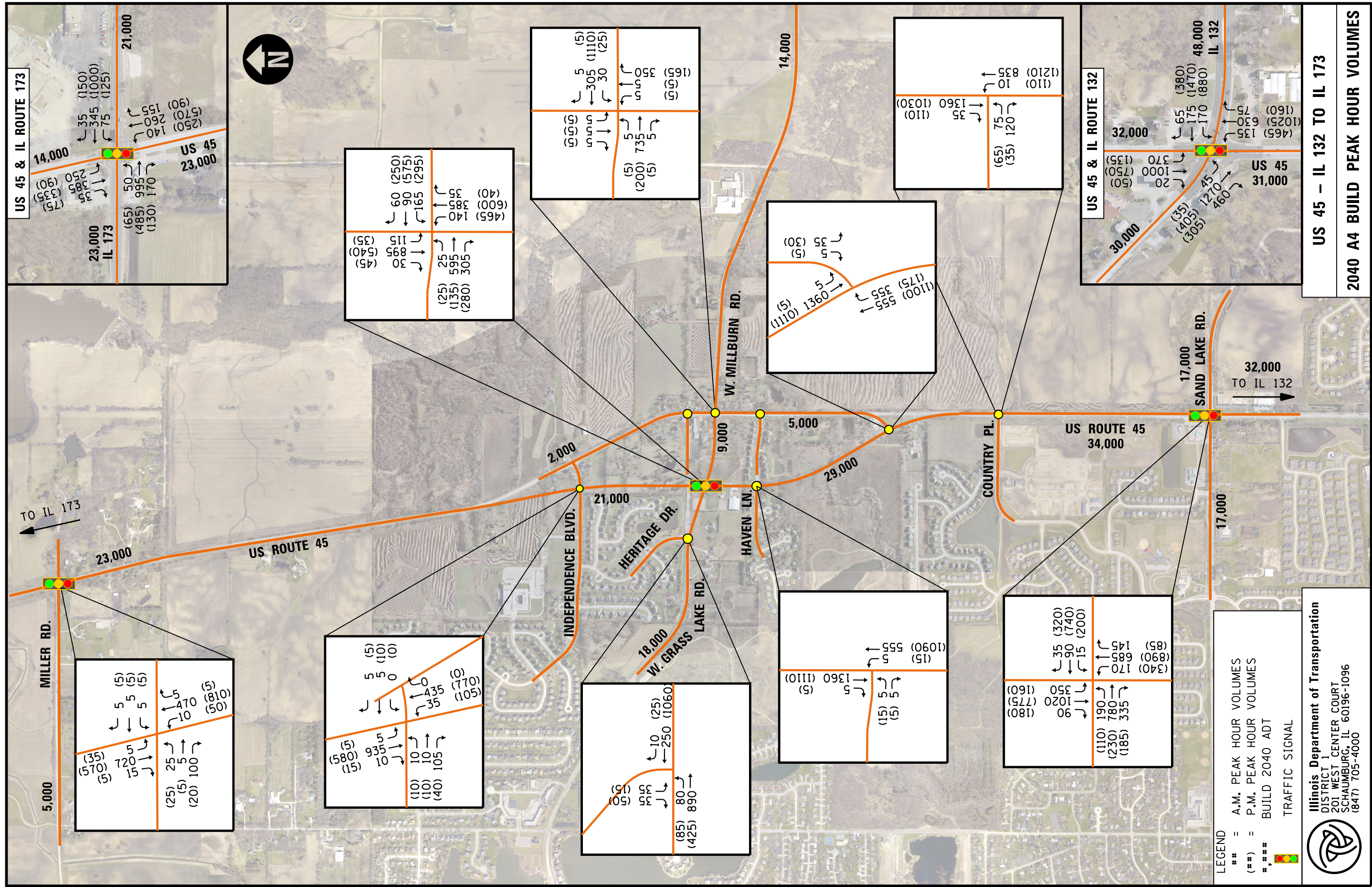


EXHIBIT 10



PLAN	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	ALIGNED		
	FILED		
	CADD FILE NAME		
	NO.		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	GRADES		
	STRUCTURE		
	NOTATIONS		
	CHFD		
	NO.		

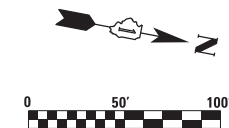
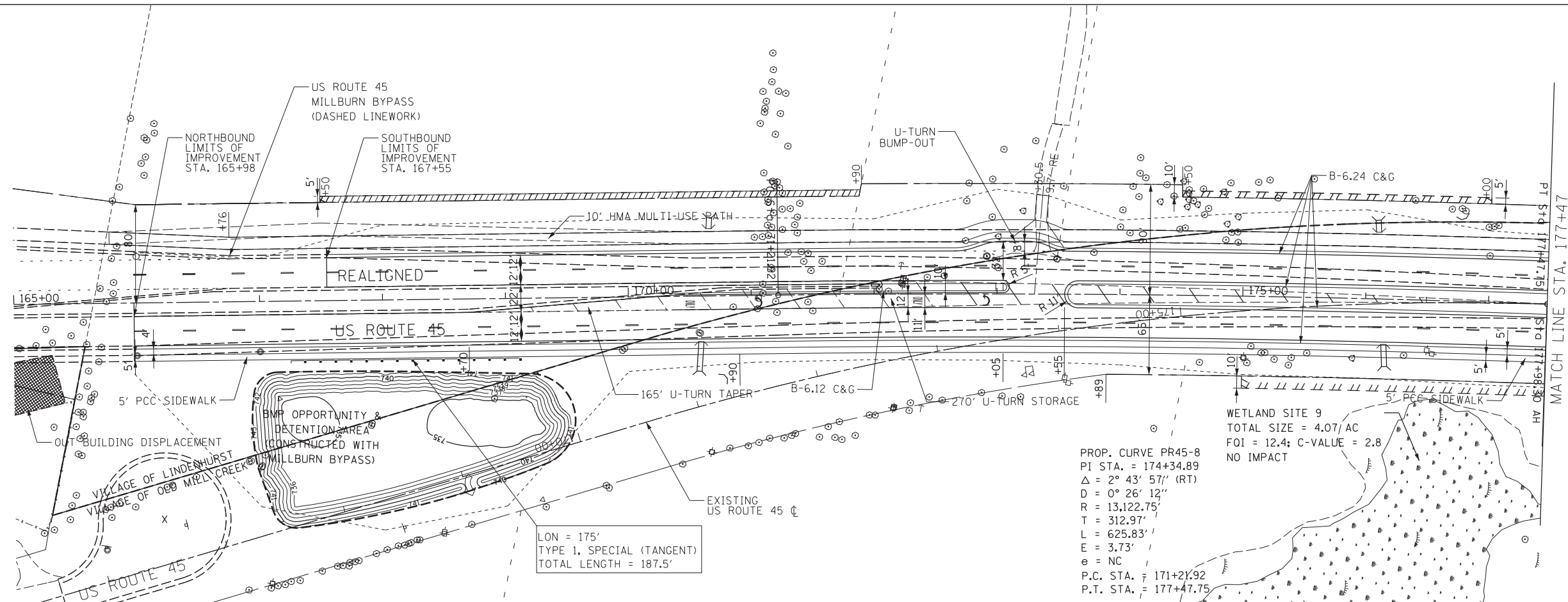
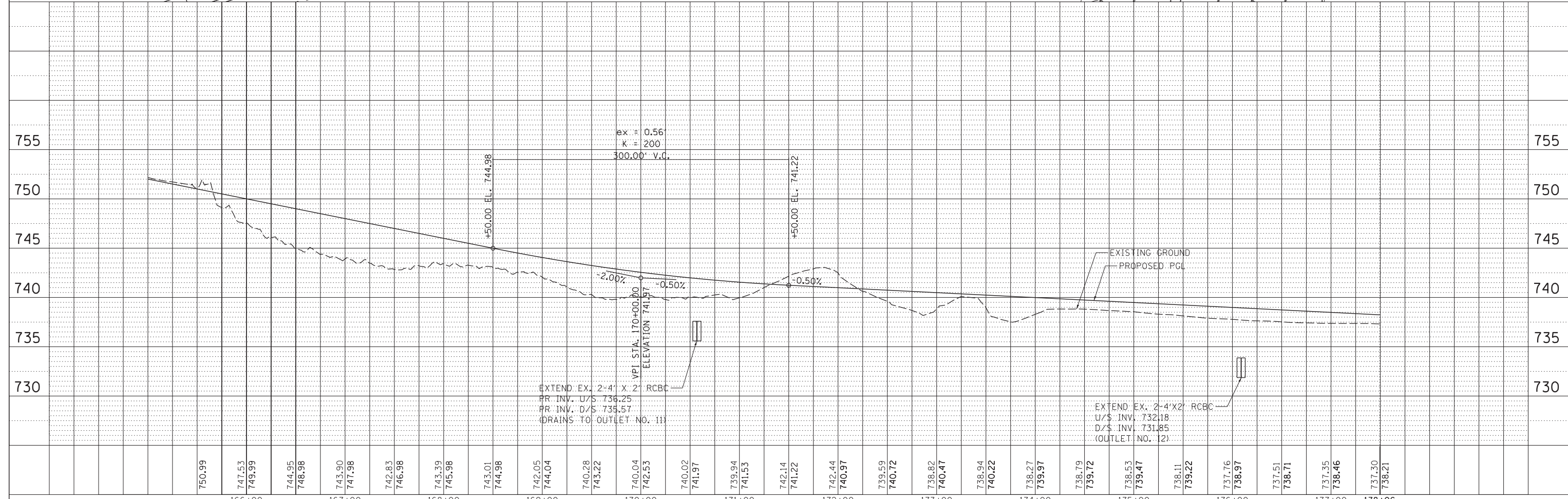


EXHIBIT 12



FILE NAME =	USER NAME = psantos	DESIGNED - MJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	U.S. ROUTE 45 - PLAN AND PROFILE U.S. ROUTE 45 BYPASS TO IL ROUTE 173	F.A.P. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
N:\dot\100063\CADD_Sheets\P138810_sht.pln	f350.dgn	DRAWN - MJH	REVISED -			344	05-00262-06-RO	LAKE	25	9	
Default	PLOT SCALE = 50'	CHECKED - MJM	REVISED -			CONTRACT NO.					
	PLOT DATE = 12/27/2018	DATE - 08/30/2018	REVISED -			SCALE: 1" = 50' SHEET 8 OF 24 SHEETS STA. 165+00 TO STA. 177+47 ILLINOIS FED. AID PROJECT					

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	ALIGNED		
	FILE NAME		
	NO.		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	GRADES		
	STRUCTURE		
	NOTATIONS		
	CHFD		
	NO.		

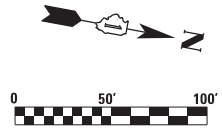
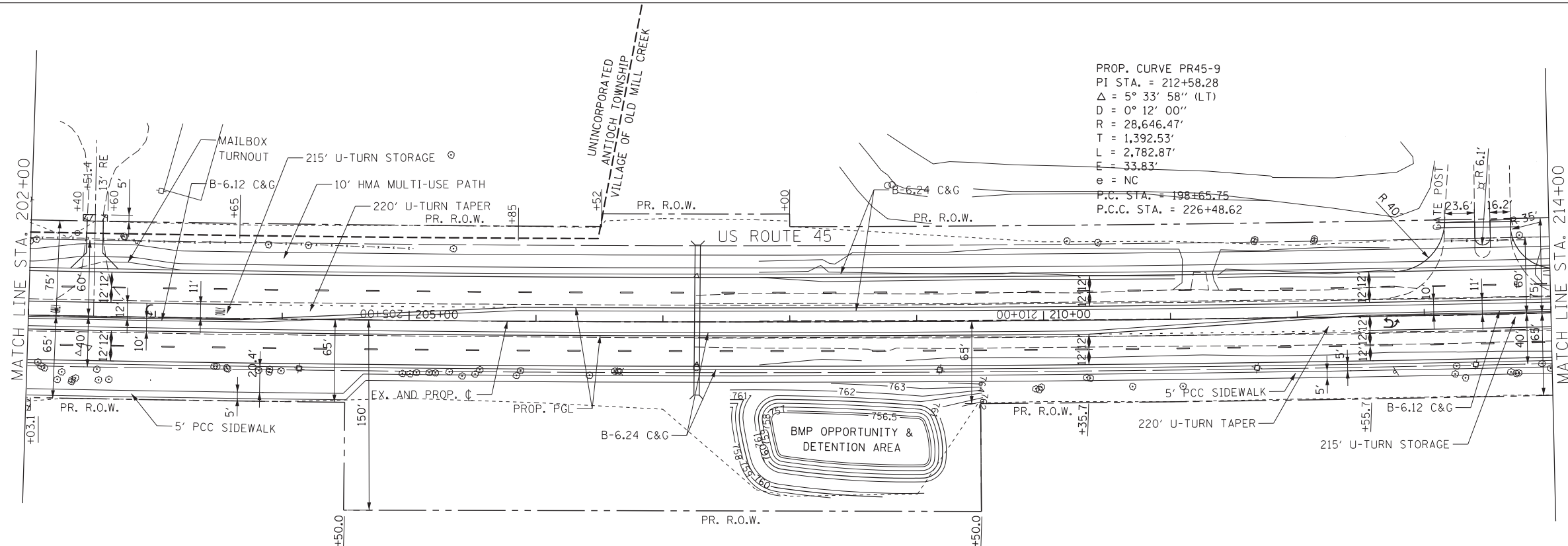
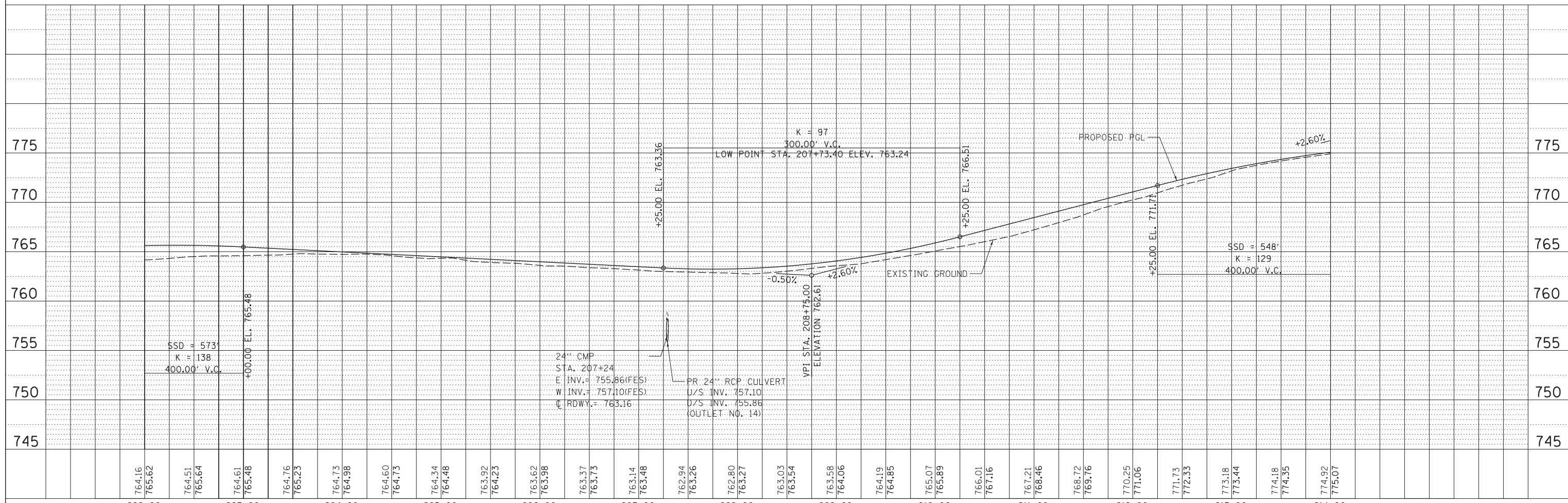


EXHIBIT 12



FILE NAME =	USER NAME = psantos	DESIGNED - MJH	REVISED -	STATE OF ILLINOIS	U.S. ROUTE 45 - PLAN AND PROFILE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - MJH	REVISED -	DEPARTMENT OF TRANSPORTATION	U.S. ROUTE 45 BYPASS TO IL ROUTE 173	344	05-00262-06-RO	LAKE	25
		CHECKED - MJM	REVISED -			CONTRACT NO.			
		DATE - 08/30/2018	REVISED -			ILLINOIS FED. AID PROJECT			

PLAN	SURVEYED	BY	DATE
	NOTED		
	CHECKED		
	ALIGNED		
	FILED		
	CADD FILE NAME		

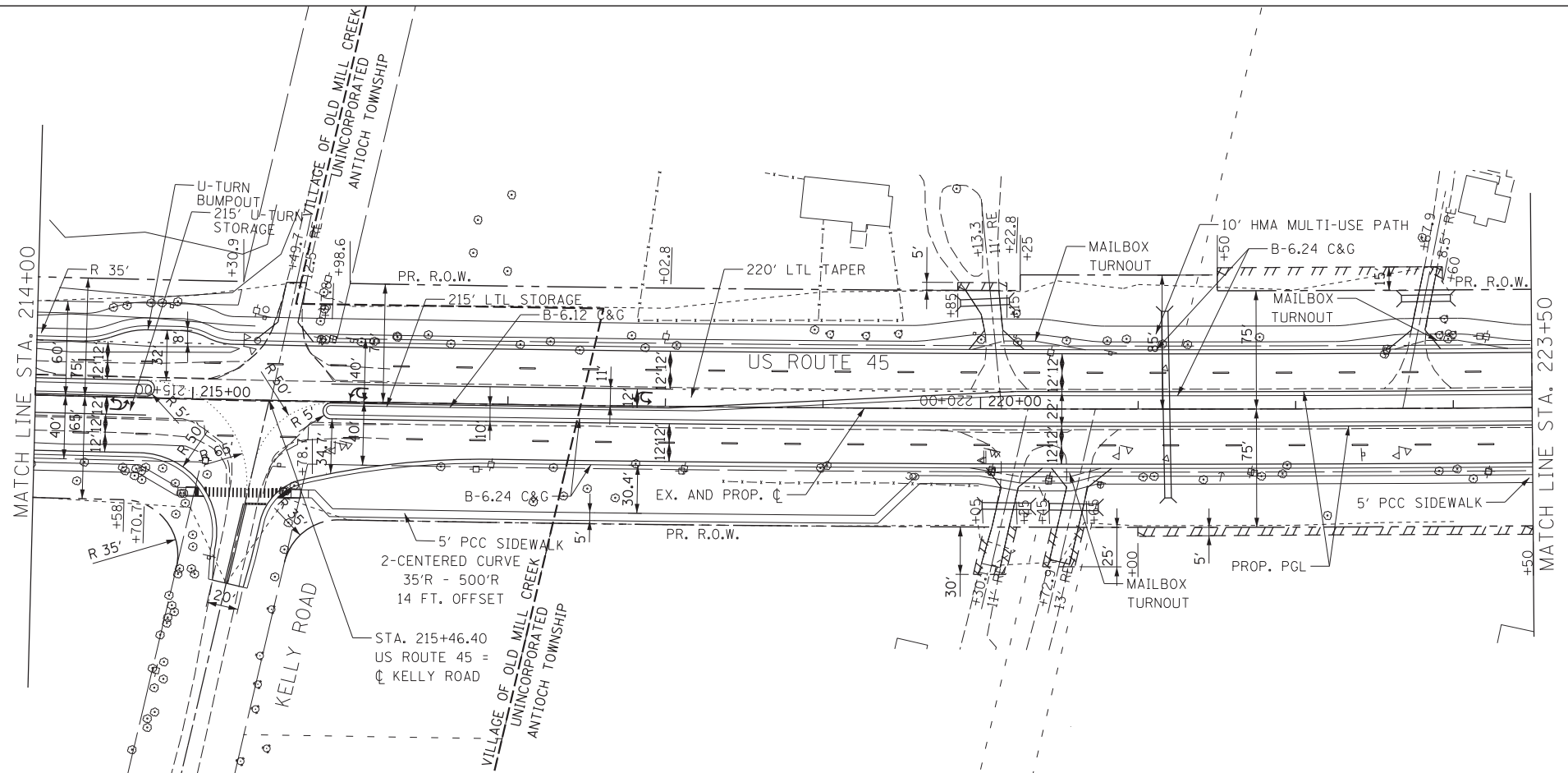
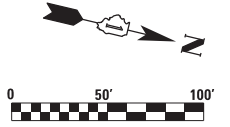
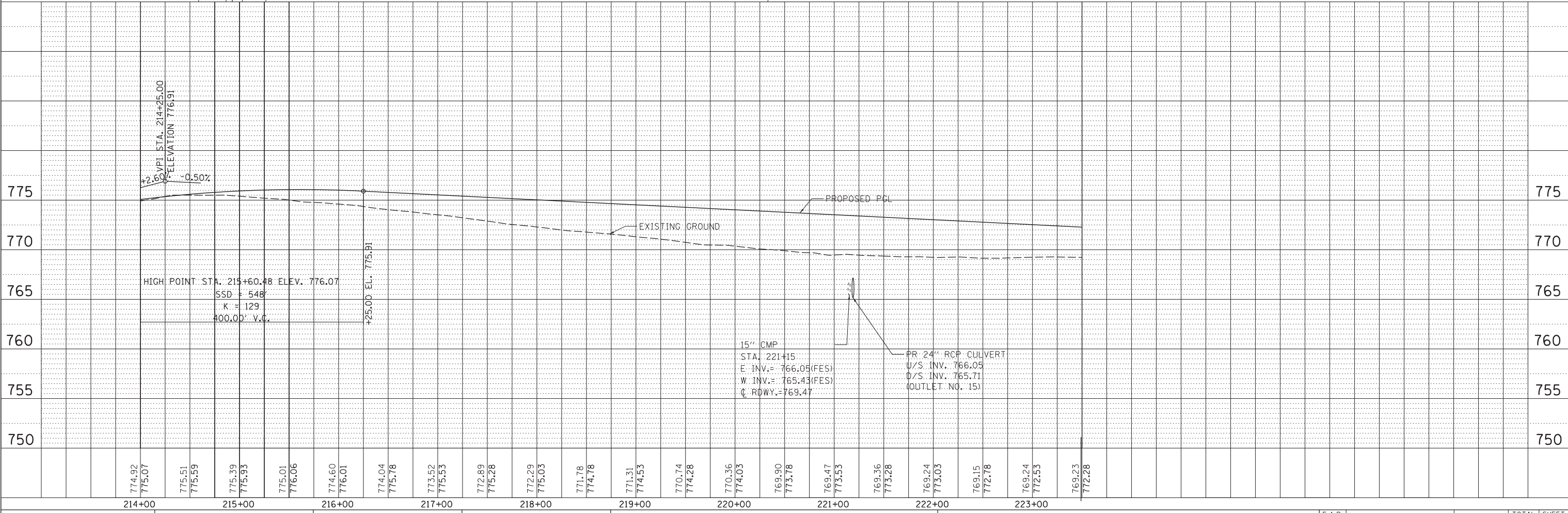


EXHIBIT 12

PROFILE	SURVEYED	BY	DATE
	GRADES CHECKED		
	STRUCTURE		
	NOTATIONS		
	CADD		

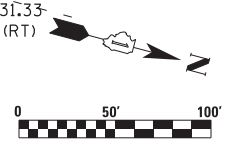


FILE NAME =	USER NAME = psantos	DESIGNED - MJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	U.S. ROUTE 45 - PLAN AND PROFILE U.S. ROUTE 45 BYPASS TO IL ROUTE 173	F.A.P. RTE. 344	SECTION 05-00262-06-RO	COUNTY LAKE	TOTAL SHEETS 25	SHEET NO. 13		
Default	PLOT SCALE = 50'	CHECKED - MJM	REVISED -			SCALE: 1" = 50'	SHEET 12 OF 24 SHEETS	STA. 214+00	TO STA. 223+50	CONTRACT NO.		
	PLOT DATE = 12/27/2018	DATE - 08/30/2018	REVISED -			ILLINOIS FED. AID PROJECT						

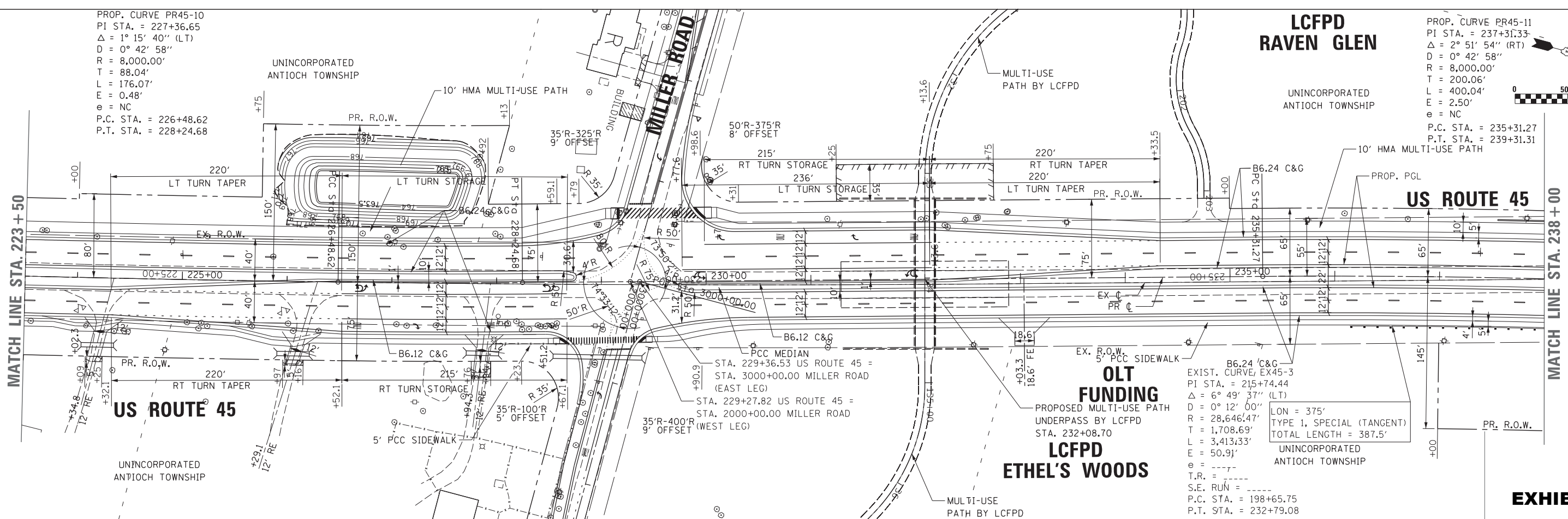
PROP. CURVE PR45-10
 PI STA. = 227+36.65
 $\Delta = 1^\circ 15' 40''$ (LT)
 $D = 0^\circ 42' 58''$
 $R = 8,000.00'$
 $T = 88.04'$
 $L = 176.07'$
 $E = 0.48'$
 $e = NC$
 P.C. STA. = 226+48.62
 P.T. STA. = 228+24.68

**LCFPD
 RAVEN GLEN**

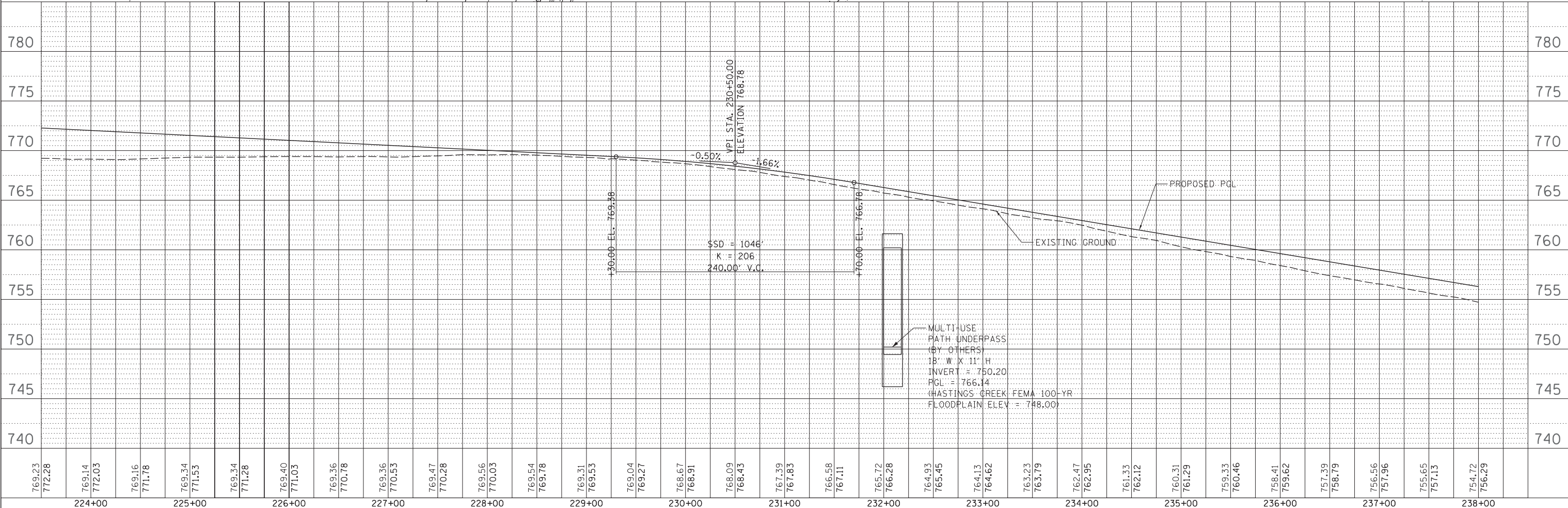
PROP. CURVE PR45-11
 PI STA. = 237+31.33
 $\Delta = 2^\circ 51' 54''$ (RT)
 $D = 0^\circ 42' 58''$
 $R = 8,000.00'$
 $T = 200.06'$
 $L = 400.04'$
 $E = 2.50'$
 $e = NC$
 P.C. STA. = 235+31.27
 P.T. STA. = 239+31.31



PLAN	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	ALIGNED		
	FILED		
	NO. _____		
	NO. _____		



PROFILE	SURVEYED	BY	DATE
	GRADES CHECKED		
	STRUCTURE NOTATIONS CHECKED		
	NO. _____		
	NO. _____		



FILE NAME =	USER NAME = psantos	DESIGNED - MJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	U.S. ROUTE 45 - PLAN AND PROFILE U.S. ROUTE 45 BYPASS TO IL ROUTE 173	F.A.P. RTE. 344	SECTION 05-00262-06-RO	COUNTY LAKE	TOTAL SHEETS 25	SHEET NO. 14		
Default	PLOT SCALE = 50'	CHECKED - MJM	REVISED -			SCALE: 1" = 50'	SHEET 13 OF 24 SHEETS	STA. 223+50	TO STA. 238+00	CONTRACT NO.		
	PLOT DATE = 12/27/2018	DATE - 08/30/2018	REVISED -			ILLINOIS FED. AID PROJECT						

EXHIBIT 12

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	ALIGNED		
	FILE NAME		
	NO.		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	STRUCTURE		
	NOTATIONS		
	NO.		

LCFPD RAVEN GLEN

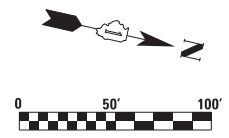
UNINCORPORATED
ANTIOCH TOWNSHIP

WETLAND SITE 1
SIZE SHOWN = 0.13 AC
FOI = 5.3; C-VALUE = 2.0
NO IMPACT

LON = 112.5'
TYPE 1, SPECIAL (TANGENT)
TOTAL LENGTH = 125'

LON = 475'
TYPE 1, SPECIAL (TANGENT)
TOTAL LENGTH = 487.5'

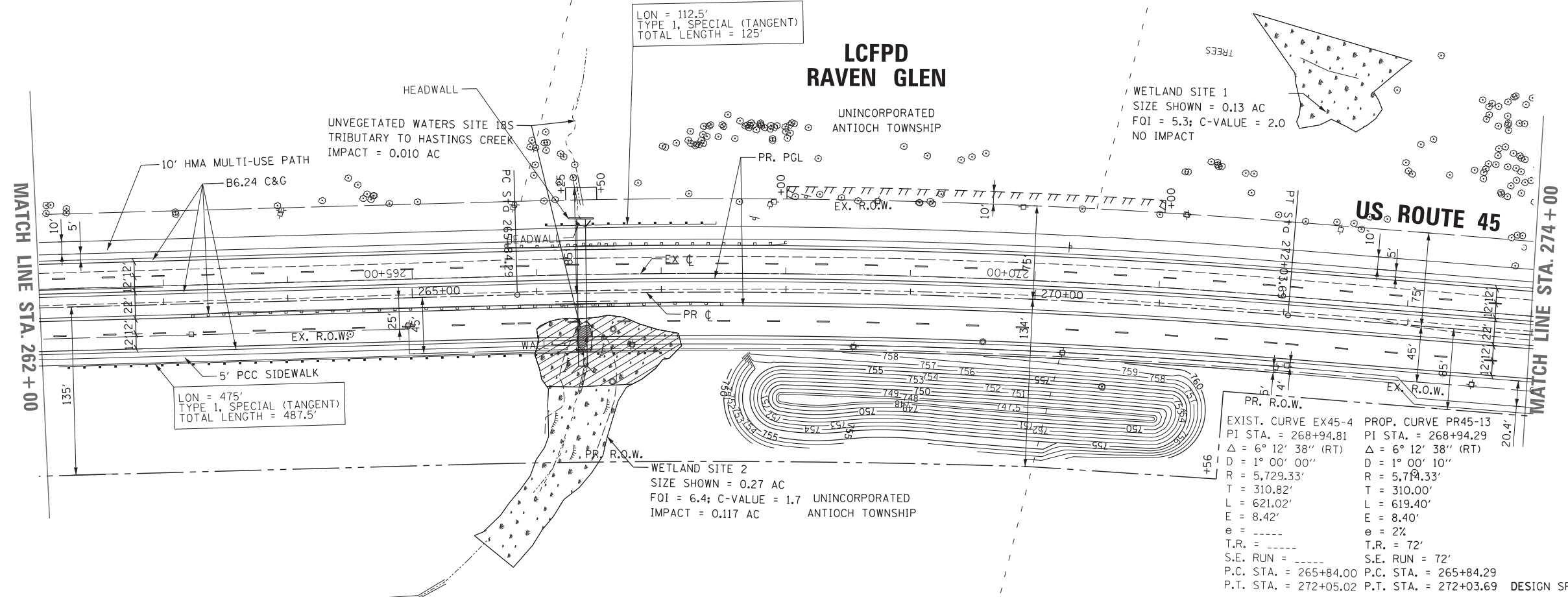
WETLAND SITE 2
SIZE SHOWN = 0.27 AC
FOI = 6.4; C-VALUE = 1.7 UNINCORPORATED
IMPACT = 0.117 AC ANTIOCH TOWNSHIP



MATCH LINE STA. 262+00

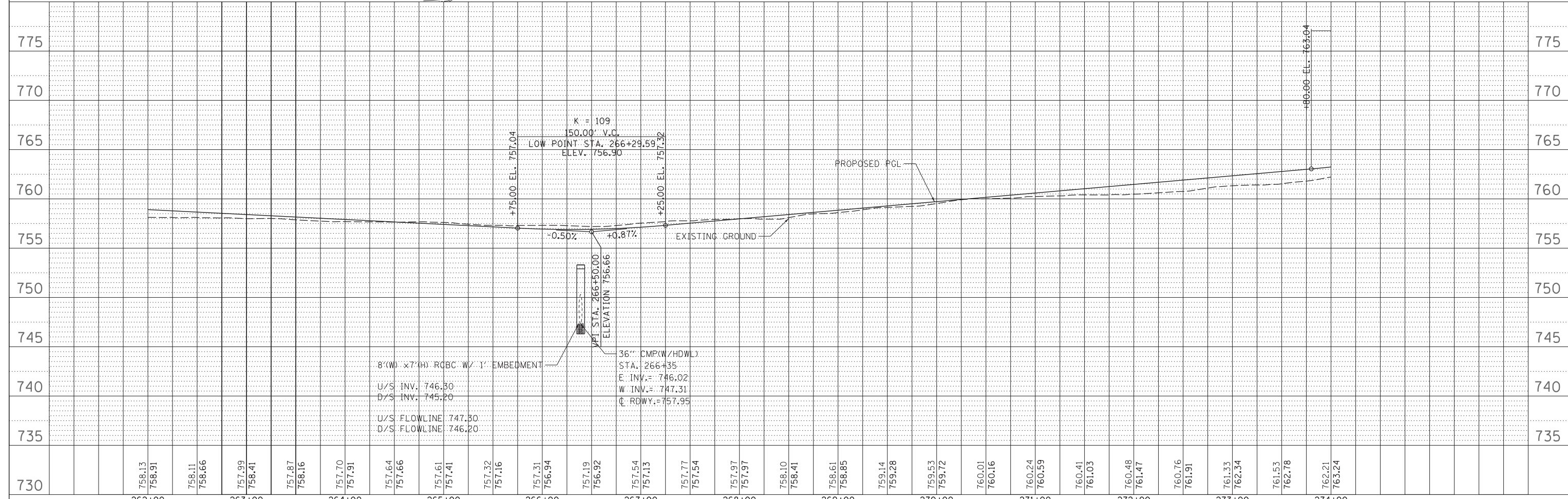
MATCH LINE STA. 274+00

US ROUTE 45



EXIST. CURVE EX45-4	PROP. CURVE PR45-13
PI STA. = 268+94.81	PI STA. = 268+94.29
Δ = 6° 12' 38" (RT)	Δ = 6° 12' 38" (RT)
D = 1° 00' 00"	D = 1° 00' 10"
R = 5,729.33'	R = 5,729.33'
T = 310.82'	T = 310.00'
L = 621.02'	L = 619.40'
E = 8.42'	E = 8.40'
e = -----	e = 2%
T.R. = -----	T.R. = 72'
S.E. RUN = -----	S.E. RUN = 72'
P.C. STA. = 265+84.00	P.C. STA. = 265+84.29
P.T. STA. = 272+05.02	P.T. STA. = 272+03.69

EXHIBIT 12



FILE NAME =	USER NAME = psantos	DESIGNED - MJH	REVISED -
N:\dot\100063\CADD_Sheets\P138810_sht.pln	f358.dgn	DRAWN - MJH	REVISED -
Default	PLOT SCALE = 50'	CHECKED - MJM	REVISED -
	PLOT DATE = 12/27/2018	DATE - 08/30/2018	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

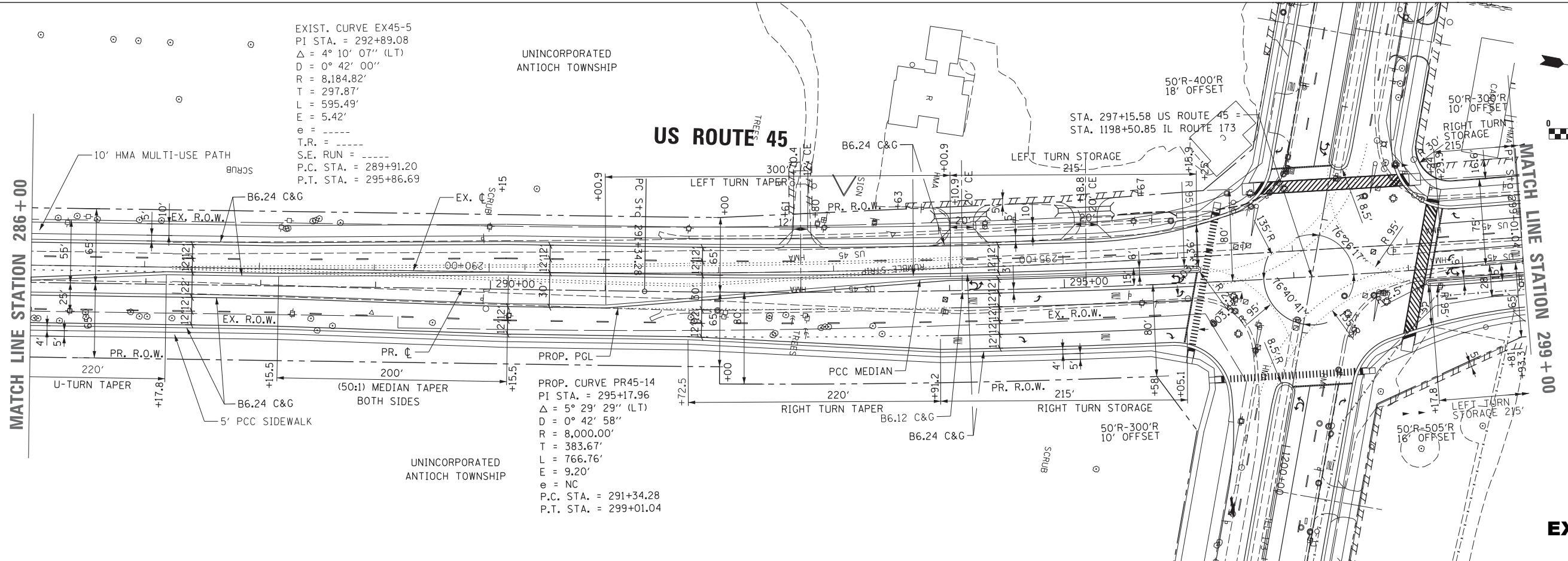
US ROUTE 45 - PLAN AND PROFILE
U.S. ROUTE 45 BYPASS TO IL ROUTE 173

SCALE: 1" = 50' SHEET 16 OF 24 SHEETS STA. 262+00 TO STA. 274+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
344	05-00262-06-RO	LAKE	25	17
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	FILE NAME		
	NO.		

PROFILE	SURVEYED	BY	DATE
	GRADES		
	STRUCTURE		
	NOTATIONS		
	NO.		



EXIST. CURVE EX45-5
 PI STA. = 292+89.08
 $\Delta = 4^\circ 10' 07''$ (LT)
 $D = 0^\circ 42' 00''$
 $R = 8,184.82'$
 $T = 297.87'$
 $L = 595.49'$
 $E = 5.42'$
 $e = \dots$
 $T.R. = \dots$
 $S.E. RUN = \dots$
 $P.C. STA. = 289+91.20$
 $P.T. STA. = 295+86.69$

UNINCORPORATED
 ANTIOCH TOWNSHIP

US ROUTE 45

PROP. CURVE PR45-14
 PI STA. = 295+17.96
 $\Delta = 5^\circ 29' 29''$ (LT)
 $D = 0^\circ 42' 58''$
 $R = 8,000.00'$
 $T = 383.67'$
 $L = 766.76'$
 $E = 9.20'$
 $e = NC$
 $P.C. STA. = 291+34.28$
 $P.T. STA. = 299+01.04$

UNINCORPORATED
 ANTIOCH TOWNSHIP

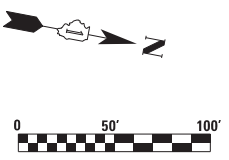
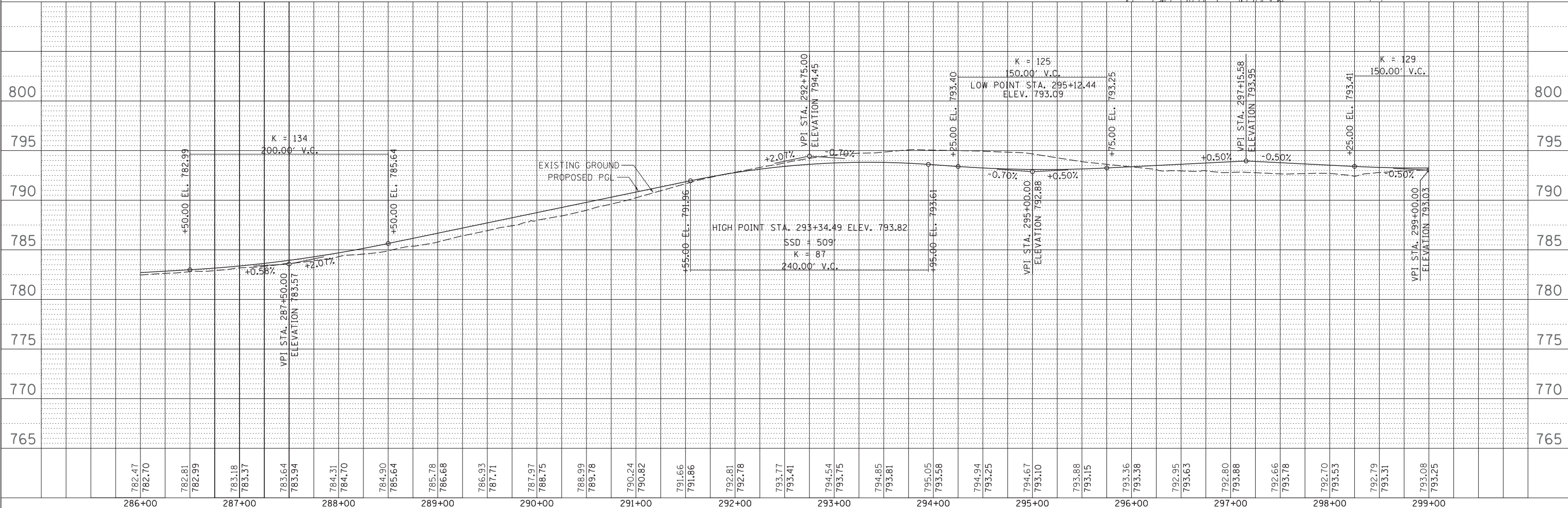


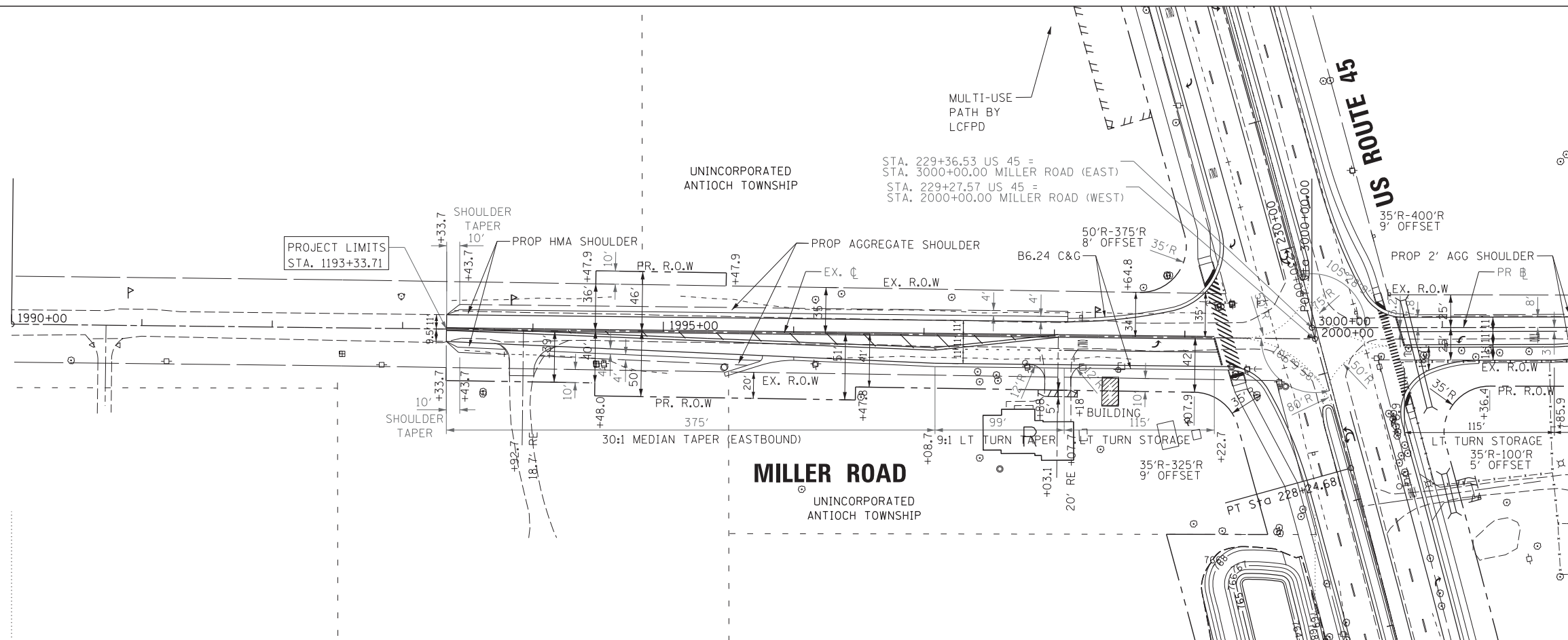
EXHIBIT 12



FILE NAME =	USER NAME = psantos	DESIGNED - MJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	US ROUTE 45 - PLAN AND PROFILE U.S. ROUTE 45 BYPASS TO IL ROUTE 173		F.A.P. R.T.E. = 344	SECTION = 05-00262-06-RO	COUNTY = LAKE	TOTAL SHEETS = 25	SHEET NO. = 19
Default	PLOT SCALE = 50'	CHECKED - MJM	REVISED -		SCALE: 1" = 50'	SHEET 18 OF 24 SHEETS	STA. 286+00 TO STA. 299+00	CONTRACT NO.		ILLINOIS FED. AID PROJECT	
	PLOT DATE = 12/27/2018	DATE = 08/30/2018	REVISED -								

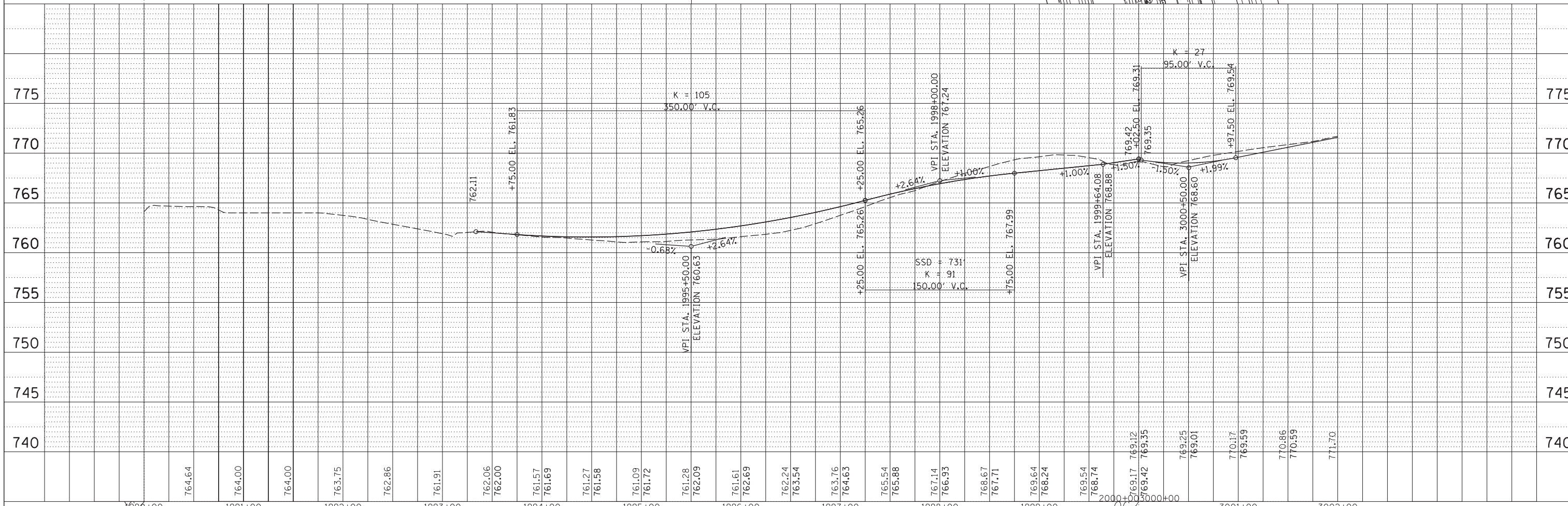
PLAN	SURVEYED	DATE
	PLOTTED	BY
	CHECKED	
	ALIGNED	
	CADD FILE NAME	
	NO.	

PROFILE	SURVEYED	DATE
	PLOTTED	BY
	CHECKED	
	GRADES	
	STRUCTURE	
	NOTATIS	
	CHFD	
	NO.	



MATCH LINE STA. 2002 + 00

EXHIBIT 12



FILE NAME =	USER NAME = psantos	DESIGNED - MJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MILLER ROAD - PLAN AND PROFILE U.S. ROUTE 45 BYPASS TO IL ROUTE 173	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\dot\100063\CADD\Sheets\P138810.sht.pln	f362.dgn	DRAWN - MJH	REVISED -			344	05-00262-06-RO	LAKE	25	21
Default	PLOT SCALE = 50'	CHECKED - MJM	REVISED -			CONTRACT NO.				
	PLOT DATE = 12/27/2018	DATE - 08/30/2018	REVISED -			ILLINOIS FED. AID PROJECT				

SCALE: 1" = 50' SHEET 20 OF 24 SHEETS STA. 1990+00 TO STA. 2002+00

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	ALIGNED		
	CADD FILE NAME		
	NO.		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	GRADES		
	STRUCTURE		
	NOTATIONS		
	CHFD		
	NO.		

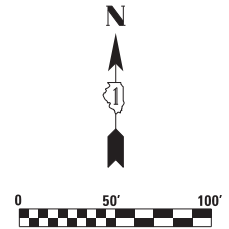
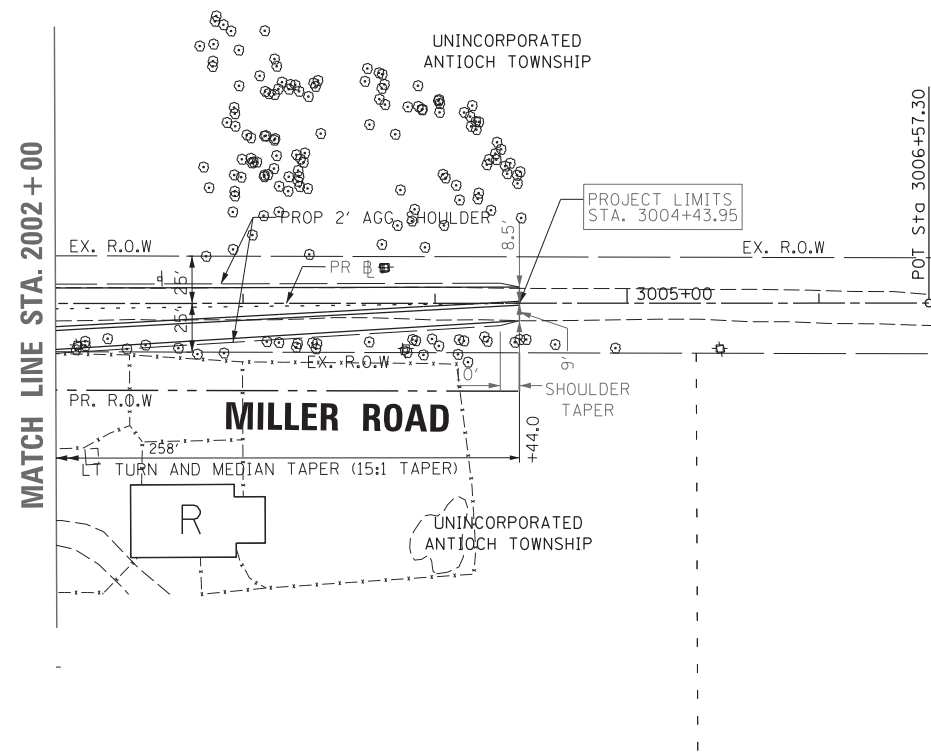
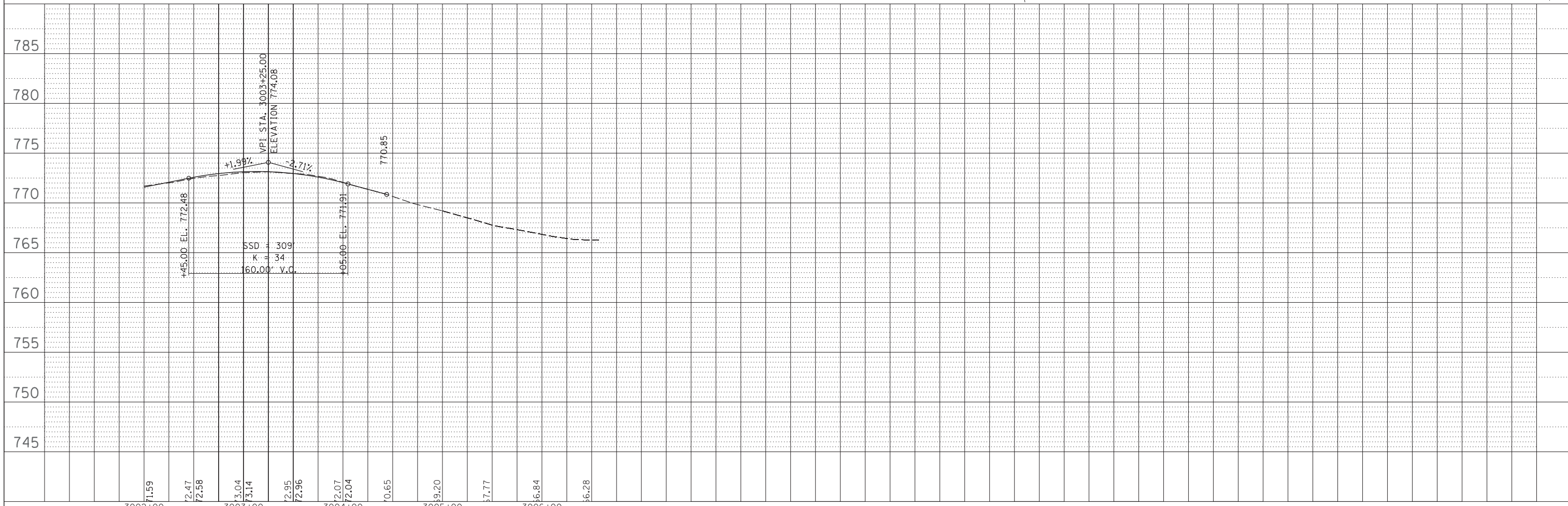


EXHIBIT 12



FILE NAME =	USER NAME = psantos	DESIGNED - MJH	REVISED -
N:\dot\100063\CADD_Sheets\P138810.sht.pln	f363.dgn	DRAWN - MJH	REVISED -
Default	PLOT SCALE = 50'	CHECKED - MJM	REVISED -
	PLOT DATE = 12/27/2018	DATE - 08/30/2018	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**MILLER ROAD - PLAN AND PROFILE
U.S. ROUTE 45 BYPASS TO IL ROUTE 173**

SCALE: 1" = 50' SHEET 21 OF 24 SHEETS STA. 2002 TO STA. 2006+55.10

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
344	05-00262-06-RO	LAKE	25	22
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	ALIGNED		
	CADD FILE NAME		
	NO.		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	GRADES		
	STRUCTURE		
	NOTATIS		
	CHFD		
	NO.		

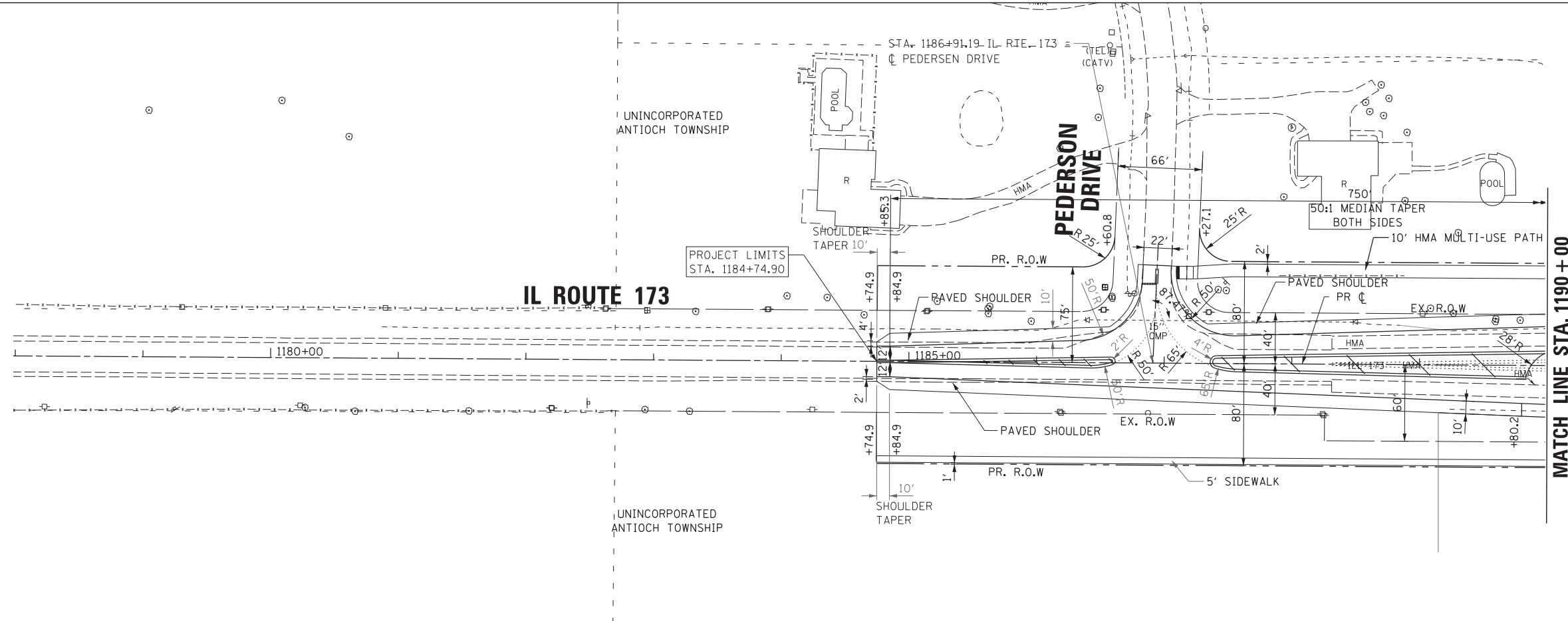
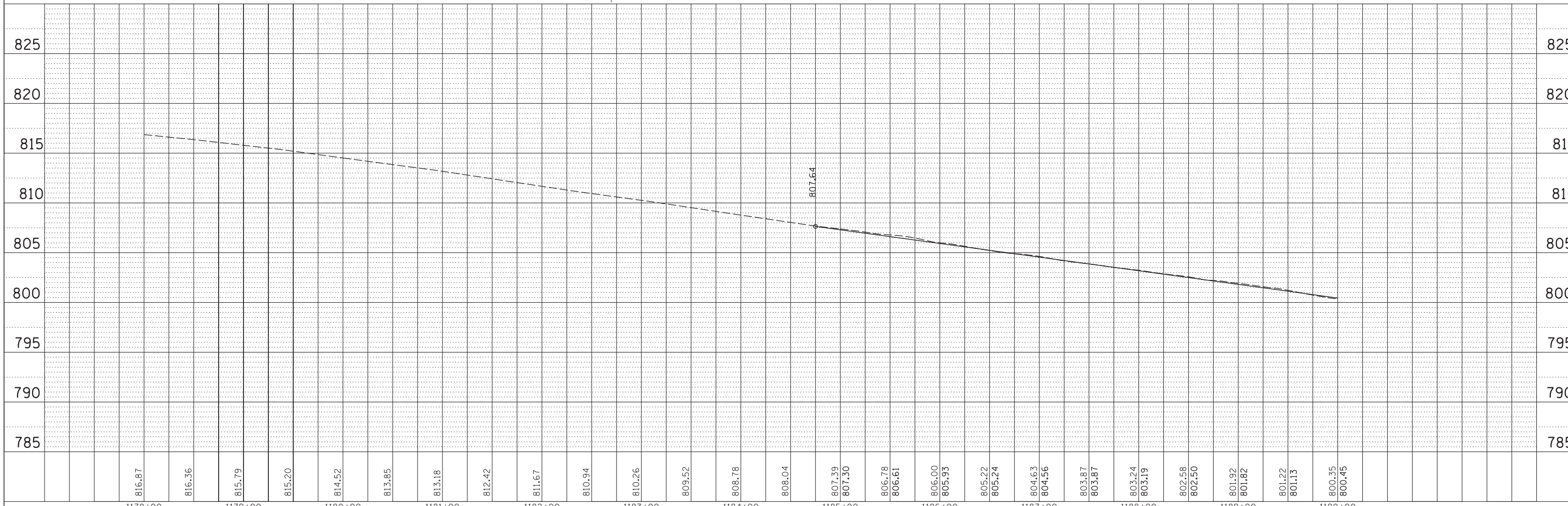


EXHIBIT 12



FILE NAME =	USER NAME = psantos	DESIGNED - MJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	IL ROUTE 173 - PLAN AND PROFILE		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\dot\100063\CADD_Sheets\P138810.sht.pln	f364.dgn	DRAWN - MJH	REVISED -		344	05-00262-06-RO	LAKE	25	23		
Default	PLOT SCALE = 50'	CHECKED - MJM	REVISED -		CONTRACT NO.						
	PLOT DATE = 12/27/2018	DATE - 08/30/2018	REVISED -		SCALE: 1" = 50'			SHEET 22 OF 24 SHEETS	STA. 1178+00 TO STA. 1190+00	ILLINOIS FED. AID PROJECT	

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	ALIGNED		
	CHECKED		
	FILED		
NOTE BOOK NO.	CADD FILE NAME		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	GRADES CHECKED		
	STRUCTURE NOTATIONS CHKD		
NOTE BOOK NO.	NOTATIONS CHKD		

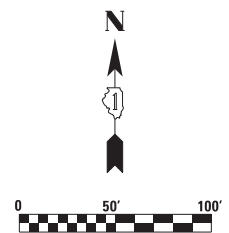
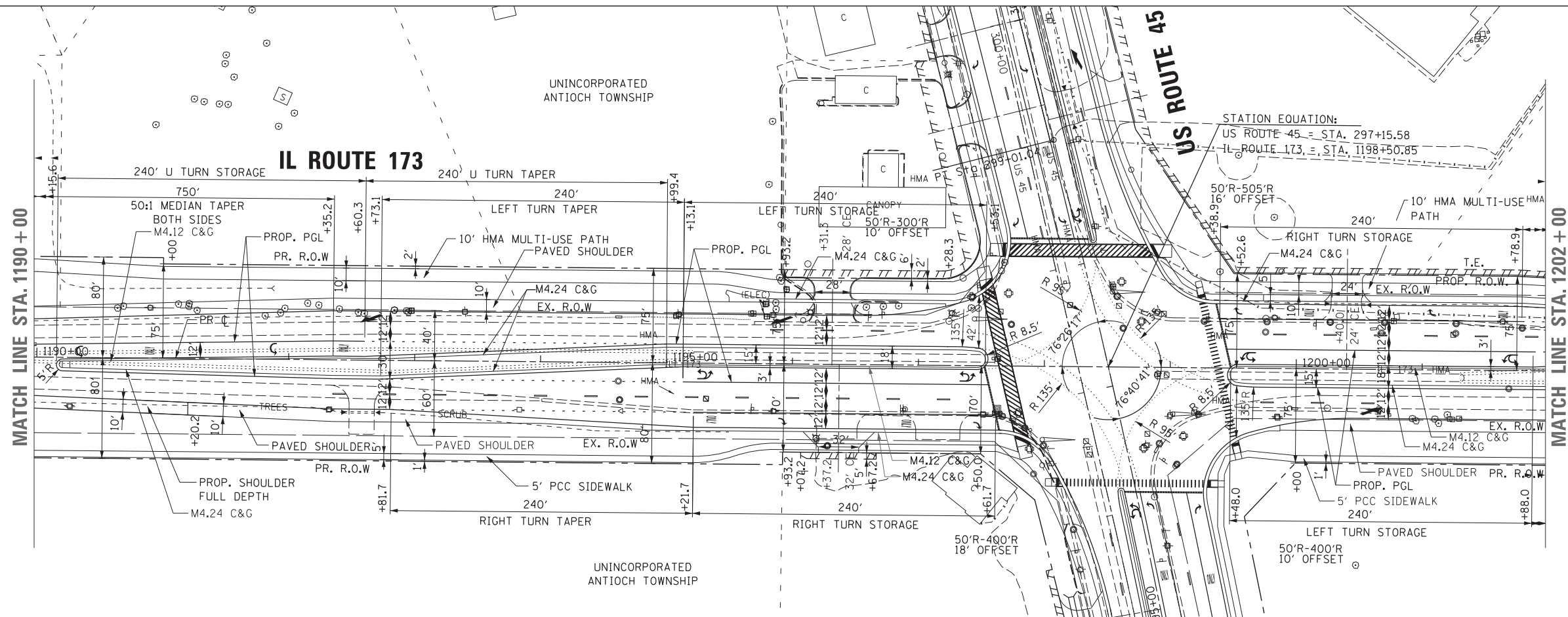
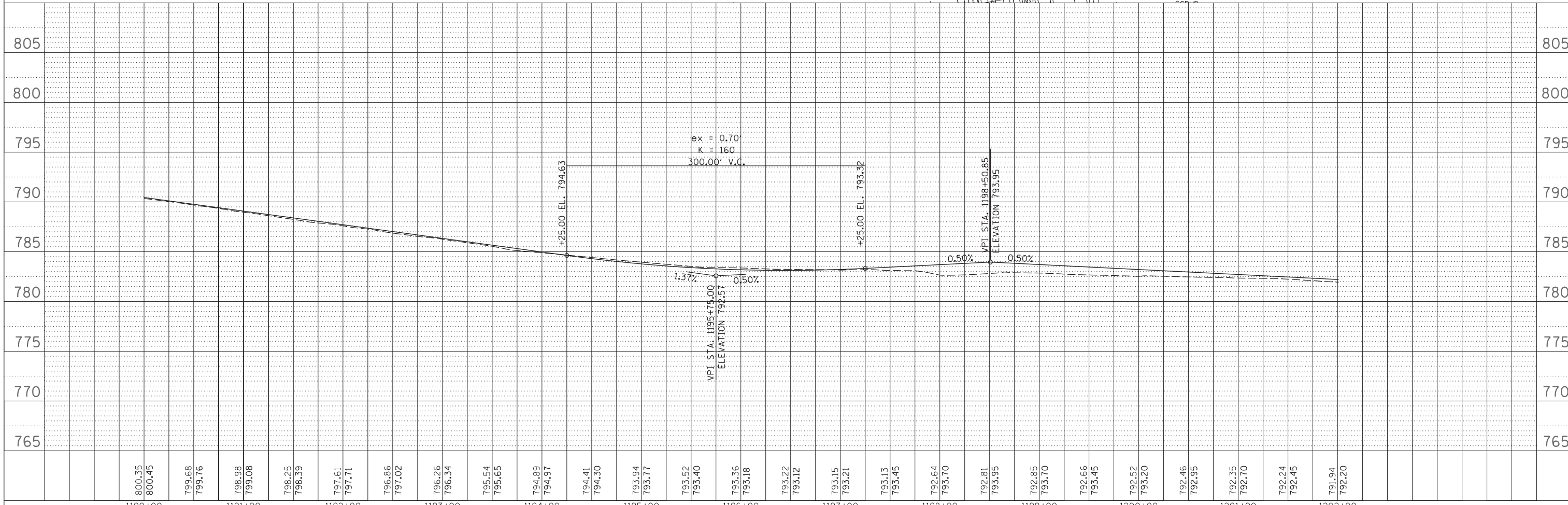


EXHIBIT 12



FILE NAME =	USER NAME = psantos	DESIGNED - MJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	IL ROUTE 173 - PLAN AND PROFILE U.S. ROUTE 45 BYPASS TO IL ROUTE 173	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
N:\dot\100063\CADD_Sheets\P138810.sht.pln	f365.dgn	DRAWN - MJH	REVISED -			344	05-00262-06-RO	LAKE	25	24	
Default	PLOT SCALE = 50'	CHECKED - MJM	REVISED -			CONTRACT NO.					
	PLOT DATE = 12/27/2018	DATE - 08/30/2018	REVISED -			ILLINOIS FED. AID PROJECT					

SCALE: 1" = 50' SHEET 23 OF 24 SHEETS STA. 1190+00 TO STA. 1202+00

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	FILE NAME		
	NO.		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	FILE NAME		
	NO.		

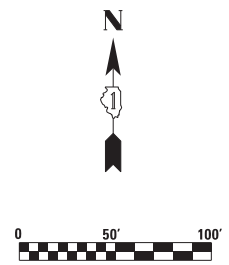
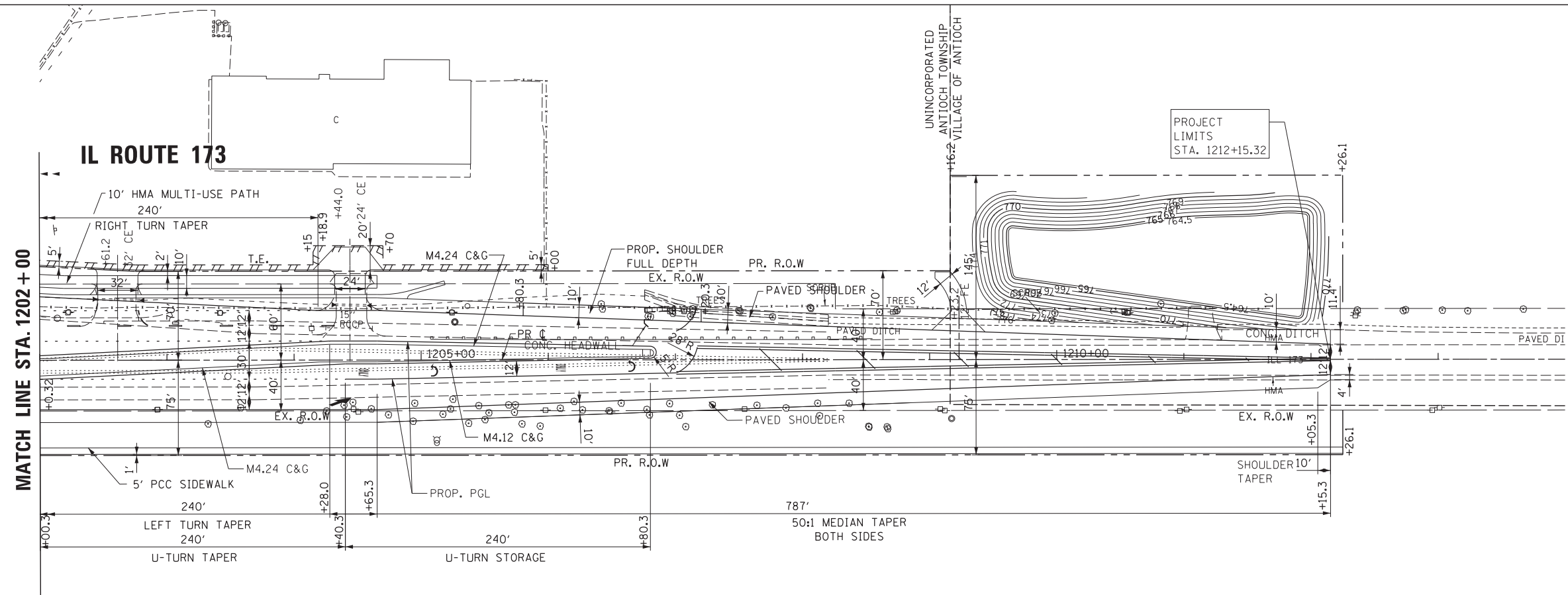
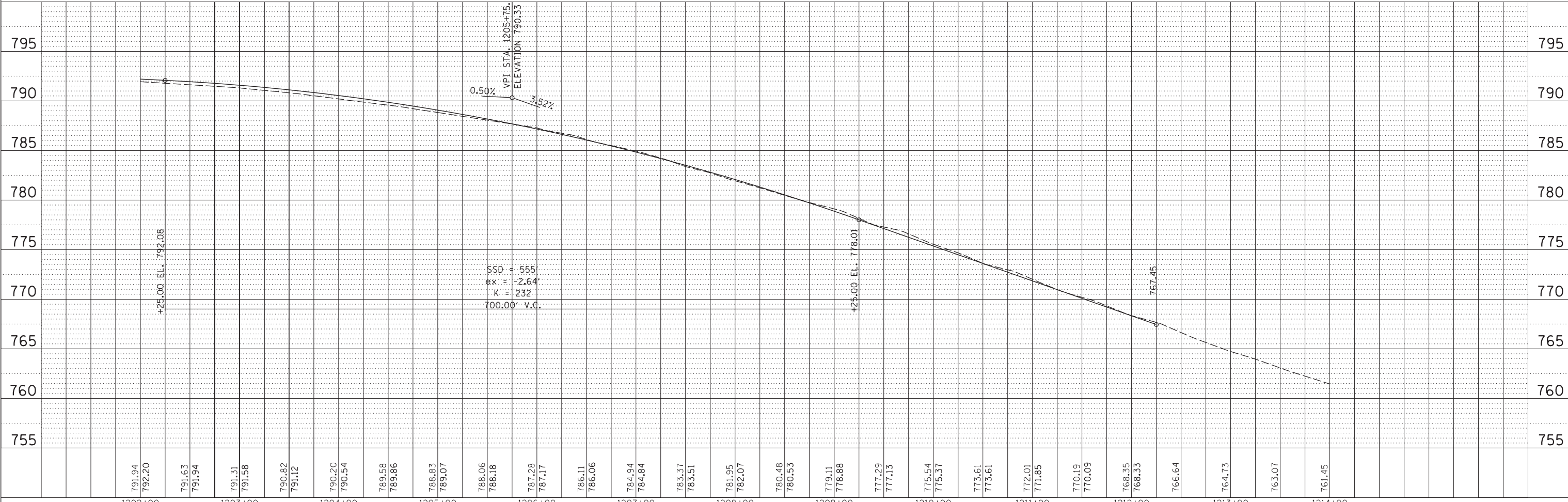


EXHIBIT 12

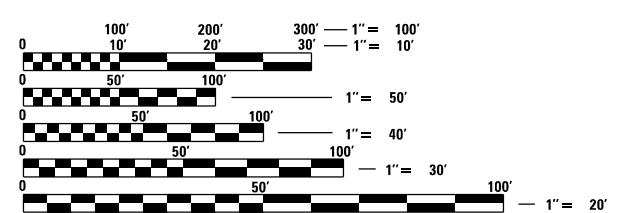
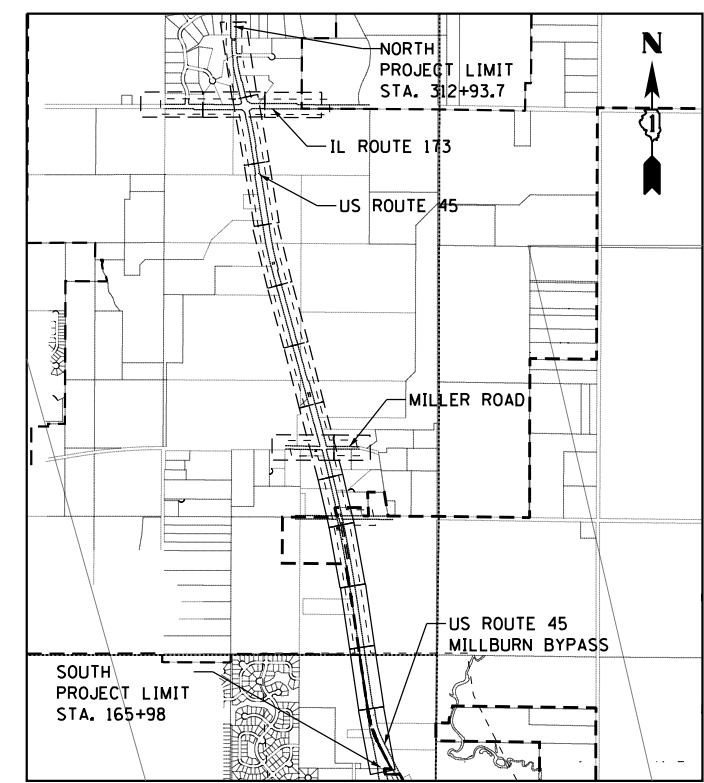


FILE NAME =	USER NAME = psantos	DESIGNED - MJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	IL ROUTE 173 - PLAN AND PROFILE U.S. ROUTE 45 BYPASS TO IL ROUTE 173	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
N:\dot\100063\CADD_Sheets\P138810_sht.pln	f366.dgn	DRAWN - MJH	REVISED -			344	05-00262-06-RO	LAKE	25	25	
Default	PLOT SCALE = 50'	CHECKED - MJM	REVISED -			CONTRACT NO.					
	PLOT DATE = 12/27/2018	DATE - 08/30/2018	REVISED -			ILLINOIS FED. AID PROJECT					

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0344	05-00262-06-RO	LAKE	1	16
		ILLINOIS	CONTRACT NO.	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROPOSED
RIGHT-OF-WAY &
EASEMENT ACQUISITION

U.S. ROUTE 45; MILLBURN BYPASS TO IL ROUTE 173
PROJECT P-91-666-09
LAKE COUNTY



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
 JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
 1-800-892-0123
 OR 811

PROJECT ENGINEER – MATTHEW HUFFMAN, PE
 PROJECT MANAGER – MICHAEL MATKOVIC, PE

GROSS LENGTH = 13,469 FT. = 2.55 MILE
 NET LENGTH = 13,469 FT. = 2.55 MILE

CONTRACT NO.

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED _____ 20 _____

DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

_____ 20 _____

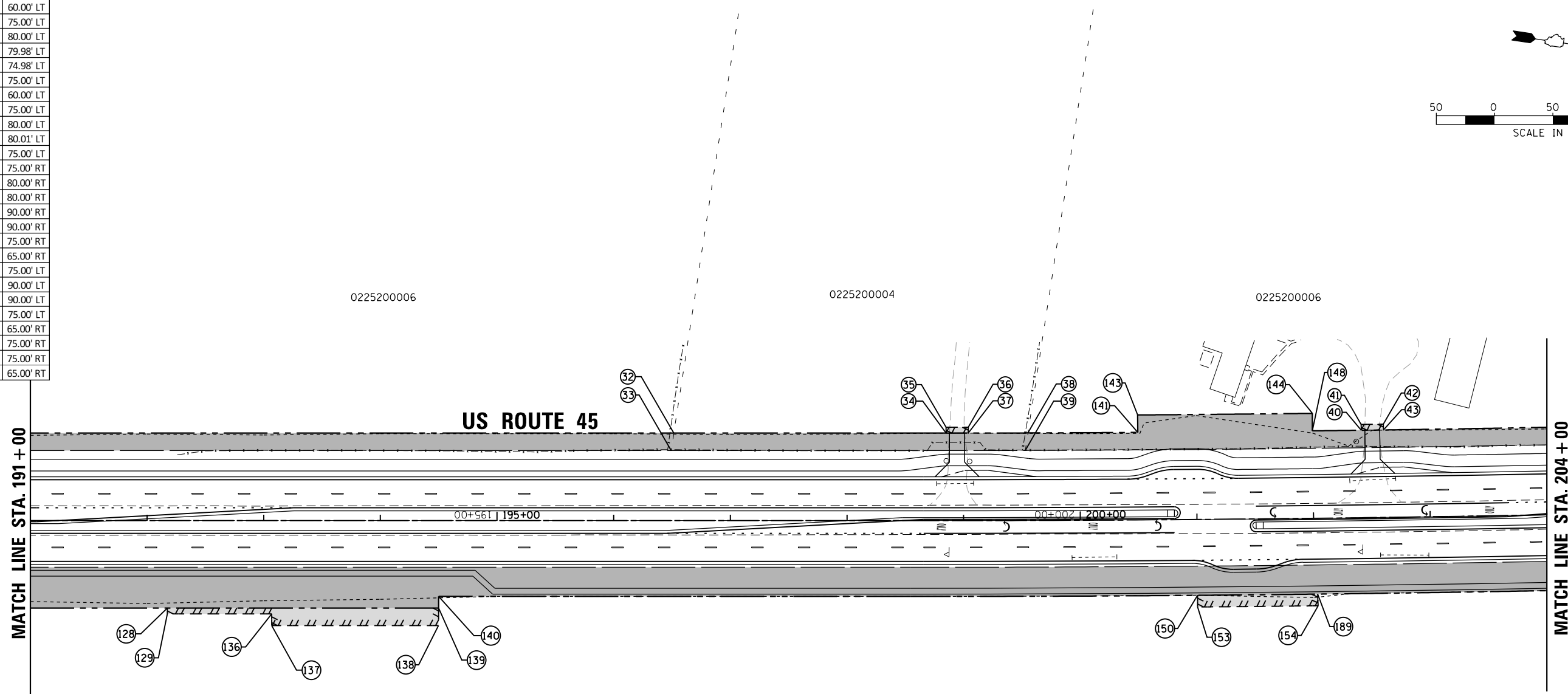
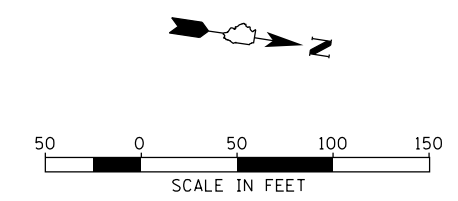
ENGINEER OF DESIGN AND ENVIRONMENT

_____ 20 _____

DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

LABEL	STATION	OFFSET
32	196+51.60	75.00' LT
33	196+49.29	60.00' LT
34	198+84.98	75.00' LT
35	198+84.98	80.00' LT
36	199+04.03	79.98' LT
37	199+04.03	74.98' LT
38	199+55.40	75.00' LT
39	199+53.04	60.00' LT
40	202+41.88	75.00' LT
41	202+41.88	80.00' LT
42	202+60.93	80.01' LT
43	202+60.93	75.00' LT
128	192+17.42	75.00' RT
129	192+17.42	80.00' RT
136	193+06.88	80.00' RT
137	193+06.88	90.00' RT
138	194+49.85	90.00' RT
139	194+50.00	75.00' RT
140	194+50.00	65.00' RT
141	200+49.74	75.00' LT
143	200+49.68	90.00' LT
144	202+00.00	90.00' LT
148	201+99.82	75.00' LT
150	201+00.00	65.00' RT
153	201+00.00	75.00' RT
154	202+03.08	75.00' RT
189	202+02.69	65.00' RT



PIN 0225200002

— EXISTING ROW
 - - - PROPOSED ROW
 // // // TEMPORARY EASEMENT

EXHIBIT 13

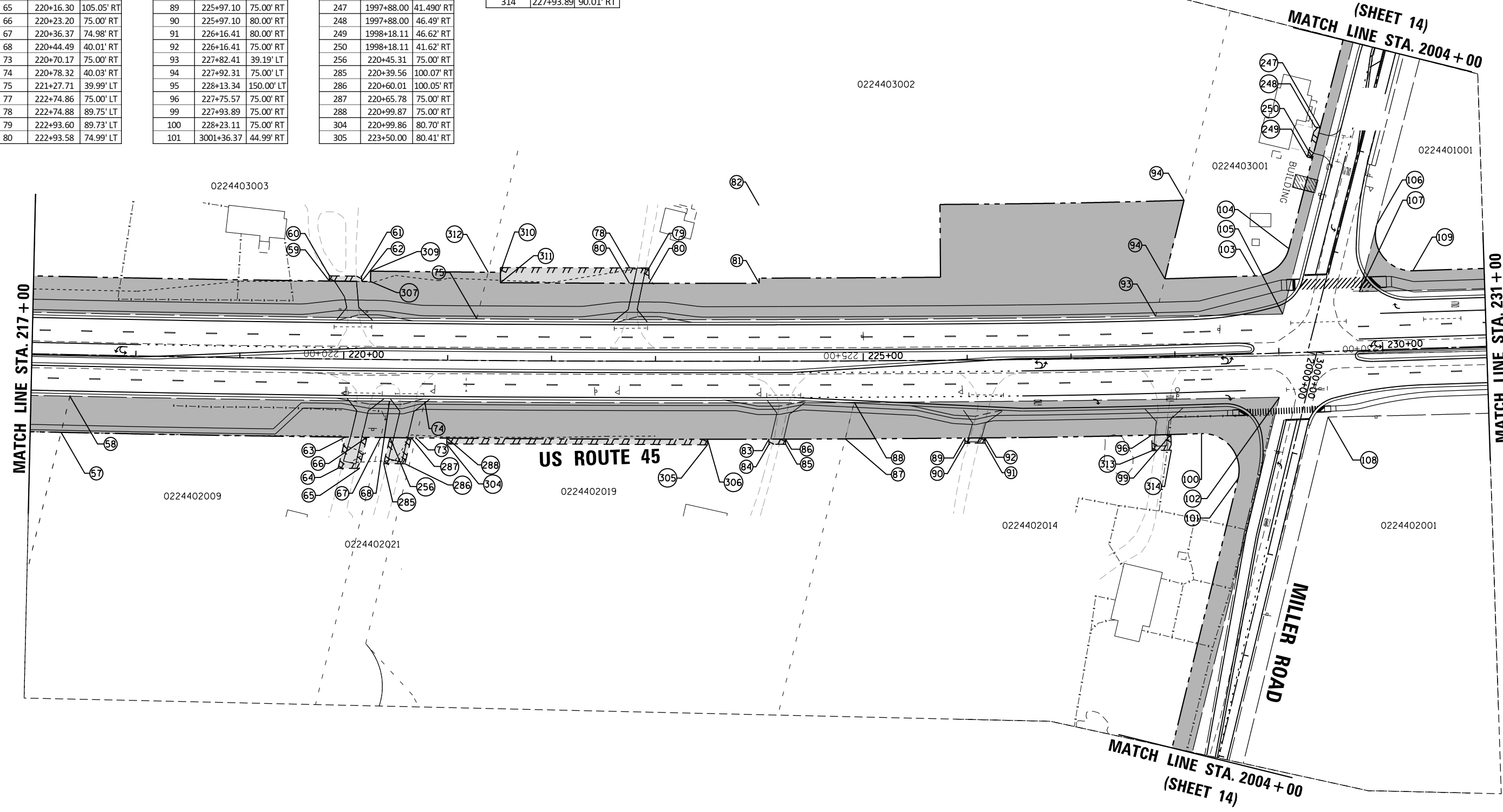
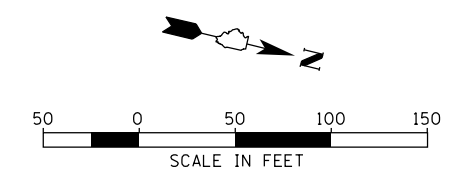
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PLOT SCALE = 100'	CHECKED - PRS	REVISED -	REVISED -		SCALE: 1" = 50'	SHEET NO. OF 16 SHEETS	STA. 191+00.00 TO STA. 204+00.00	CONTRACT NO. ILLINOIS FED. AID PROJECT				
PLOT DATE = 12/27/2018	DATE - 5/24/2018	REVISED -	REVISED -									

LABEL	STATION	OFFSET
57	217+29.67	75.00' RT
58	217+37.38	40.00' RT
59	219+85.19	75.00' LT
60	219+85.19	80.00' LT
61	220+16.39	80.00' LT
62	220+16.39	75.00' LT
63	220+02.67	75.00' RT
64	219+95.85	105.07' RT
65	220+16.30	105.05' RT
66	220+23.20	75.00' RT
67	220+36.37	74.98' RT
68	220+44.49	40.01' RT
73	220+70.17	75.00' RT
74	220+78.32	40.03' RT
75	221+27.71	39.99' LT
77	222+74.86	75.00' LT
78	222+74.88	89.75' LT
79	222+93.60	89.73' LT
80	222+93.58	74.99' LT

LABEL	STATION	OFFSET
81	223+99.98	75.00' LT
82	224+00.00	150.00' LT
83	224+09.03	75.00' RT
84	224+09.03	80.00' RT
85	224+25.06	80.00' RT
86	224+25.06	75.00' RT
87	224+82.32	75.00' RT
88	224+90.95	40.01' RT
89	225+97.10	75.00' RT
90	225+97.10	80.00' RT
91	226+16.41	80.00' RT
92	226+16.41	75.00' RT
93	227+82.41	39.19' LT
94	227+92.31	75.00' LT
95	228+13.34	150.00' LT
96	227+75.57	75.00' RT
99	227+93.89	75.00' RT
100	228+23.11	75.00' RT
101	3001+36.37	44.99' RT

LABEL	STATION	OFFSET
102	228+99.08	42.49' RT
103	228+79.75	75.00' LT
104	1999+07.95	42.01' RT
105	229+04.82	37.44' LT
106	1998+65.27	34.17' LT
107	229+79.25	56.56' LT
108	229+45.24	63.07' RT
109	230+31.48	75.00' LT
247	1997+88.00	41.490' RT
248	1997+88.00	46.49' RT
249	1998+18.11	46.62' RT
250	1998+18.11	41.62' RT
256	220+45.31	75.00' RT
285	220+39.56	100.07' RT
286	220+60.01	100.05' RT
287	220+65.78	75.00' RT
288	220+99.87	75.00' RT
304	220+99.86	80.70' RT
305	223+50.00	80.41' RT

LABEL	STATION	OFFSET
306	223+50.00	75.00' RT
307	220+24.93	75.00' LT
309	220+24.93	85.00' LT
310	221+50.30	85.00' LT
311	221+50.26	75.00' LT
312	221+38.39	85.00' LT
313	227+75.57	90.03' RT
314	227+93.89	90.01' RT



--- EXISTING ROW
 - - - PROPOSED ROW
 // // // TEMPORARY EASEMENT

EXHIBIT 13

FILE NAME = N:\dot\100063\CADD_Sheets\PI38810-shr-mp\plan355.dgn	USER NAME = psantos	DESIGNED - MJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	U.S. ROUTE 55 IMPROVEMENT PROPOSED ROW/EASEMENT PLAN	F.A.P. RTE. 0344	SECTION 05-00262-06-RO	COUNTY LAKE	TOTAL SHEETS 16	SHEET NO. 6		
PLOT SCALE = 100'	PLOT DATE = 12/27/2018	CHECKED - PRS	REVISED -			SCALE: 1" = 50'	SHEET NO. OF 16 SHEETS	STA. 217+00.00	TO STA. 231+00.00	CONTRACT NO.		
		DATE - 5/24/2018	REVISED -			ILLINOIS FED. AID PROJECT						

LABEL	STATION	OFFSET
110	231+25.00	110.00' LT
111	231+25.00	75.00' LT
112	232+75.00	110.00' LT
113	232+75.00	75.00' LT
114	232+91.67	65.02' RT
115	235+00.00	75.00' LT
116	235+00.00	65.00' LT
117	235+30.61	65.00' RT
118	237+00.03	63.23' RT
119	237+00.00	145.00' RT
120	239+31.31	145.00' RT
121	239+31.31	140.00' RT
122	239+28.16	64.92' LT
123	239+29.76	65.00' LT
124	242+42.59	140.00' RT
125	242+64.78	45.27' RT
126	242+70.19	25.23' RT
127	242+73.10	25.26' RT

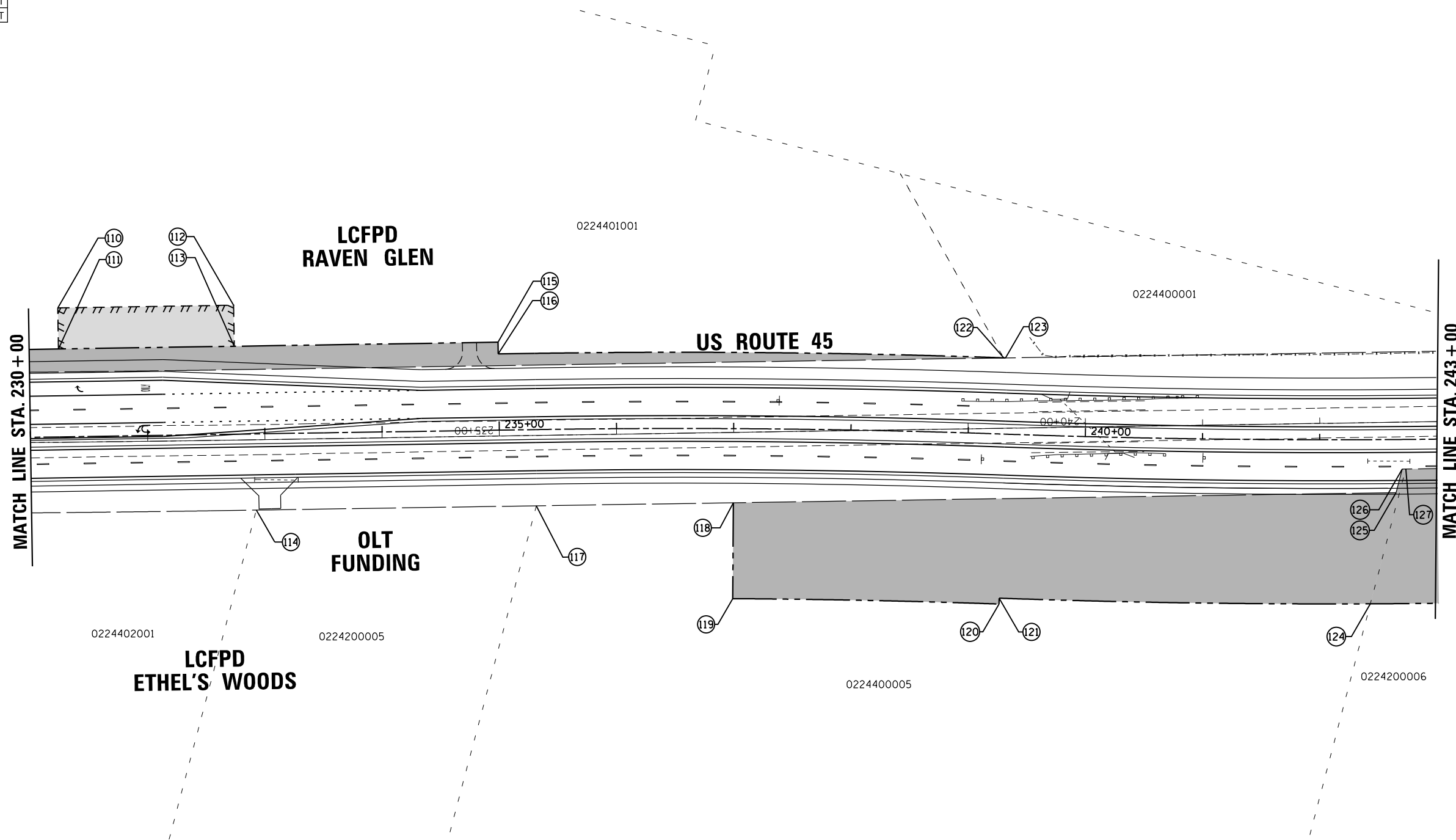
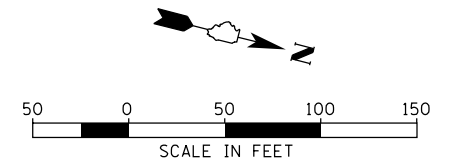
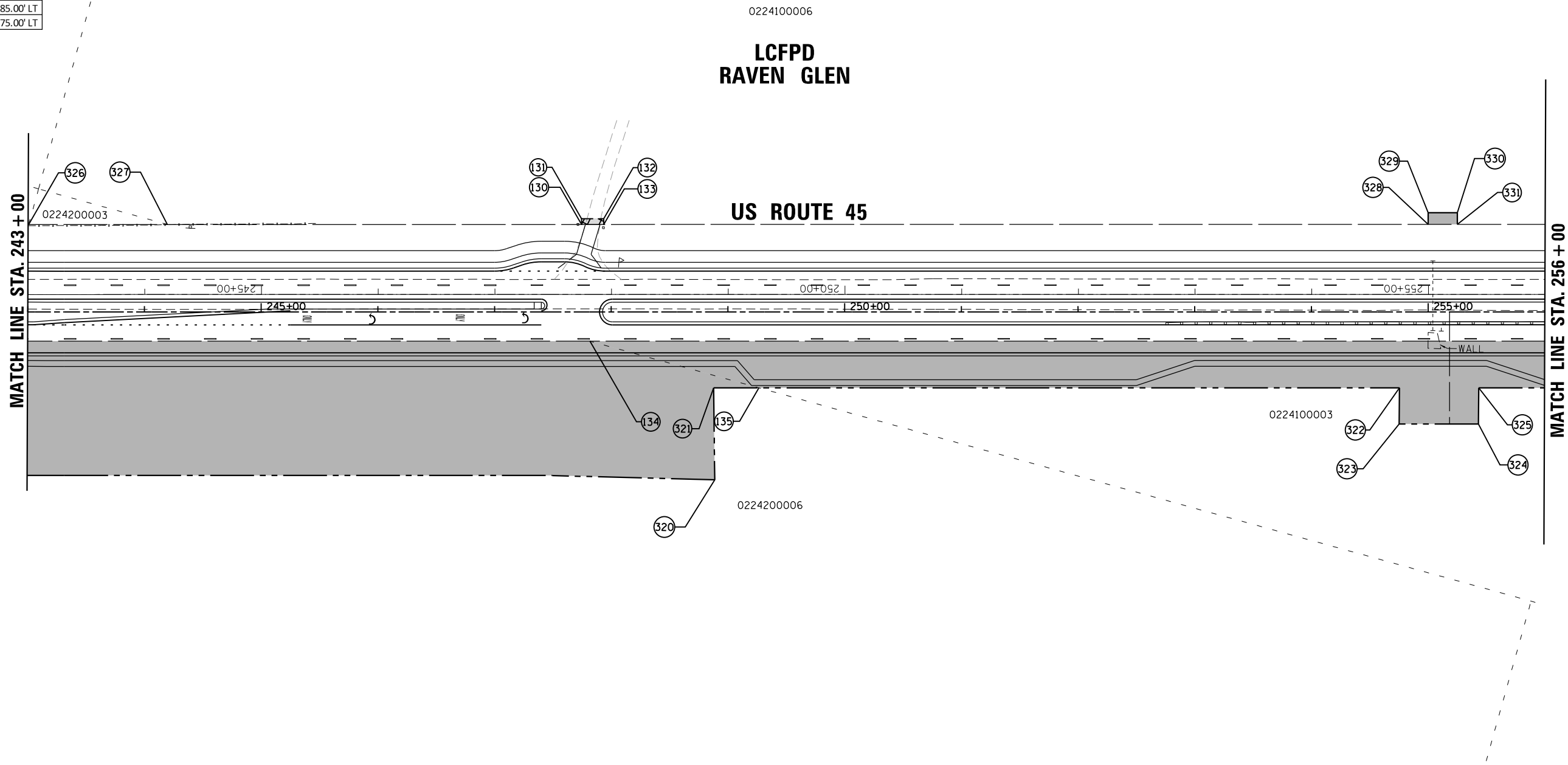
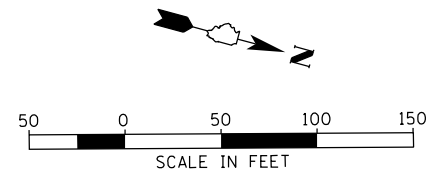


EXHIBIT 13

FILE NAME = N:\idot\100063\CADD_Sheets\PI38810-shr-mp\plan356.dgn	USER NAME = psantos	DESIGNED - MJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	U.S. ROUTE 45 IMPROVEMENT PROPOSED ROW/EASEMENT PLAN			F.A.P. RTE. 0344	SECTION 05-00262-06-RO	COUNTY LAKE	TOTAL SHEETS 16	SHEET NO. 7	
	PLOT SCALE = 100'	CHECKED - PRS	REVISED -		SCALE: 1" = 50'	SHEET NO. OF 16 SHEETS	STA. 230+00.00 TO STA. 243+00.00	CONTRACT NO.					
	PLOT DATE = 12/27/2018	DATE - 5/24/2018	REVISED -		ILLINOIS FED. AID PROJECT								

LABEL	STATION	OFFSET
130	247+74.56	75.00' LT
131	247+74.56	80.00' LT
132	247+93.56	80.00' LT
133	247+93.56	75.00' LT
134	247+81.80	25.00' RT
135	249+26.51	64.97' RT
320	248+88.66	143.72' RT
321	248+87.77	65.00' RT
322	254+75.47	65.00' RT
323	254+75.11	95.97' RT
324	255+43.06	95.97' RT
325	255+43.42	65.00' RT
326	243+00.49	74.95' LT
327	244+19.81	75.00' LT
328	255+00.00	75.00' LT
329	255+00.00	85.00' LT
330	255+25.00	85.00' LT
331	255+25.00	75.00' LT

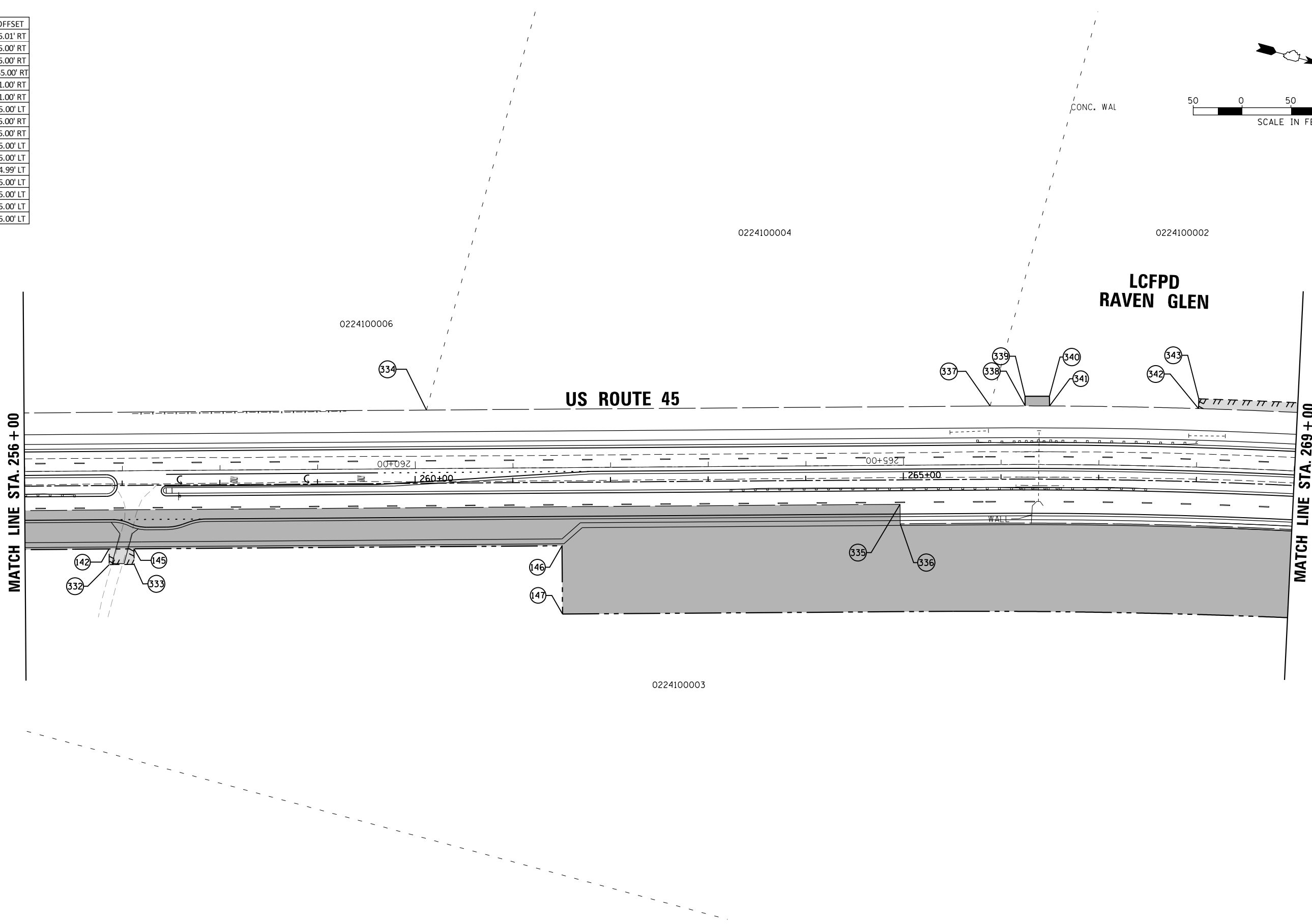
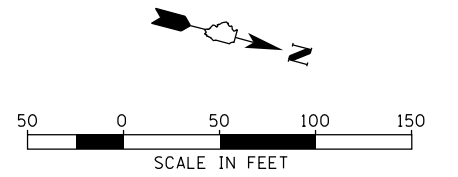


--- EXISTING ROW
 - - - PROPOSED ROW
 // // // TEMPORARY EASEMENT

EXHIBIT 13

FILE NAME = N:\idot\100063\CADD_Sheets\PI38810-shr-mp\plan357.dgn	USER NAME = psantos	DESIGNED - MJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	U.S. ROUTE 45 IMPROVEMENT PROPOSED ROW/EASEMENT PLAN	F.A.P. RTE. 0344	SECTION 05-00262-06-RO	COUNTY LAKE	TOTAL SHEETS 16	SHEET NO. 8	
PLOT SCALE = 100'	CHECKED - PRS	REVISED -	SCALE: 1" = 50'			SHEET NO. OF 16 SHEETS	STA. 243+00.00 TO STA. 256+00.00	CONTRACT NO.		ILLINOIS FED. AID PROJECT	
PLOT DATE = 12/27/2018	DATE - 5/24/2018	REVISED -									

LABEL	STATION	OFFSET
142	256+86.08	65.01' RT
145	257+11.61	65.00' RT
146	261+50.00	65.00' RT
147	261+50.01	135.00' RT
332	256+86.08	81.00' RT
333	257+11.61	81.00' RT
334	260+12.14	75.00' LT
335	264+96.39	25.00' RT
336	264+96.39	45.00' RT
337	265+89.33	75.00' LT
338	266+24.74	75.00' LT
339	266+24.64	84.99' LT
340	266+49.27	85.00' LT
341	266+49.35	75.00' LT
342	268+00.00	75.00' LT
343	268+00.00	85.00' LT

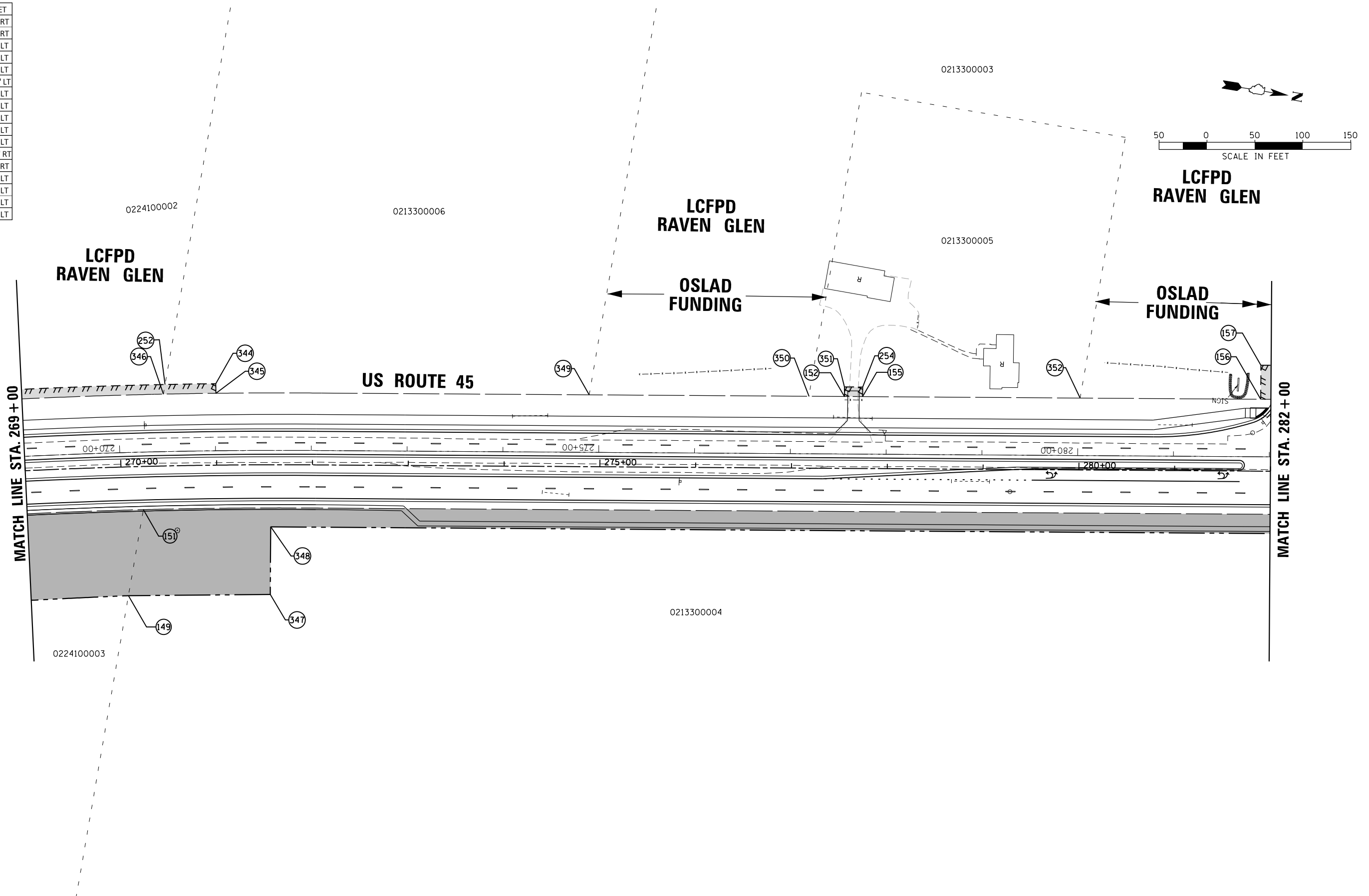


--- EXISTING ROW
 - - - PROPOSED ROW
 // // // TEMPORARY EASEMENT

EXHIBIT 13

FILE NAME = N:\dot\100063\CADD_Sheets\PI38810-shr-mp\plan358.dgn	USER NAME = psantos	DESIGNED - MJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	U.S. ROUTE 45 IMPROVEMENT PROPOSED ROW/EASEMENT PLAN	F.A.P. RTE. 0344	SECTION 05-00262-06-RO	COUNTY LAKE	TOTAL SHEETS 16	SHEET NO. 9		
PLOT SCALE = 100'	CHECKED - PRS	REVISED -	SCALE: 1" = 50'			SHEET NO. OF 16 SHEETS	STA. 256+00.00 TO STA. 269+00.00	CONTRACT NO.		ILLINOIS FED. AID PROJECT		
PLOT DATE = 12/27/2018	DATE - 5/24/2018	REVISED -										

LABEL	STATION	OFFSET
149	270+04.04	134.4' RT
151	270+22.31	45.00' RT
152	277+54.77	75.00' LT
155	277+73.77	75.00' LT
156	281+89.36	75.00' LT
157	281+89.36	110.58' LT
252	270+47.83	85.00' LT
254	277+73.77	84.99' LT
344	271+00.00	85.00' LT
345	271+00.02	75.02' LT
346	270+45.95	74.98' LT
347	271+55.66	135.38' RT
348	271+56.29	64.71' RT
349	274+88.33	75.00' LT
350	277+17.86	74.83' LT
351	277+54.77	85.00' LT
352	280+00.85	75.00' LT

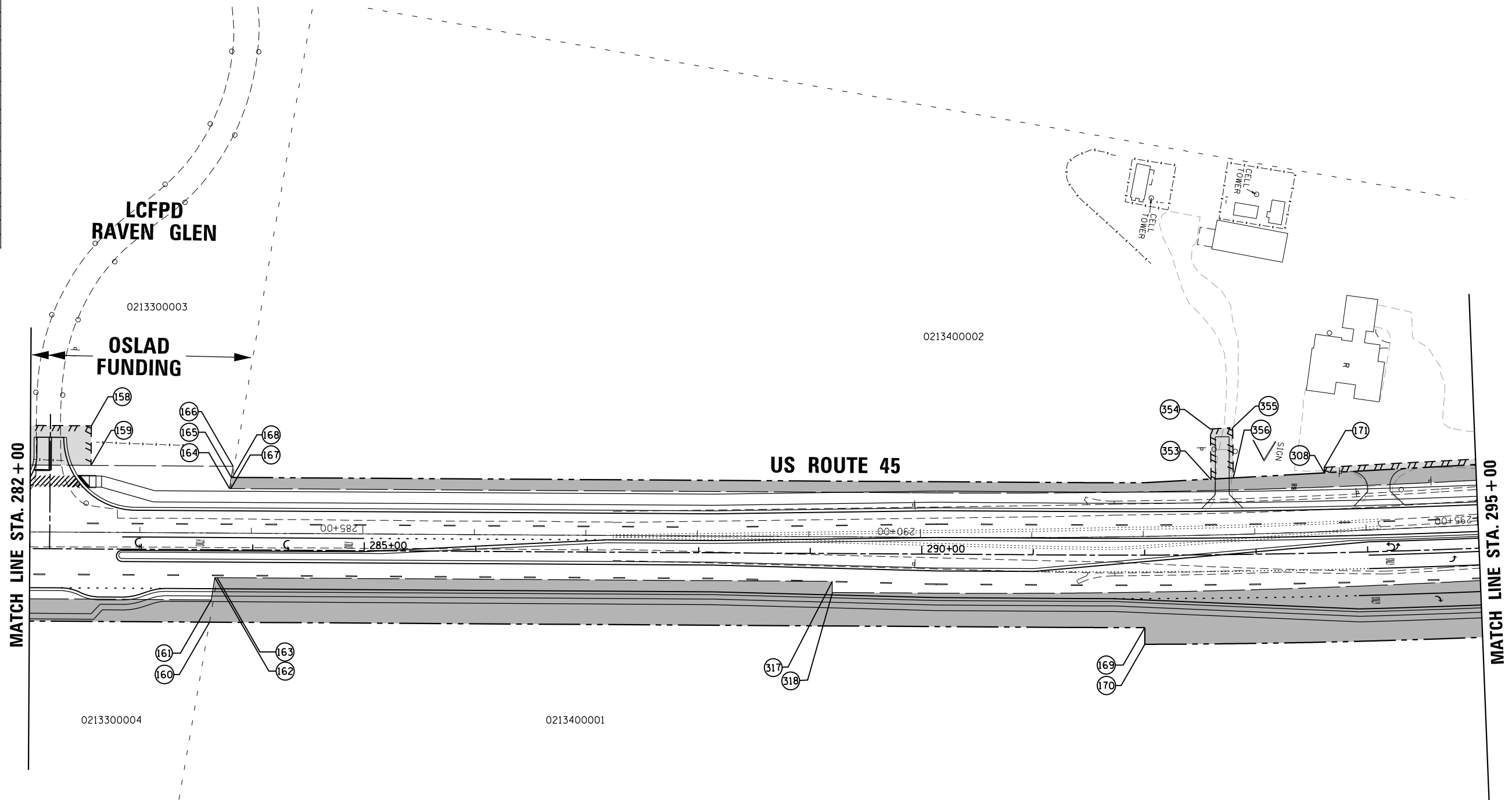


——— EXISTING ROW
 - - - - PROPOSED ROW
 // // // TEMPORARY EASEMENT

EXHIBIT 13

FILE NAME = N:\idot\100063\CADD_Sheets\PI38810-shr-mp\plan359.dgn	USER NAME = psantos	DESIGNED - MJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	U.S. ROUTE 45 IMPROVEMENT PROPOSED ROW/EASEMENT PLAN			F.A.P. RTE. 0344	SECTION 05-00262-06-RO	COUNTY LAKE	TOTAL SHEETS 16	SHEET NO. 10
PLOT SCALE = 100'	CHECKED - PRS	REVISED -	REVISED -		SCALE: 1" = 50'	SHEET NO. OF 16 SHEETS	STA. 269+00.00 TO STA. 282+00.00	CONTRACT NO.				
PLOT DATE = 12/27/2018	DATE - 5/24/2018	REVISED -	REVISED -		ILLINOIS FED. AID PROJECT							

LABEL	STATION	OFFSET
158	282+54.52	110.54' LT
159	282+54.51	75.00' LT
160	283+61.68	65.00' RT
161	283+63.01	45.00' RT
162	283+66.17	25.00' RT
163	283+68.32	25.07' RT
164	283+78.92	55.00' LT
165	283+80.38	65.00' LT
166	283+81.93	74.94' LT
167	283+79.77	55.00' LT
168	283+81.29	65.01' LT
169	292+00.00	65.00' RT
170	292+00.00	80.00' RT
171	293+62.75	76.81' LT
308	293+62.91	71.82' LT
317	289+19.90	25.00' RT
318	289+19.92	35.00' RT
353	292+60.17	67.90' LT
354	292+60.00	112.94' LT
355	292+80.29	113.81' LT
356	292+80.40	68.78' LT



——— EXISTING ROW
 - - - - PROPOSED ROW
 TTT TTT TEMPORARY EASEMENT

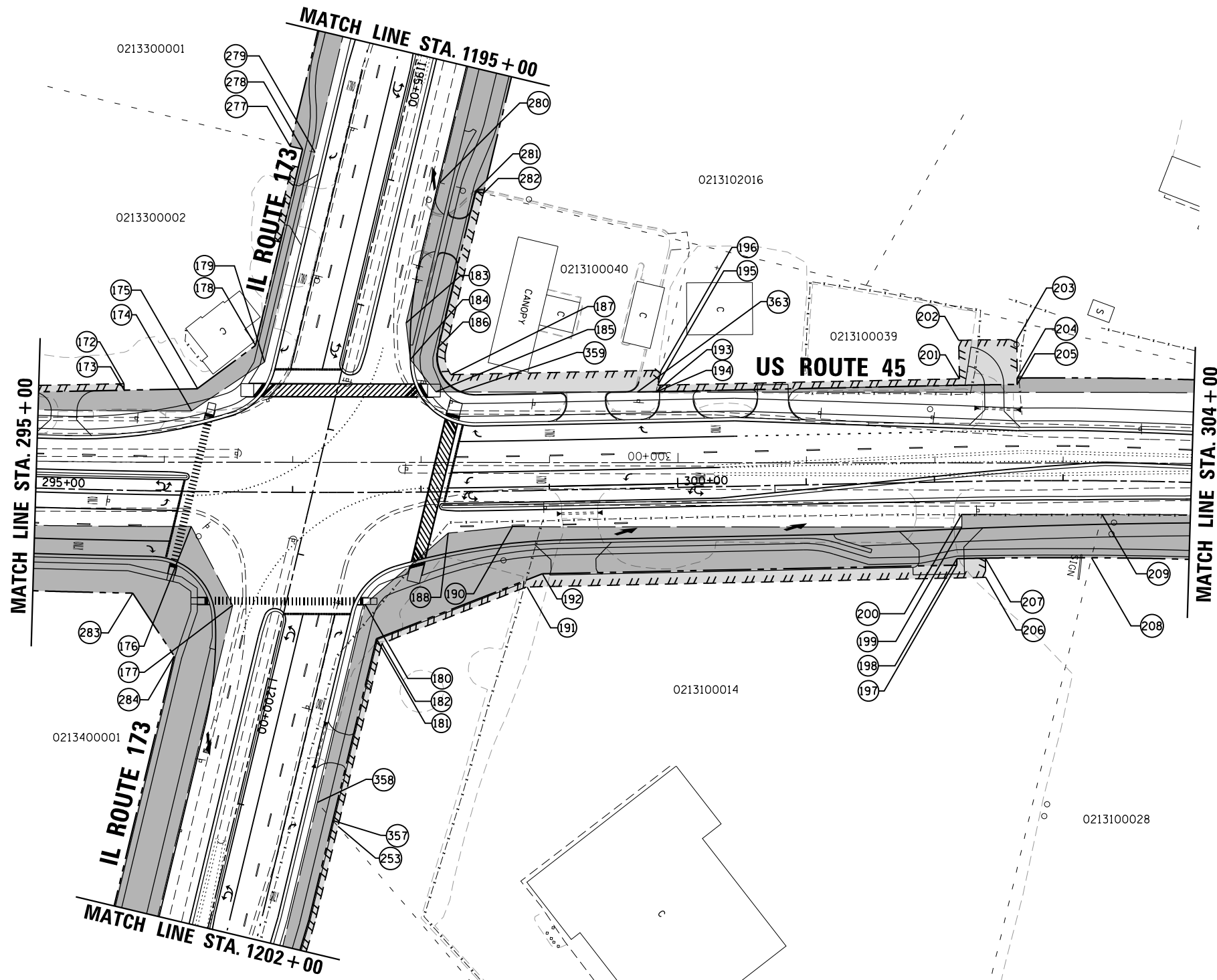
EXHIBIT 13

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PLOT SCALE = 100'	CHECKED - PRS	REVISED -	SCALE: 1" = 50'			SHEET NO. OF 16 SHEETS	STA. 282+00.00 TO STA. 295+00.00	CONTRACT NO.		ILLINOIS FED. AID PROJECT		
PLOT DATE = 12/27/2018	DATE = 5/24/2018	REVISED -										

LABEL	STATION	OFFSET
172	295+66.99	82.93' LT
173	295+67.19	77.93' LT
174	296+20.55	62.68' LT
175	296+25.00	80.00' LT
176	296+21.42	27.32' RT
177	1199+50.86	40.00' RT
178	1197+50.00	70.00' RT
179	1197+60.85	60.00' RT
180	1199+25.87	80.00' LT
181	1199+50.00	75.00' LT
182	1199+52.61	117.72' RT
183	1197+05.63	40.00' LT
184	1197+32.43	49.91' LT
185	298+12.38	77.93' LT
186	1197+18.43	68.58' LT
187	298+24.44	91.22' LT
188	298+20.79	32.17' RT

LABEL	STATION	OFFSET
190	298+70.69	27.91' RT
191	298+80.67	75.03' RT
192	298+93.28	65.01' RT
193	299+84.56	74.68' LT
194	299+84.65	75.00' LT
195	299+85.95	80.00' LT
196	299+88.96	91.58' LT
197	302+16.04	65.00' RT
198	302+16.04	60.00' RT
199	302+20.62	35.08' RT
200	302+20.77	25.47' RT
201	302+20.94	80.36' LT
202	302+20.91	110.00' LT
203	302+65.00	110.00' LT
204	302+65.00	80.00' LT
205	302+65.00	75.00' LT
206	302+38.69	74.94' RT

LABEL	STATION	OFFSET
207	302+38.69	74.94' RT
208	303+22.65	60.00' RT
209	303+30.56	26.16' RT
253	1200+99.30	80.04' LT
277	1195+92.78	80.00' RT
278	1195+92.84	70.00' RT
279	1195+92.90	60.00' RT
280	1195+93.24	40.00' LT
281	1195+93.25	68.58' LT
282	1195+93.25	75.00' LT
283	295+77.08	80.00' RT
284	1200+00.00	75.00' RT
357	1200+95.64	75.00' LT
358	1200+84.76	60.00' LT
359	298+31.22	77.71' LT
363	298+31.22	75.00' LT



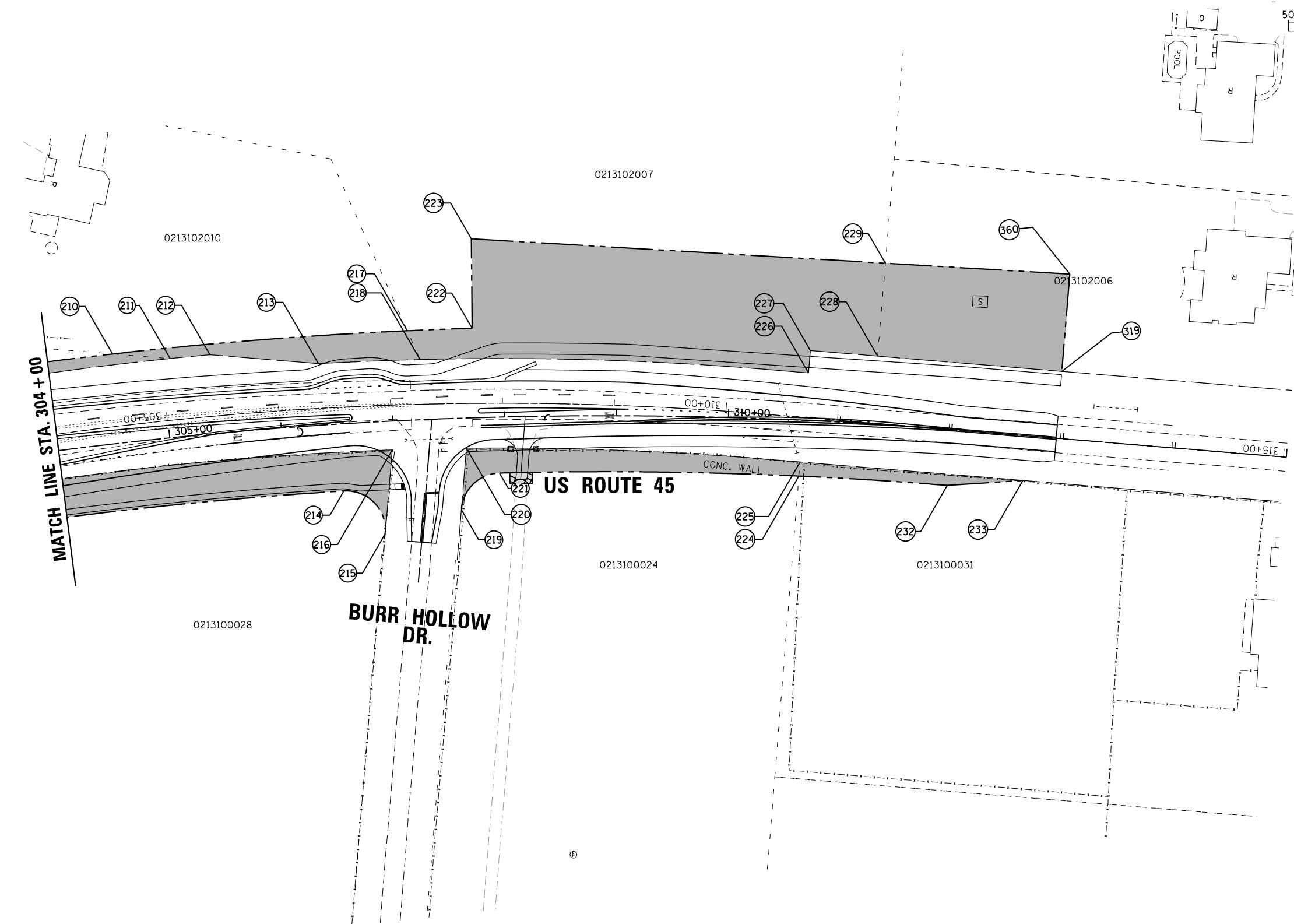
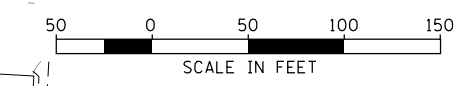
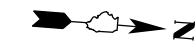
——— EXISTING ROW
 - - - - PROPOSED ROW
 // // // TEMPORARY EASEMENT

Note: existing ROW at IL 173
 & US 45 intersection reflects
 proposed ROW from IDOT proj.
 NO. P-91-692-09.

EXHIBIT 13

FILE NAME = N:\idoc\100063\CADD_Sheets\PI38810-shr-mp\plan361.dgn	USER NAME = psantos	DESIGNED - MJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	U.S. ROUTE 45 IMPROVEMENT PROPOSED ROW/EASEMENT PLAN			F.A.P. RTE. 0344	SECTION 05-00262-06-RO	COUNTY LAKE	TOTAL SHEETS 16	SHEET NO. 12
	PLOT SCALE = 100'	CHECKED - PRS	REVISED -		SCALE: 1" = 50'	SHEET NO.	OF 16 SHEETS	STA. 295+00.00	TO STA. 304+00.00	CONTRACT NO.		
	PLOT DATE = 12/27/2018	DATE - 5/24/2018	REVISED -		ILLINOIS FED. AID PROJECT							

LABEL	STATION	OFFSET
210	304+57.67	80.00' LT
211	305+07.33	70.37' LT
212	305+42.47	70.52' LT
213	306+36.95	55.02' LT
214	306+52.48	60.00' RT
215	306+87.99	100.23' RT
216	306+98.15	25.75' RT
217	307+16.53	79.88' LT
218	307+26.62	53.78' LT
219	307+58.50	81.76' RT
220	307+64.96	26.98' RT
221	307+94.13	50.00' RT
222	307+73.34	80.00' LT
223	307+75.00	160.00' LT
224	310+65.33	50.00' RT
225	310+65.77	37.38' RT
226	310+69.73	42.53' LT
227	310+70.44	62.51' LT
228	311+29.73	60.82' LT
229	311+31.49	144.13' LT
232	312+00.00	50.00' RT
233	312+67.14	40.00' RT
319	312+93.70	60.00' LT
360	312+93.70	147.19' LT

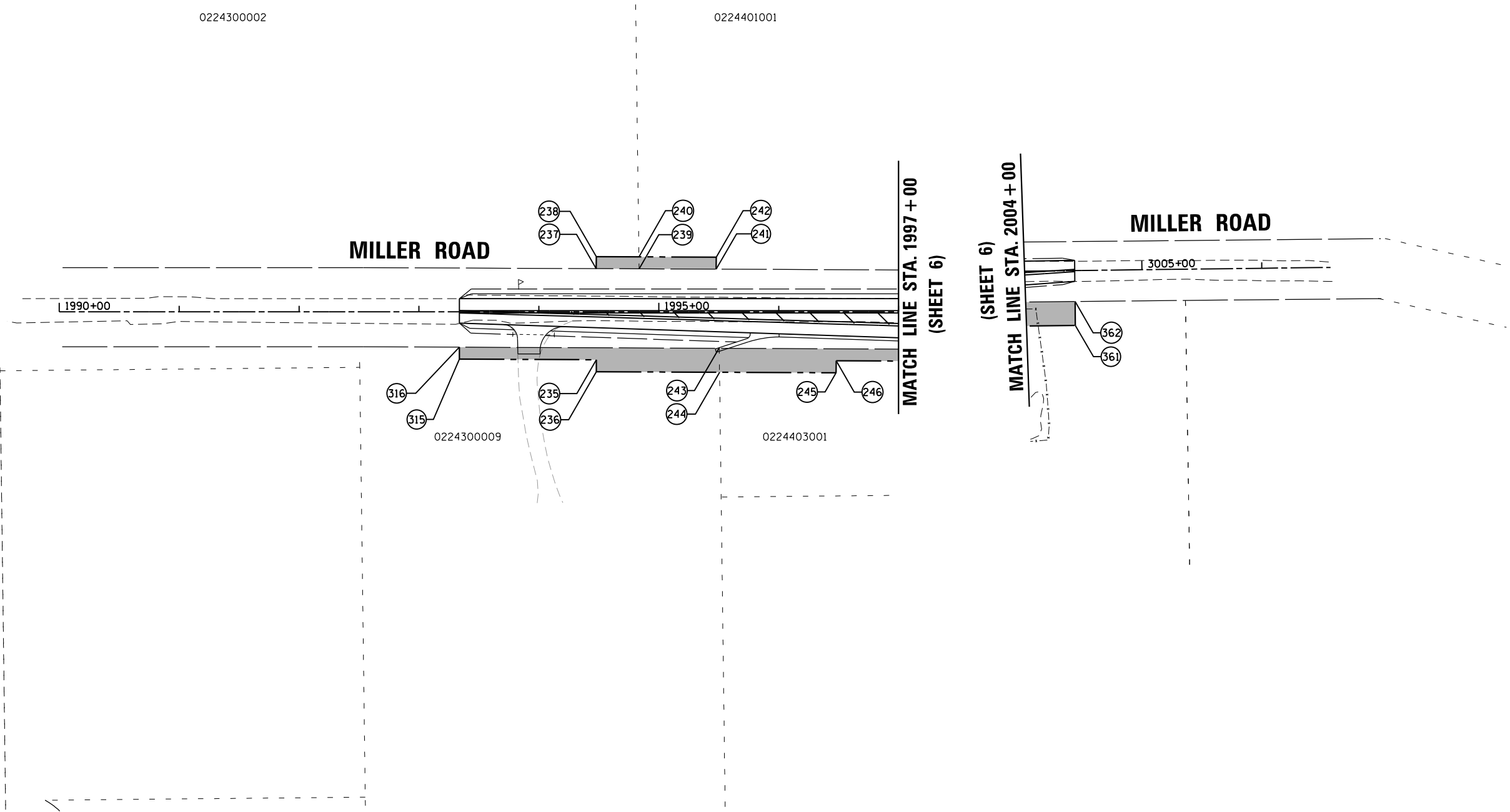
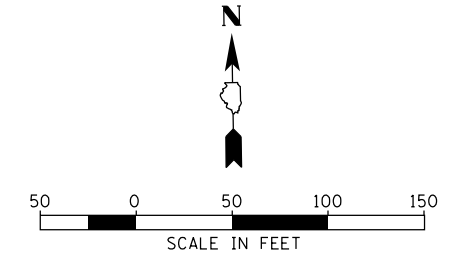


--- EXISTING ROW
 - - - PROPOSED ROW
 // // // TEMPORARY EASEMENT

EXHIBIT 13

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PLOT SCALE = 100'	CHECKED - PRS	REVISED -	REVISED -		SCALE: 1" = 50'	SHEET NO. OF 16 SHEETS	STA. 304+00.00 TO STA. 313+00.00	CONTRACT NO.		ILLINOIS FED. AID PROJECT		
PLOT DATE = 12/27/2018	DATE - 5/24/2018	REVISED -	REVISED -									

LABEL	STATION	OFFSET
235	1994+47.97	40.01' RT
236	1994+47.93	50.01' RT
237	1994+47.84	35.99' LT
238	1994+47.88	45.99' LT
239	1994+83.56	35.83' LT
240	1994+83.43	45.83' LT
241	1995+47.84	35.55' LT
242	1995+47.88	45.55' LT
243	1995+50.74	30.00' RT
244	1995+50.68	50.46' RT
245	1996+47.88	50.88' RT
246	1996+47.92	40.88' RT
315	1993+33.71	39.51' RT
316	1993+33.75	29.52' RT
361	3004+43.95	45.82' RT
362	3004+43.95	25.83' RT

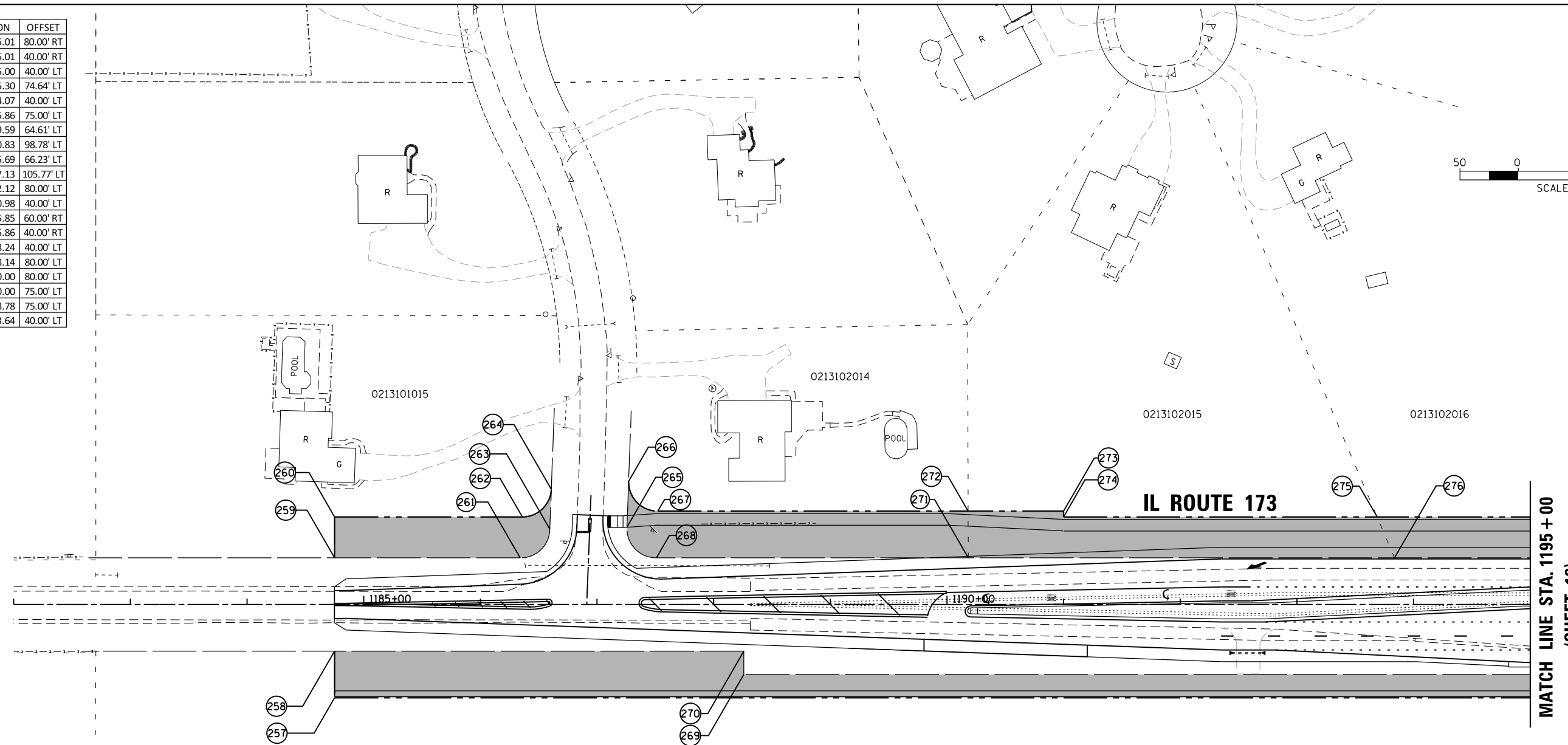
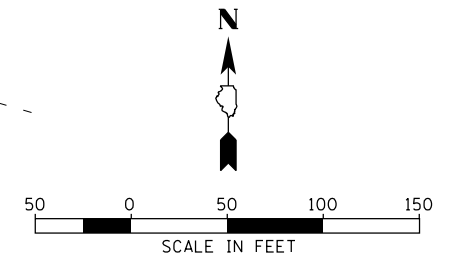


--- EXISTING ROW
 - - - PROPOSED ROW
 / / / TEMPORARY EASEMENT

EXHIBIT 13

FILE NAME = N:\dot\100063\CADD_Sheets\PI38810-shr-rop\plan363.dgn	USER NAME = psantos	DESIGNED - MJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	U.S. ROUTE 45 IMPROVEMENT PROPOSED ROW/EASEMENT PLAN			F.A.P. RTE. 0344	SECTION 05-00262-06-RO	COUNTY LAKE	TOTAL SHEETS 16	SHEET NO. 14	
	PLOT SCALE = 100'	CHECKED - PRS	REVISED -		SCALE: 1" = 50'	SHEET NO. OF 16 SHEETS	STA. 1990+00.00 TO STA. 1997+00.00	CONTRACT NO.					
	PLOT DATE = 12/27/2018	DATE - 5/24/2018	REVISED -		ILLINOIS FED. AID PROJECT								

LABEL	STATION	OFFSET
257	1184+75.01	80.00' RT
258	1184+75.01	40.00' RT
259	1184+75.00	40.00' LT
260	1184+75.30	74.64' LT
261	1186+34.07	40.00' LT
262	1186+35.86	75.00' LT
263	1186+59.59	64.61' LT
264	1186+60.83	98.78' LT
265	1187+25.69	66.23' LT
266	1187+27.13	105.77' LT
267	1187+52.12	80.00' LT
268	1187+50.98	40.00' LT
269	1188+25.85	60.00' RT
270	1188+25.86	40.00' RT
271	1190+18.24	40.00' LT
272	1190+18.14	80.00' LT
273	1191+00.00	80.00' LT
274	1191+00.00	75.00' LT
275	1193+68.78	75.00' LT
276	1193+83.64	40.00' LT



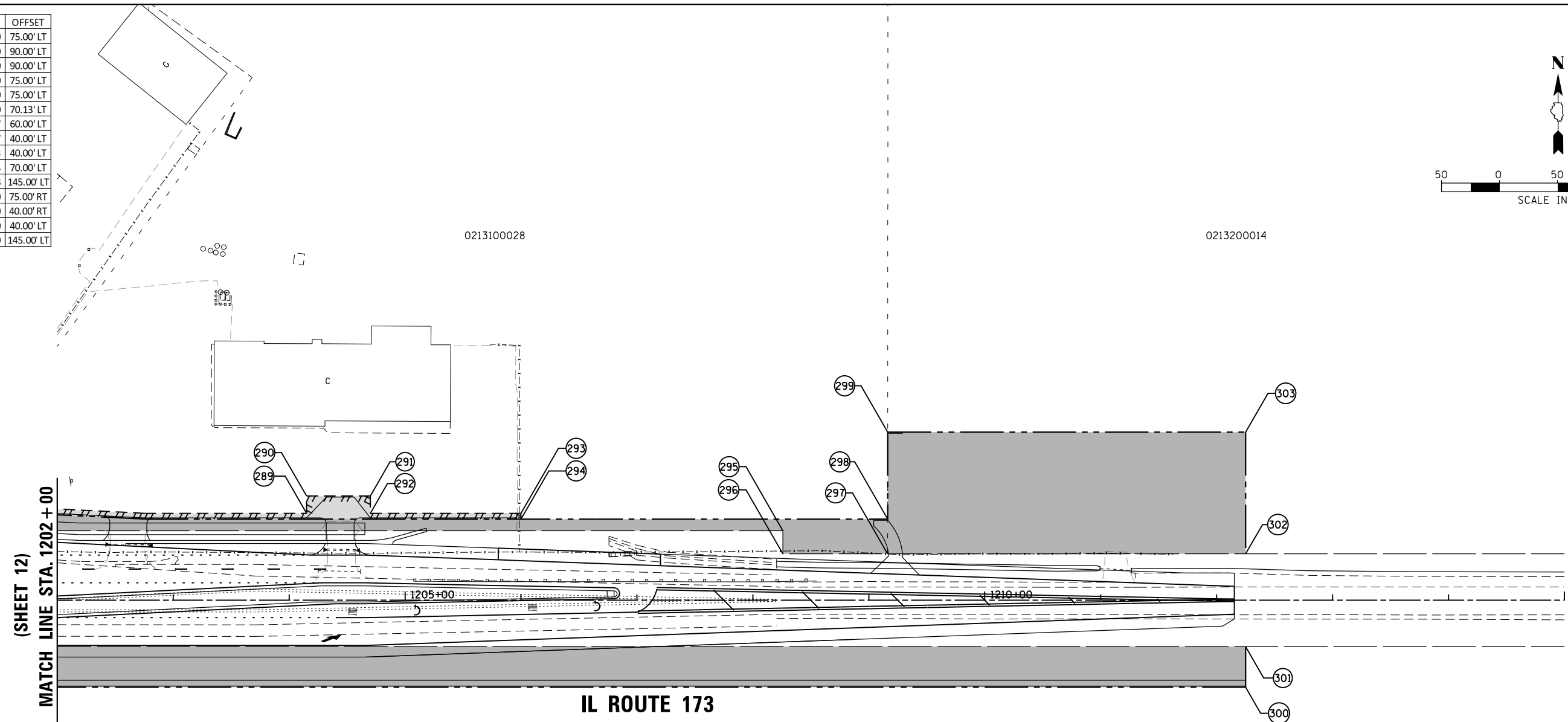
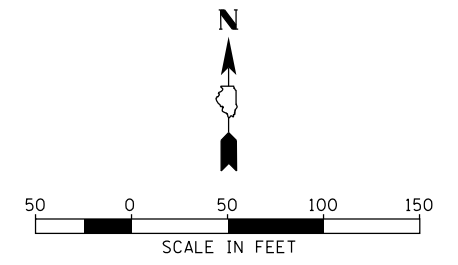
--- EXISTING ROW
 - - - PROPOSED ROW
 // // // TEMPORARY EASEMENT

MATCH LINE STA. 1195 + 00
 (SHEET 12)

EXHIBIT 13

FILE NAME = N:\dot\100063\CADD_Sheets\PI38810\sh-t-r-plan364.dgn	USER NAME = psantos	DESIGNED - MJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	U.S. ROUTE 45 IMPROVEMENT PROPOSED ROW/EASEMENT PLAN			F.A.P. RTE. 0344	SECTION 05-00262-06-RO	COUNTY LAKE	TOTAL SHEETS 16	SHEET NO. 15
PLOT SCALE = 100'	CHECKED - PRS	REVISED -	REVISED -		SCALE: 1" = 50'	SHEET NO. OF 16 SHEETS	STA. 1185+00.00 TO STA. 1195+00.00	CONTRACT NO.				
PLOT DATE = 12/27/2018	DATE - 5/24/2018	REVISED -	REVISED -		ILLINOIS FED. AID PROJECT							

LABEL	STATION	OFFSET
289	1204+15.00	75.00' LT
290	1204+15.00	90.00' LT
291	1204+70.00	90.00' LT
292	1204+70.00	75.00' LT
293	1206+00.00	75.00' LT
294	1206+00.00	70.13' LT
295	1208+25.87	60.00' LT
296	1208+25.87	40.00' LT
297	1209+16.23	40.00' LT
298	1209+16.24	70.00' LT
299	1209+16.28	145.00' LT
300	1212+25.00	75.00' RT
301	1212+25.00	40.00' RT
302	1212+25.00	40.00' LT
303	1212+25.00	145.00' LT



——— EXISTING ROW
 - - - - PROPOSED ROW
 // // // TEMPORARY EASEMENT

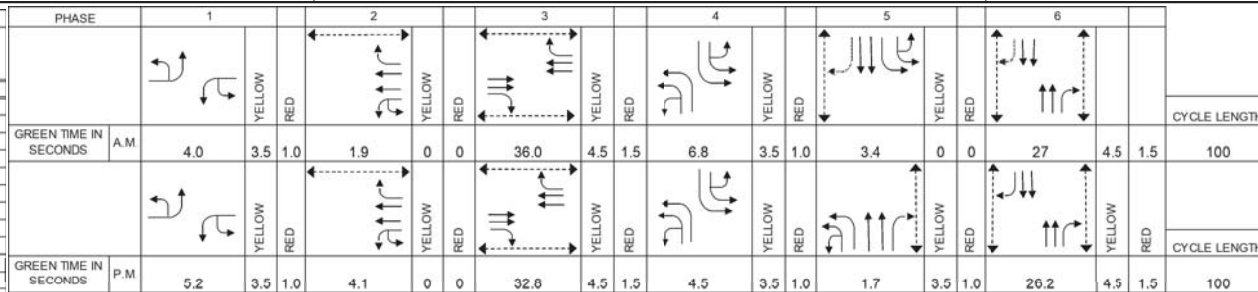
EXHIBIT 13

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PLOT SCALE = 100'	CHECKED - PRS	REVISED -	REVISED -					SCALE: 1" = 50'	SHEET NO. OF 16 SHEETS	STA. 1202+00.00 TO STA. 1213+00.00	CONTRACT NO.	
PLOT DATE = 12/27/2018	DATE - 5/24/2018	REVISED -	REVISED -									

SIGNALIZED CAPACITY DESIGN ANALYSIS

PROGRAM USED: HCS 2010 VERSION: 7.5 SIGNAL TYPE: ACTUATED AREA TYPE: NON-CBD
 NUMBER OF PHASES: (A.M.) 6 (P.M.) 6 CYCLE LENGTH: (A.M.) 100 SEC (P.M.) 100 SEC PEAK HOUR FACTOR: 0.95
 INTERSECTION DELAY/LEVEL-OF-SERVICE (A.M.) 33.9 SECONDS LOS C (P.M.) 34.3 SECONDS LOS C

APPROACH	EASTBOUND (C)			WESTBOUND (D)			NORTHBOUND (B)			SOUTHBOUND (A)		
	L	T	R	L	T	R	L	T	R	L	T	R
2040 30TH MAX HOUR TRAFFIC (veh/h)	A.M. 50	995	170	A.M. 75	345	35	A.M. 140	260	155	A.M. 250	385	35
BASE SATURATION FLOW RATE (veh/h)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
VOLUME OF RIGHT TURN ON RED (veh/h)	A.M. 0	P.M. 0	0	A.M. 0	P.M. 0	0	A.M. 0	P.M. 0	0	A.M. 0	P.M. 0	0
PEDESTRIANS/HOUR (ped/h)	A.M. 0	P.M. 0	0	A.M. 0	P.M. 0	0	A.M. 0	P.M. 0	0	A.M. 0	P.M. 0	0
ARRIVAL TYPE	3			3			3			3		
LANE UTILIZATION ADJ. FACTOR	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
GREEN TIME (SECONDS)	A.M. 4.00	36.00	36.00	A.M. 5.90	37.90	37.90	A.M. 6.80	27.00	27.00	A.M. 10.20	30.40	30.40
GREEN RATIO (g/C)	A.M. 0.04	0.36	0.36	A.M. 0.06	0.38	0.38	A.M. 0.07	0.27	0.27	A.M. 0.10	0.30	0.30
CAPACITY (C)	A.M. 66	1309	481	A.M. 131	1305	511	A.M. 210	862	395	A.M. 339	1003	408
RATIO X	A.M. 0.800	0.800	0.372	A.M. 0.785	0.278	0.072	A.M. 0.701	0.318	0.413	A.M. 0.776	0.404	0.090
STORAGE QUEUE (RED TIME), FT	A.M. 75	469	177	A.M. 135	469	151	A.M. 178	308	90	A.M. 63	192	87
LANE GROUP DELAY (SECONDS)	A.M. 67	33.9	25.8	A.M. 58.9	22.1	20.1	A.M. 49.8	30.1	33.2	A.M. 47.8	25.0	25.4
LANE GROUP LEVEL-OF-SERVICE	A.M. E	C	C	A.M. E	C	C	A.M. D	C	C	A.M. D	C	C
APPROACH DELAY (SECONDS/VEHICLE)	A.M. 34.2			A.M. 28			A.M. 36.0			A.M. 35.8		
APPROACH LEVEL-OF-SERVICE	A.M. C			A.M. C			A.M. D			A.M. D		



ELEMENTS CONTROLLING DESIGN

PREFERRED ROUTE:
 ROUTE NUMBER: FAP 303 MARKED ROUTE NUMBER: IL ROUTE 173
 STREET NAME: IL ROUTE 173 SRA ROUTE: YES
 FUNCTIONAL CLASSIFICATION: OTHER PRINCIPAL ARTERIAL OSOW DESIGN: YES
 EXISTING ADT: EAST 14,800 VPD WEST 15,800 VPD DESIGN YEAR ADT: EAST 21,000 VPD WEST 23,000 VPD
 PROPOSED DESIGN SPEED: 55 MPH PROPOSED POSTED SPEED: 50 MPH

SECONDARY ROUTES:
 F A ROUTE NUMBER: FAP 344 - SOUTH LEG, FAP 872 - NORTH LEG. MARKED ROUTE NUMBER: US ROUTE 45
 STREET NAME: US ROUTE 45 SRA ROUTE: YES
 FUNCTIONAL CLASSIFICATION: OTHER PRINCIPAL ARTERIAL OSOW DESIGN: NO
 EXISTING ADT: NORTH 5,200 VPD SOUTH 7,000 VPD DESIGN YEAR ADT: NORTH 14,000 VPD SOUTH 23,000 VPD
 PROPOSED DESIGN SPEED: 50 MPH PROPOSED POSTED SPEED: 45 MPH

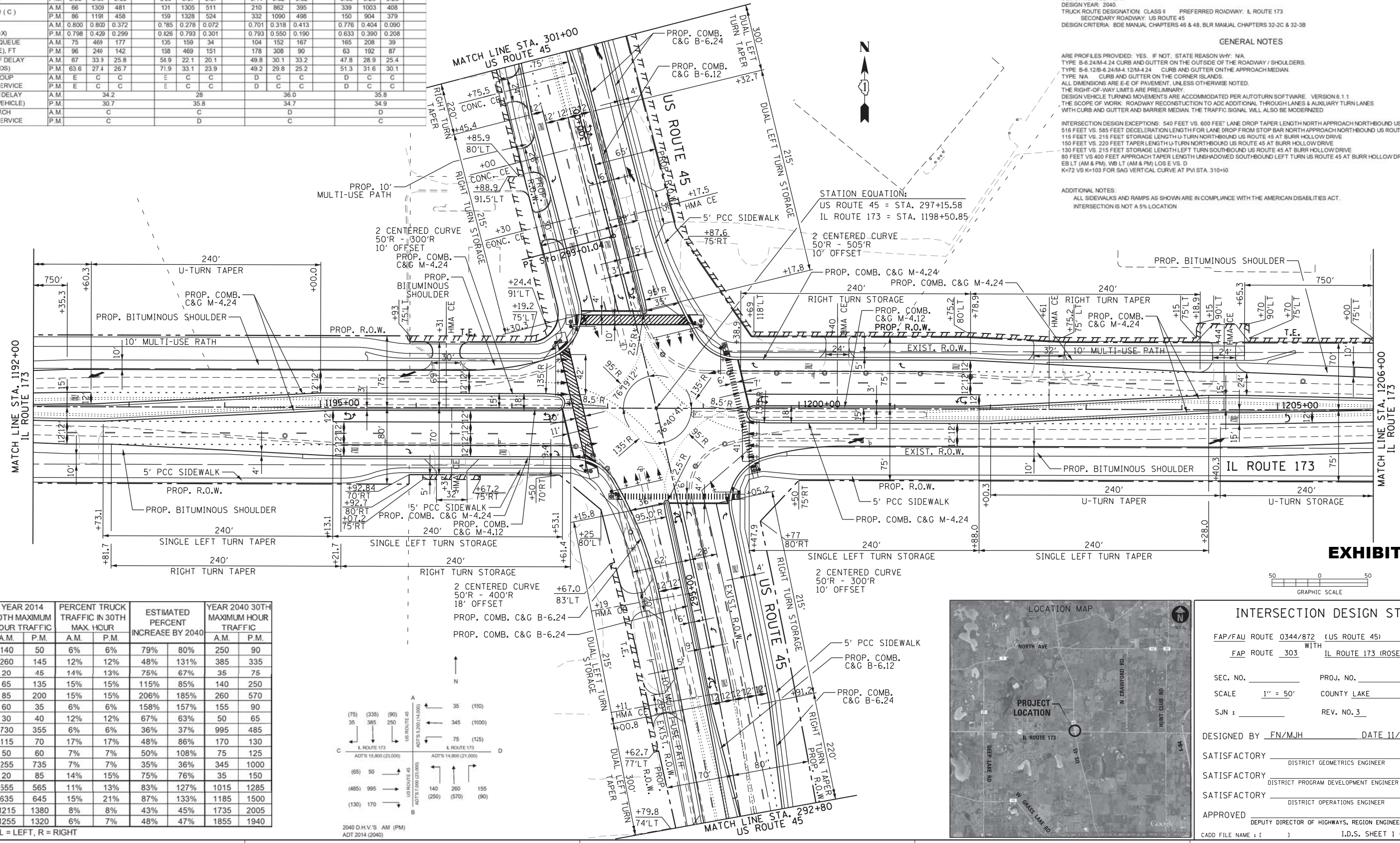
IMPROVEMENT TYPE: RECONSTRUCTION ANTICIPATED YEAR OF CONSTRUCTION: FY 2029
 EXISTING METHOD OF TRAFFIC CONTROL: TRAFFIC SIGNALS. PROPOSED METHOD: TRAFFIC SIGNALS.
 SIGNAL WARRANT: EXISTING SIGNALS.
 DESIGN VEHICLE: WB-67
 DESIGN YEAR: 2040
 TRUCK ROUTE DESIGNATION: CLASS II PREFERRED ROADWAY: IL ROUTE 173
 SECONDARY ROADWAY: US ROUTE 45
 DESIGN CRITERIA: BDE MANUAL CHAPTERS 46 & 48, BLR MANUAL CHAPTERS 32-2C & 32-3B

GENERAL NOTES

ARE PROFILES PROVIDED: YES. IF NOT, STATE REASON WHY: N/A
 TYPE B-6 24M-4.24 CURB AND GUTTER ON THE OUTSIDE OF THE ROADWAY / SHOULDERS.
 TYPE B-8 12B-6 24M-4.12M-4.24 CURB AND GUTTER ON THE APPROACH MEDIAN.
 TYPE N/A CURB AND GUTTER ON THE CORNER ISLANDS.
 ALL DIMENSIONS ARE E-E OF PAVEMENT, UNLESS OTHERWISE NOTED.
 THE RIGHT-OF-WAY LIMITS ARE PRELIMINARY.
 DESIGN VEHICLE TURNING MOVEMENTS ARE ACCOMMODATED PER AUTOTURN SOFTWARE, VERSION 6.1.1
 THE SCOPE OF WORK: ROADWAY RECONSTRUCTION TO ADD ADDITIONAL THROUGH LANES & AUXILIARY TURN LANES
 WITH CURB AND GUTTER AND BARRIER MEDIAN. THE TRAFFIC SIGNAL WALL ALSO BE MODERNIZED.

INTERSECTION DESIGN EXCEPTIONS: 540 FEET VS. 600 FEET LANE DROP TAPER LENGTH NORTH APPROACH NORTHBOUND US ROUTE 45
 516 FEET VS. 585 FEET DECELERATION LENGTH FOR LANE DROP FROM STOP BAR NORTH APPROACH NORTHBOUND US ROUTE 45
 115 FEET VS. 215 FEET STORAGE LENGTH U-TURN NORTHBOUND US ROUTE 45 AT BURR HOLLOW DRIVE
 150 FEET VS. 220 FEET TAPER LENGTH U-TURN NORTHBOUND US ROUTE 45 AT BURR HOLLOW DRIVE
 130 FEET VS. 215 FEET STORAGE LENGTH LEFT TURN SOUTHBOUND US ROUTE 45 AT BURR HOLLOW DRIVE
 80 FEET VS. 400 FEET APPROACH TAPER LENGTH UNSHADOWED SOUTHBOUND LEFT TURN US ROUTE 45 AT BURR HOLLOW DRIVE
 EB LT (AM & PM), WB LT (AM & PM) LOS E VS. D
 K+72 VS. K+103 FOR SAG VERTICAL CURVE AT PVI STA. 310+10

ADDITIONAL NOTES:
 ALL SIDEWALKS AND RAMPS AS SHOWN ARE IN COMPLIANCE WITH THE AMERICAN DISABILITIES ACT.
 INTERSECTION IS NOT A 5% LOCATION



MOVEMENT	YEAR 2014 30TH MAXIMUM HOUR TRAFFIC		PERCENT TRUCK TRAFFIC IN 30TH MAX HOUR		ESTIMATED PERCENT INCREASE BY 2040		YEAR 2040 30TH MAXIMUM HOUR TRAFFIC	
	A.M.	P.M.	A.M.	P.M.			A.M.	P.M.
AD (L)	140	50	6%	6%	79%	80%	250	90
AB (T)	260	145	12%	12%	48%	131%	385	335
AC (R)	20	45	14%	13%	75%	67%	35	75
BC (L)	65	135	15%	15%	115%	85%	140	250
BA (T)	85	200	15%	15%	206%	185%	260	570
BD (R)	60	35	6%	6%	158%	157%	155	90
CA (L)	30	40	12%	12%	67%	63%	50	65
CD (T)	730	355	6%	6%	36%	37%	995	485
CB (R)	115	70	17%	17%	48%	86%	170	130
DB (L)	50	60	7%	7%	50%	108%	75	125
DC (T)	255	735	7%	7%	35%	36%	345	1000
DA (R)	20	85	14%	15%	75%	76%	35	150
TOTAL A	555	565	11%	13%	83%	127%	1015	1285
TOTAL B	635	645	15%	21%	87%	133%	1185	1500
TOTAL C	1215	1380	8%	8%	43%	45%	1735	2005
TOTAL D	1255	1320	6%	7%	48%	47%	1855	1940

T = THROUGH, L = LEFT, R = RIGHT

PLOT DATE = 12/16/2018
 FILE NAME = N:\Users\1000063\CAD\00_Sheets\138810-01-1dgr-IL173-1.dgn
 PLOT SCALE = 50.00000 / in.
 USER NAME = mhuffman

EXHIBIT 14



INTERSECTION DESIGN STUDY

FAP/FAU ROUTE 0344/872 (US ROUTE 45)
 WITH IL ROUTE 173 (ROSECRANS RD)
 FAP ROUTE 303

SEC. NO. _____ PROJ. NO. _____
 SCALE 1" = 50' COUNTY LAKE _____
 SJN : _____ REV. NO. 3

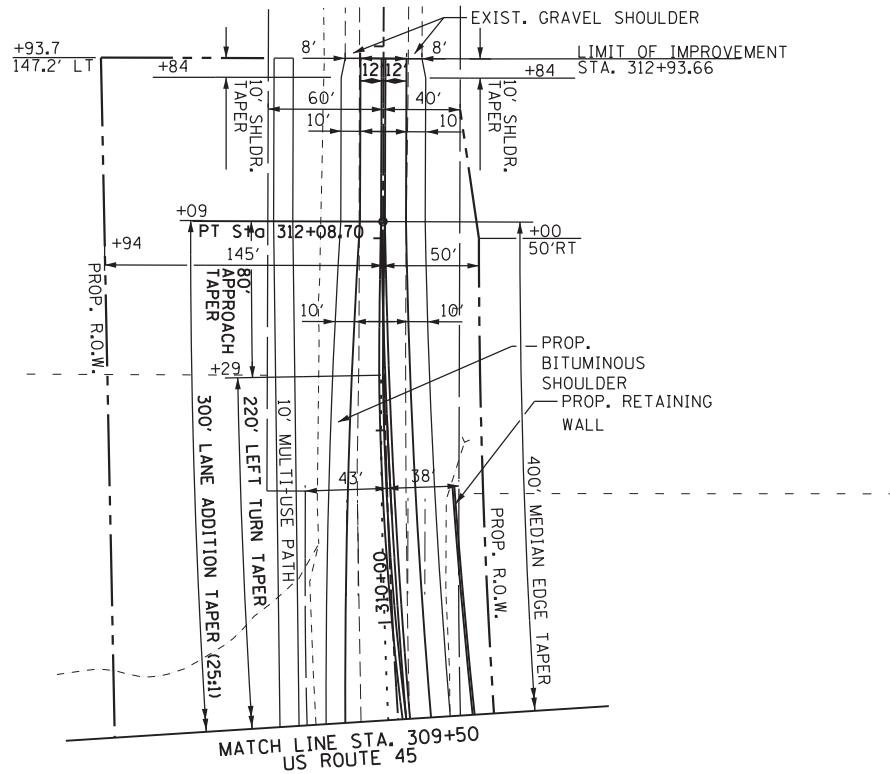
DESIGNED BY FN/MJH DATE 11/16/2018

SATISFACTORY _____ DISTRICT GEOMETRICS ENGINEER DATE _____
 SATISFACTORY _____ DISTRICT PROGRAM DEVELOPMENT ENGINEER DATE _____
 SATISFACTORY _____ DISTRICT OPERATIONS ENGINEER DATE _____

APPROVED _____ DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER DATE _____

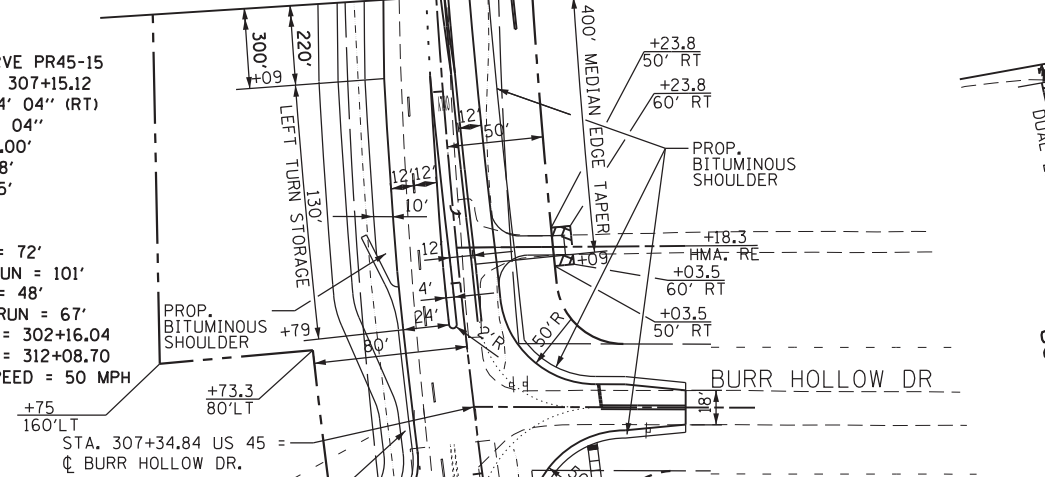
CADD FILE NAME : () I.D.S. SHEET 1 OF 7

PLOT DATE = 12/13/2018
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 PLOT SCALE = 50'
 USER NAME = psantos

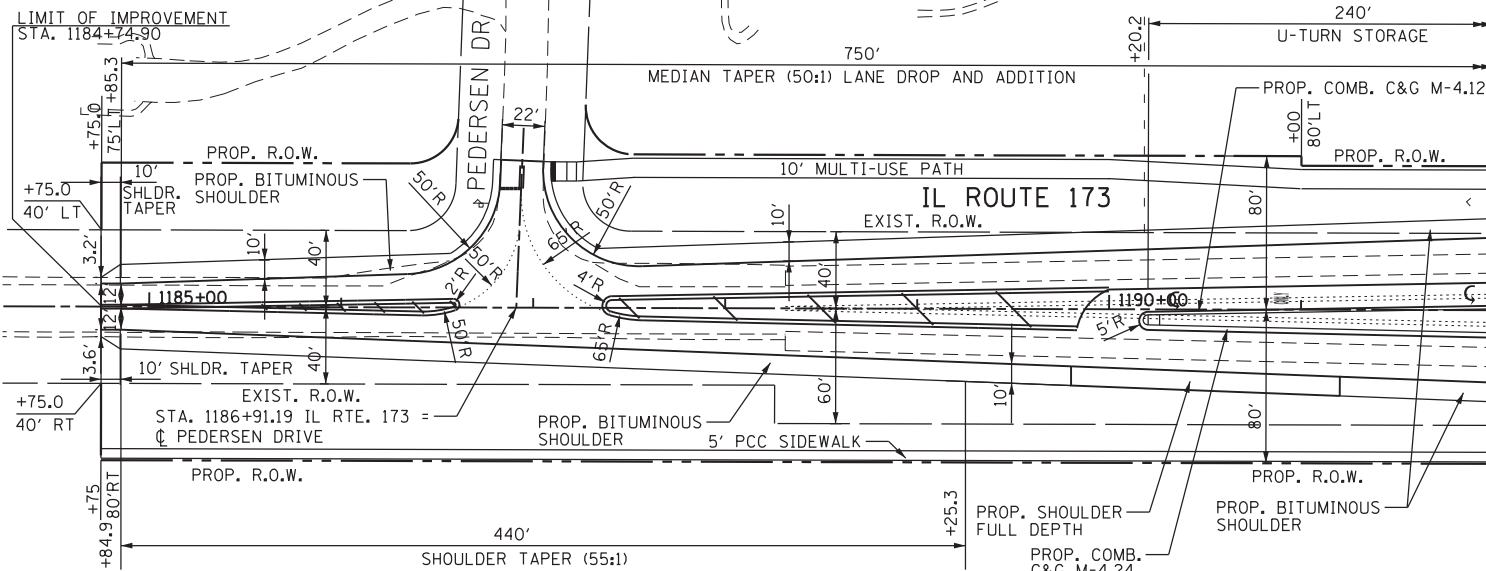
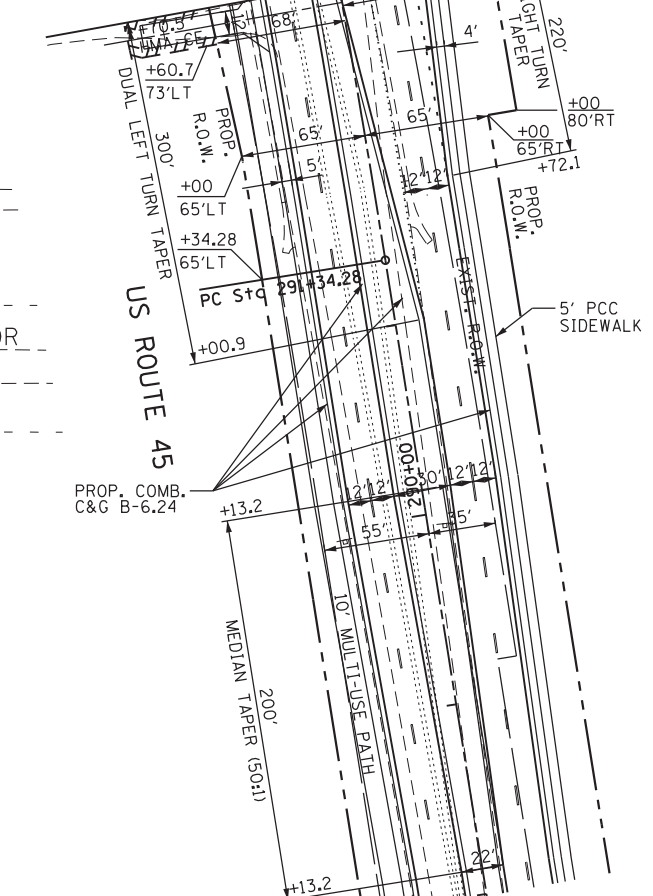


PROP. CURVE PR45-15
 PI STA. = 307+15.12
 $\Delta = 14^\circ 44' 04''$ (RT)
 $D = 1^\circ 29' 04''$
 $R = 3,860.00'$
 $T = 499.08'$
 $L = 992.65'$
 $E = 32.13'$
 $e = 2.8\%$
 P.C. T.R. = 72'
 P.C. S.E. RUN = 101'
 P.T. T.R. = 48'
 P.T. S.E. RUN = 67'
 P.C. STA. = 302+16.04
 P.T. STA. = 312+08.70
 DESIGN SPEED = 50 MPH

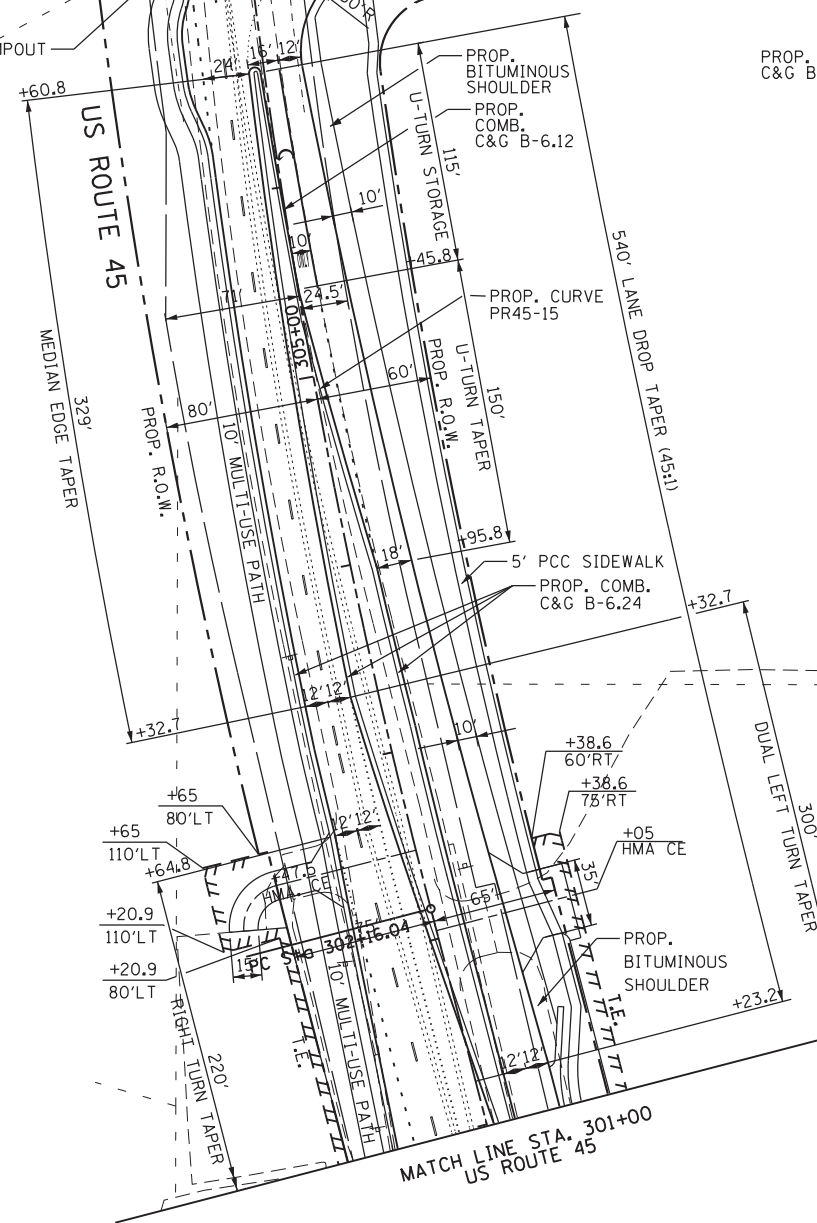
MATCH LINE STA. 309+50
 US ROUTE 45



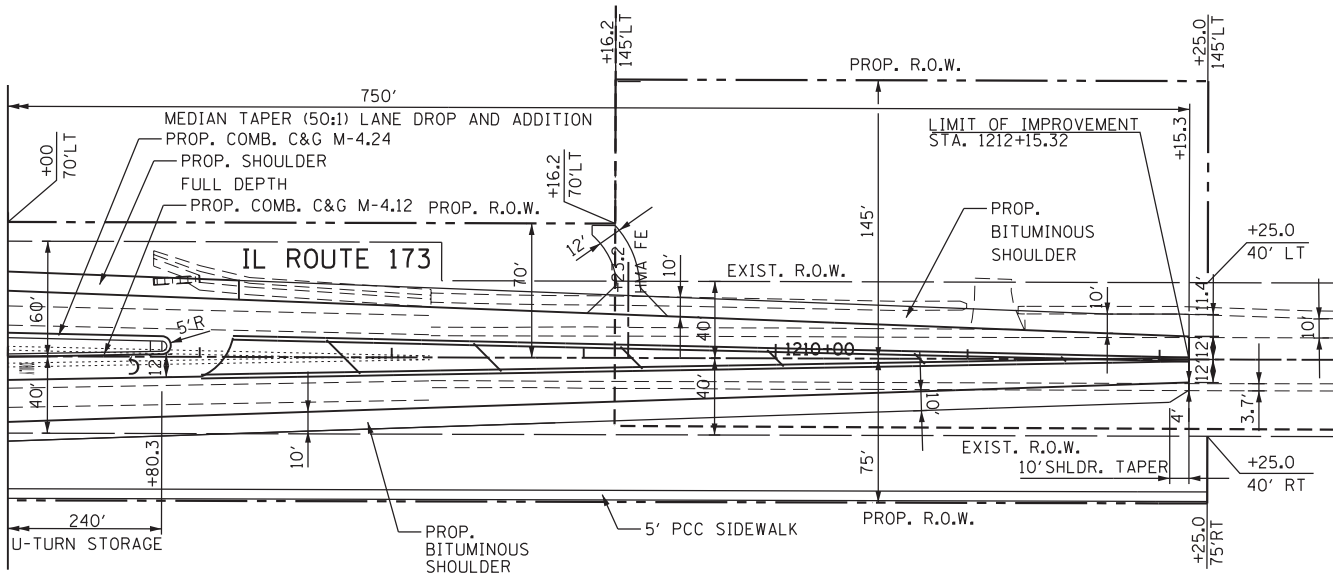
MATCH LINE STA. 292+80
 US ROUTE 45



MATCH LINE STA. 1192+00
 IL ROUTE 173



MATCH LINE STA. 301+00
 US ROUTE 45



MATCH LINE STA. 1206+00
 IL ROUTE 173

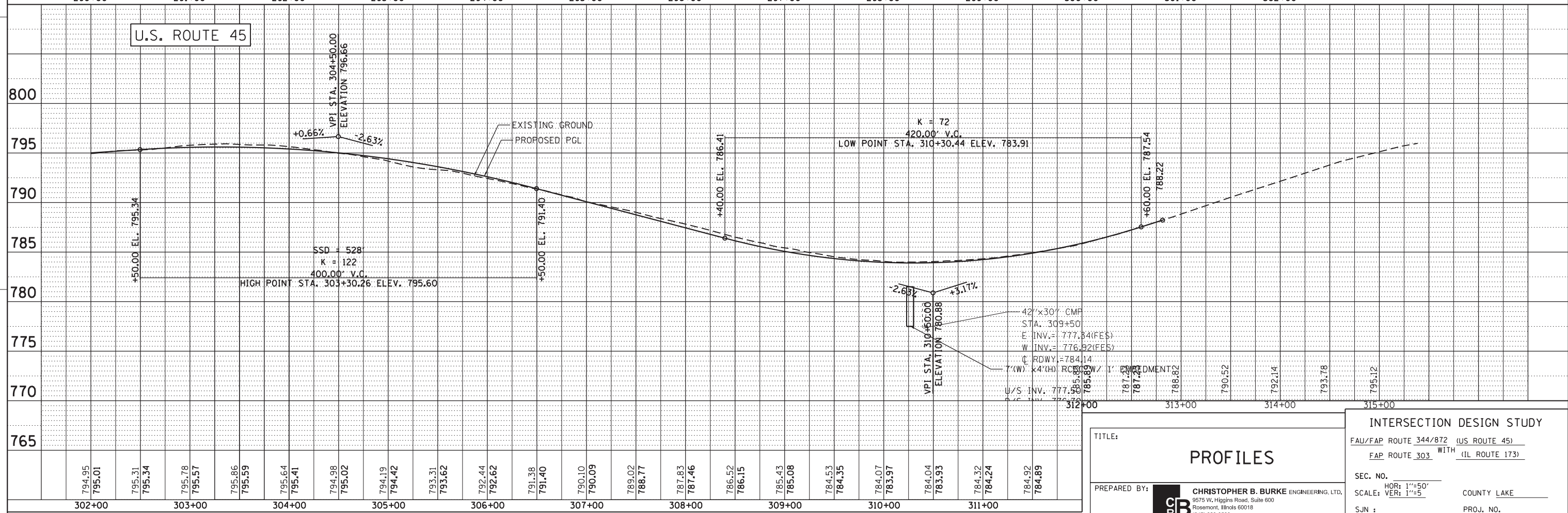
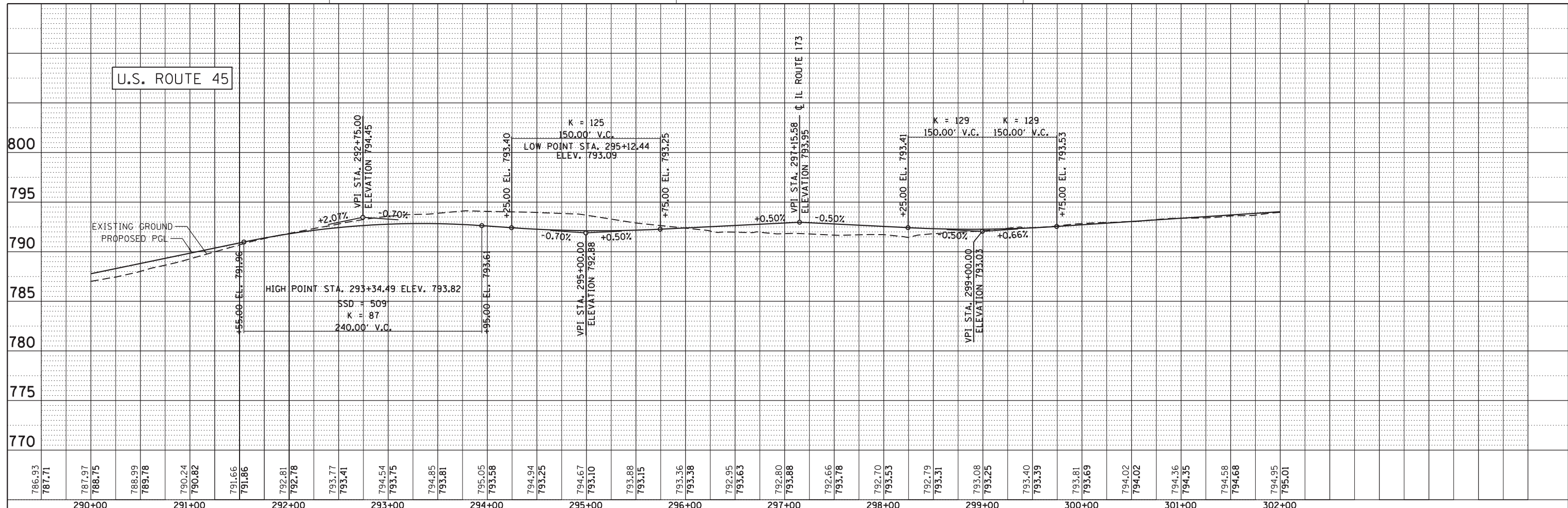
EXHIBIT 14

INTERSECTION DESIGN STUDY	
FAU/FAP ROUTE 344/872 (US ROUTE 45)	WITH (IL ROUTE 173)
SEC. NO.	
SCALE: 1" = 50'	COUNTY LAKE
SJN :	PROJ. NO.
I.D.S. SHEET 2 OF 7	

PREPARED BY: **CHRISTOPHER B. BURKE ENGINEERING, LTD.**
 9575 W. Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-9500

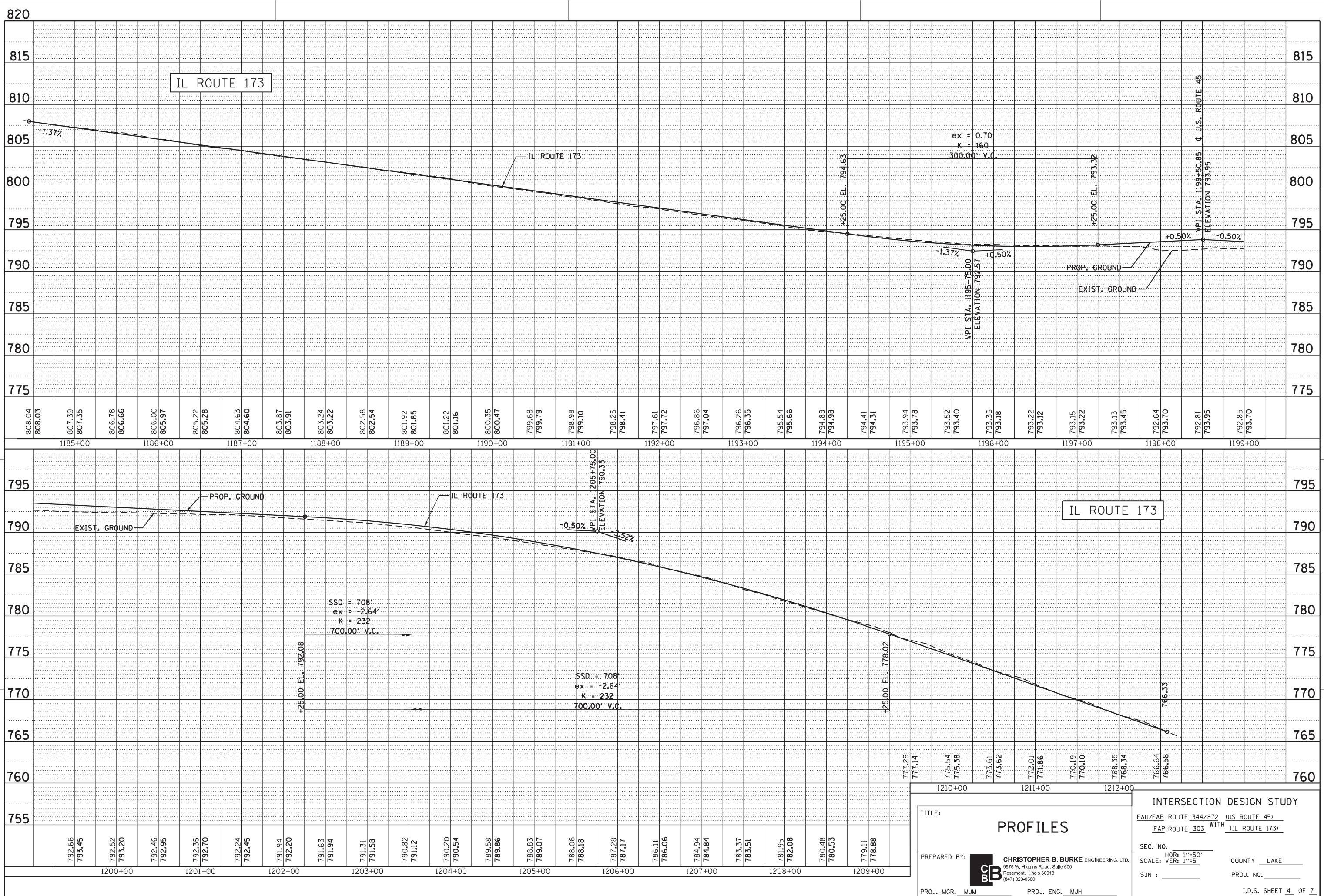
PROJ. MGR. MJM PROJ. ENG. MJH

PLOT DATE = 12/13/2018
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 PLOT SCALE = 50
 USER NAME = psantos



TITLE: PROFILES		INTERSECTION DESIGN STUDY FAU/FAP ROUTE 344/872 (US ROUTE 45) FAP ROUTE 303 WITH (IL ROUTE 173)	
PREPARED BY: CHRISTOPHER B. BURKE ENGINEERING, LTD. <small>9575 W. Higgins Road, Suite 600 Rosemont, Illinois 60018 (847) 823-0500</small>		SEC. NO. _____ SCALE: HOR: 1"=50' VER: 1"=5' COUNTY LAKE _____ SJN : _____ PROJ. NO. _____	
PROJ. MGR. MJM		PROJ. ENG. MJH	
		I.D.S. SHEET 3 OF 7	

PLOT DATE = 12/13/2018
 FILE NAME = N:\Idea\100063\CADD_Sheets\138810-INT-IDS-IL173-4.dgn
 PLOT SCALE = 50
 USER NAME = psantos



TITLE: PROFILES		INTERSECTION DESIGN STUDY FAU/FAP ROUTE 344/872 (US ROUTE 45) FAP ROUTE 303 WITH (IL ROUTE 173)	
PREPARED BY: CHRISTOPHER B. BURKE ENGINEERING, LTD. <small>3575 W. Higgins Road, Suite 600 Rosemont, Illinois 60018 (847) 823-0900</small>		SEC. NO. SCALE: HOR: 1"=50' VER: 1"=5' SUN : COUNTY LAKE PROJ. NO.	
PROJ. MGR.: MJM		PROJ. ENG.: MJH	
		I.D.S. SHEET 4 OF 7	

PLOT DATE = 12/13/2018
 FILE NAME = N:\Ideas\1000063\CADD_Sheets\PI38810-41-1ds-IL173-5.dgn
 PLOT SCALE = 50
 USER NAME = psantos

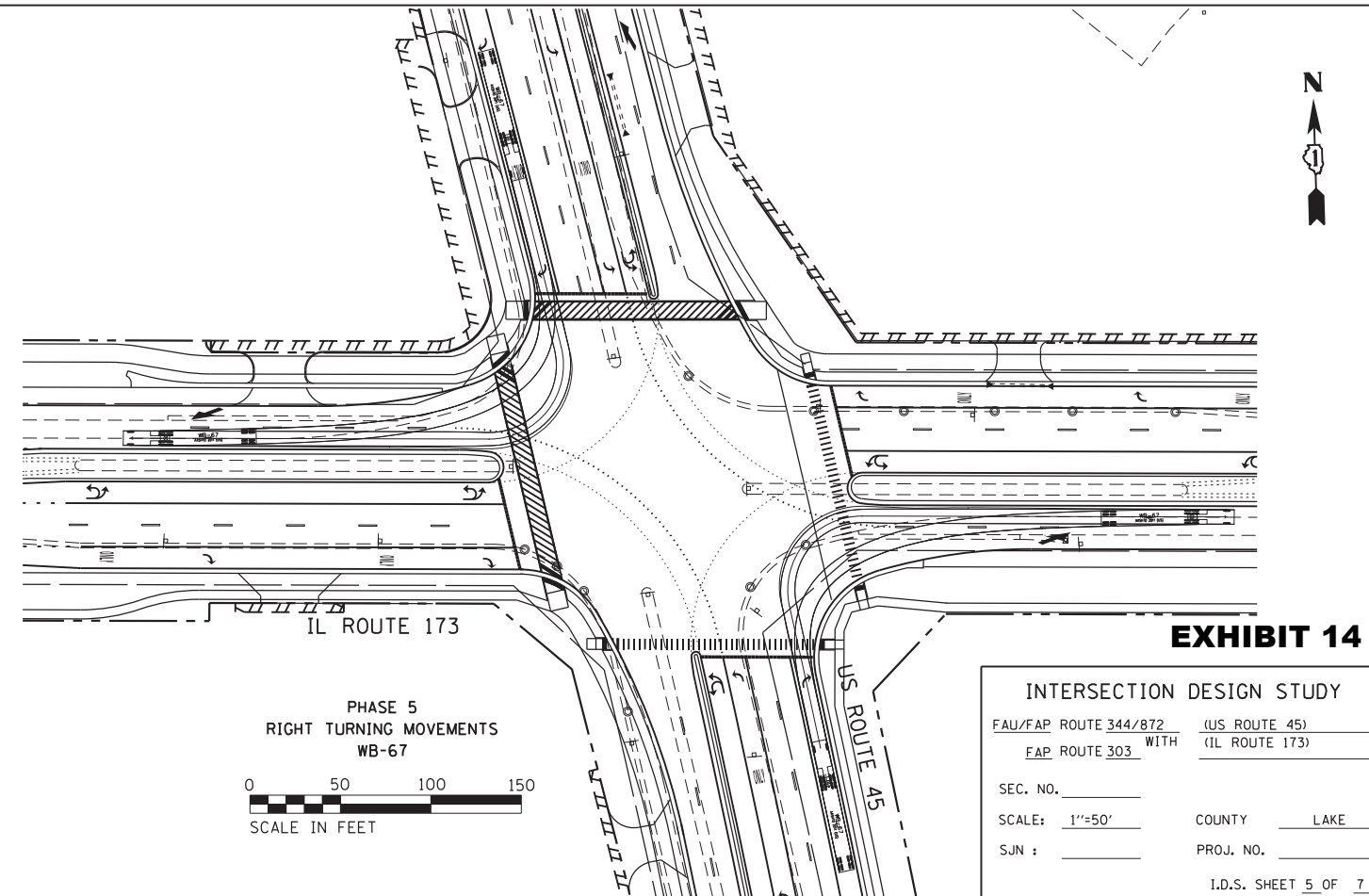
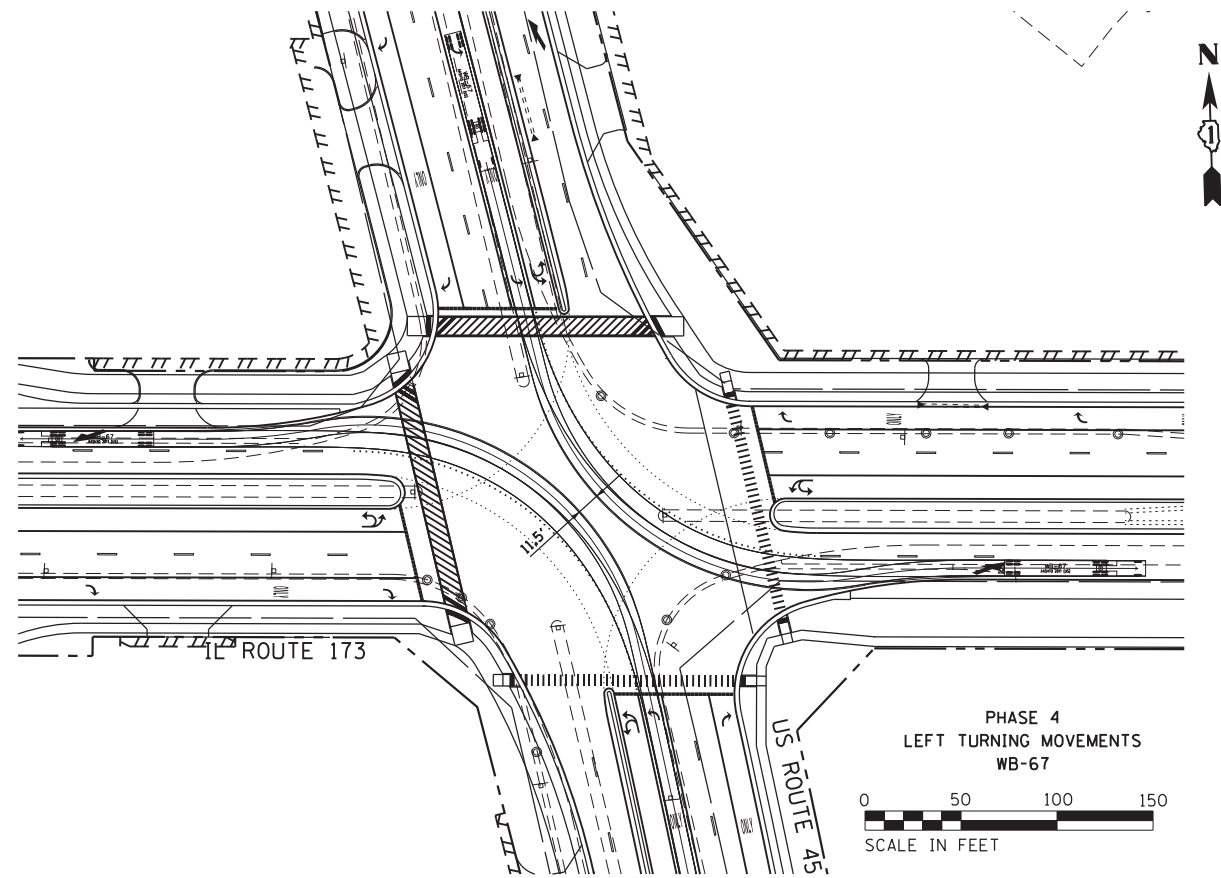
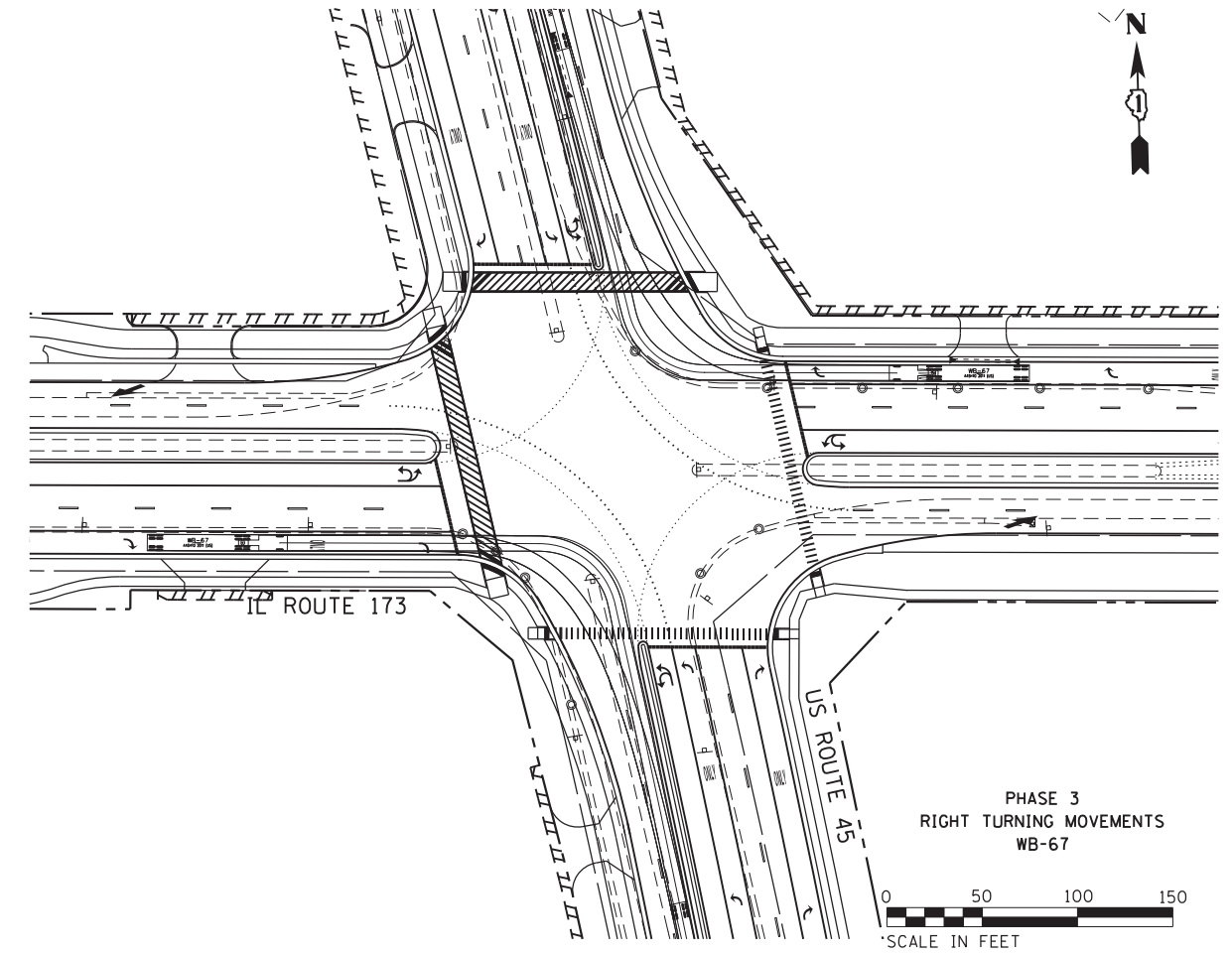
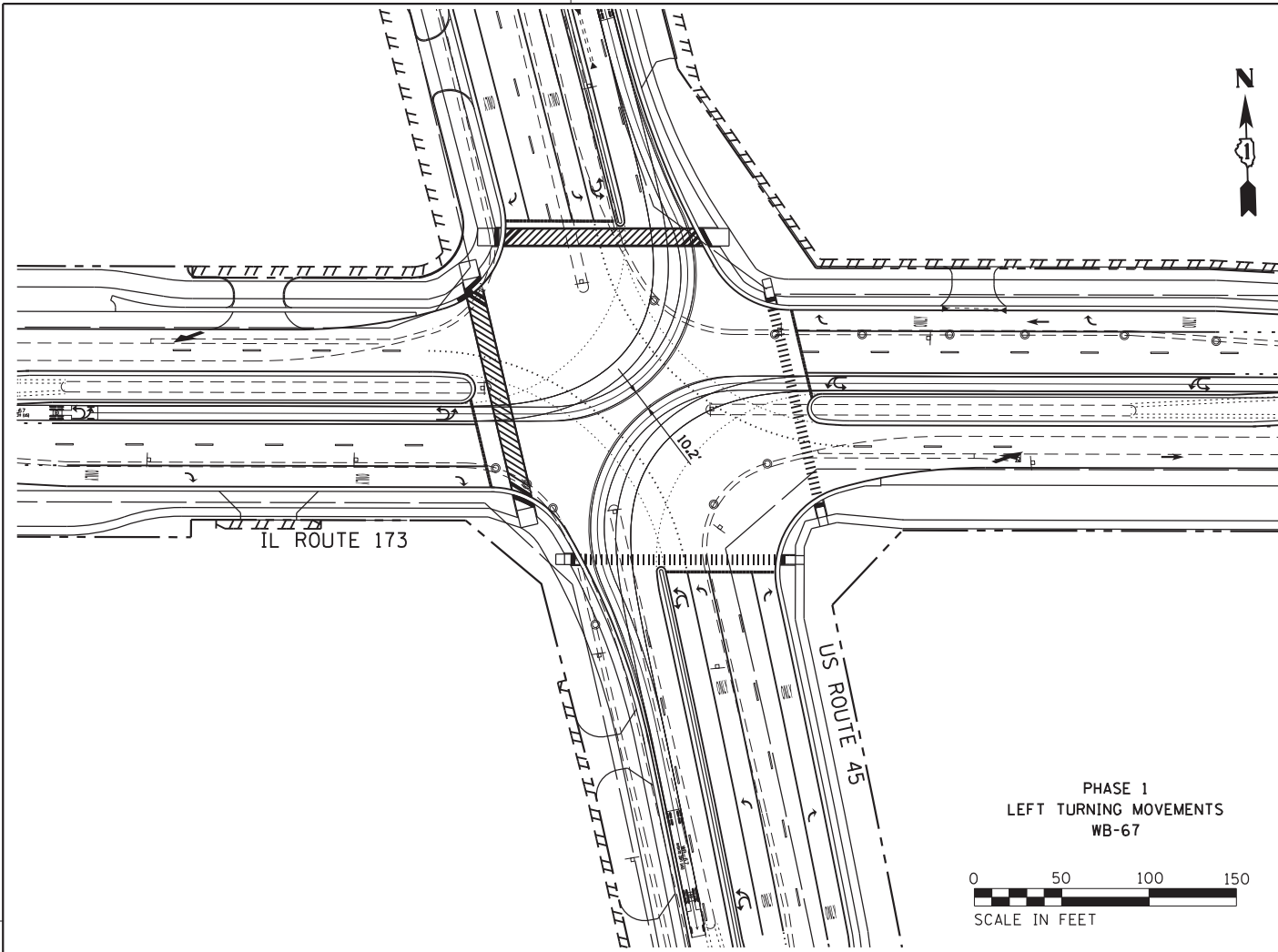
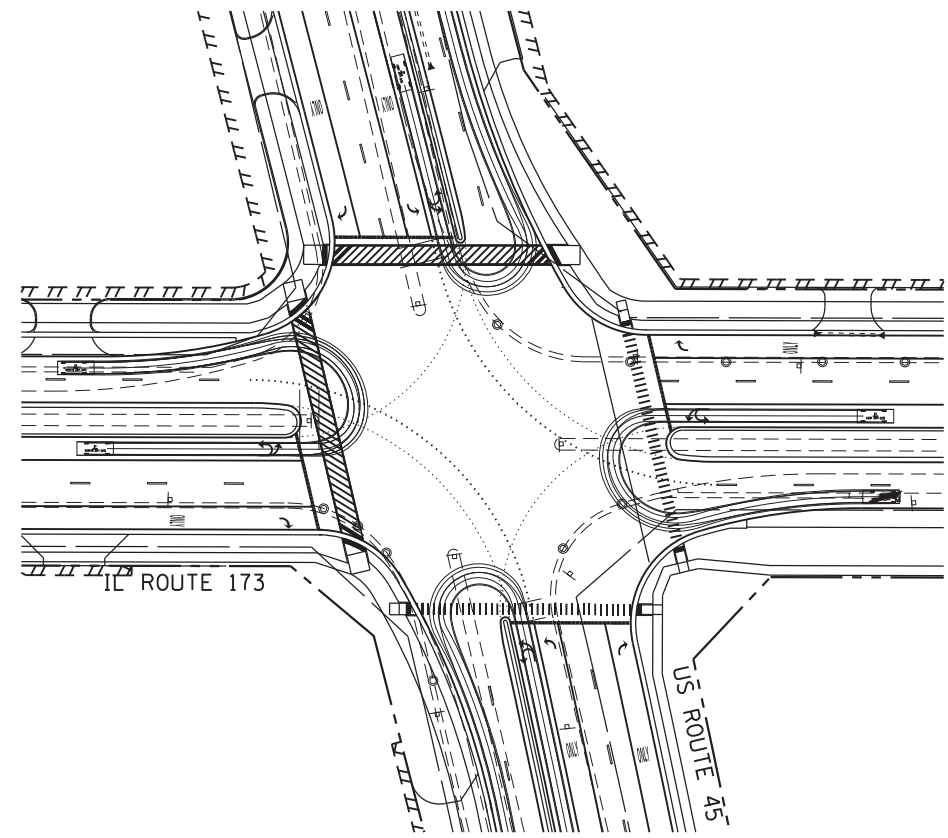


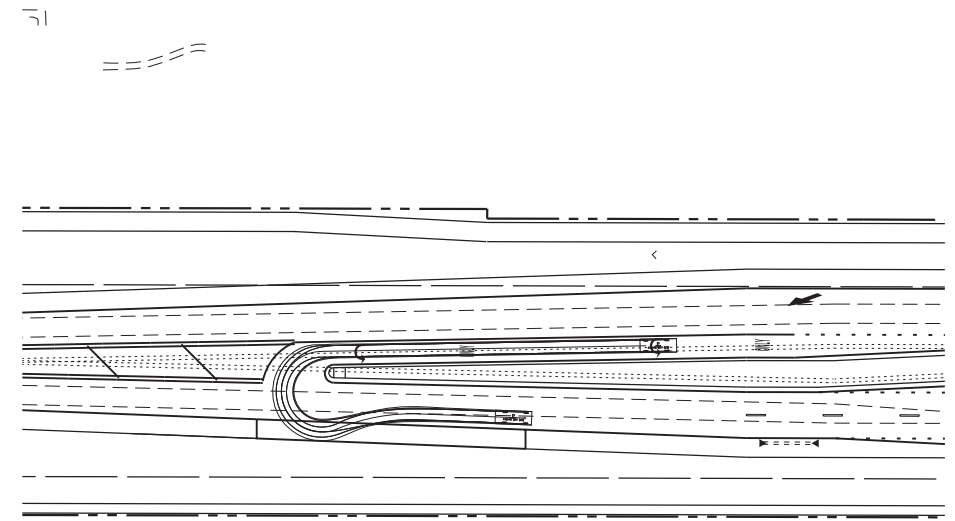
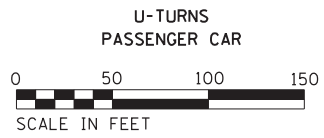
EXHIBIT 14

INTERSECTION DESIGN STUDY	
FAU/FAP ROUTE 344/872 (US ROUTE 45)	
FAP ROUTE 303 WITH (IL ROUTE 173)	
SEC. NO. _____	COUNTY _____ LAKE _____
SCALE: 1"=50'	PROJ. NO. _____
SJN : _____	I.D.S. SHEET 5 OF 7

PLOT DATE = 12/13/2018
 FILE NAME = N:\Ideas\100063\CADD_Sheets\PI38810\PI-173-6.dgn
 PLOT SCALE = 50'
 USER NAME = psantos

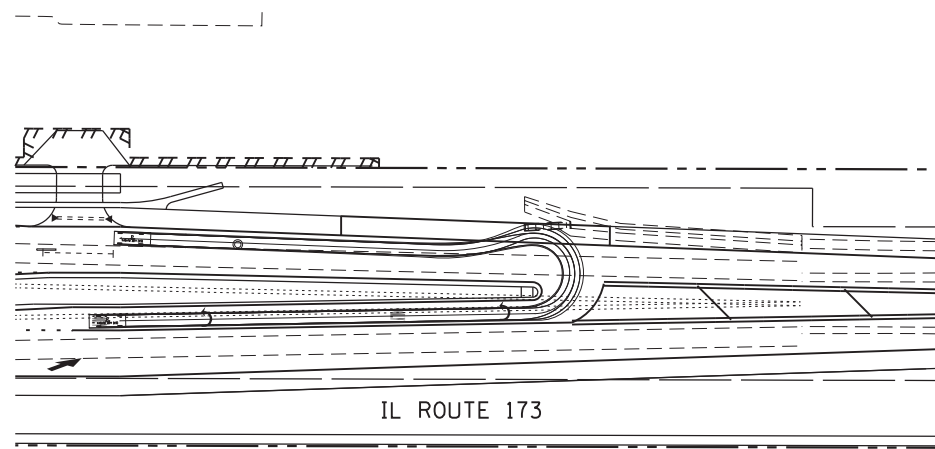
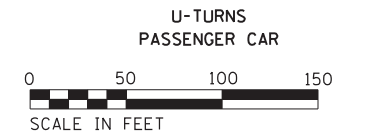


PASSENGER CAR



IL ROUTE 173

PASSENGER CAR



IL ROUTE 173

PASSENGER CAR

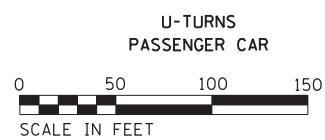
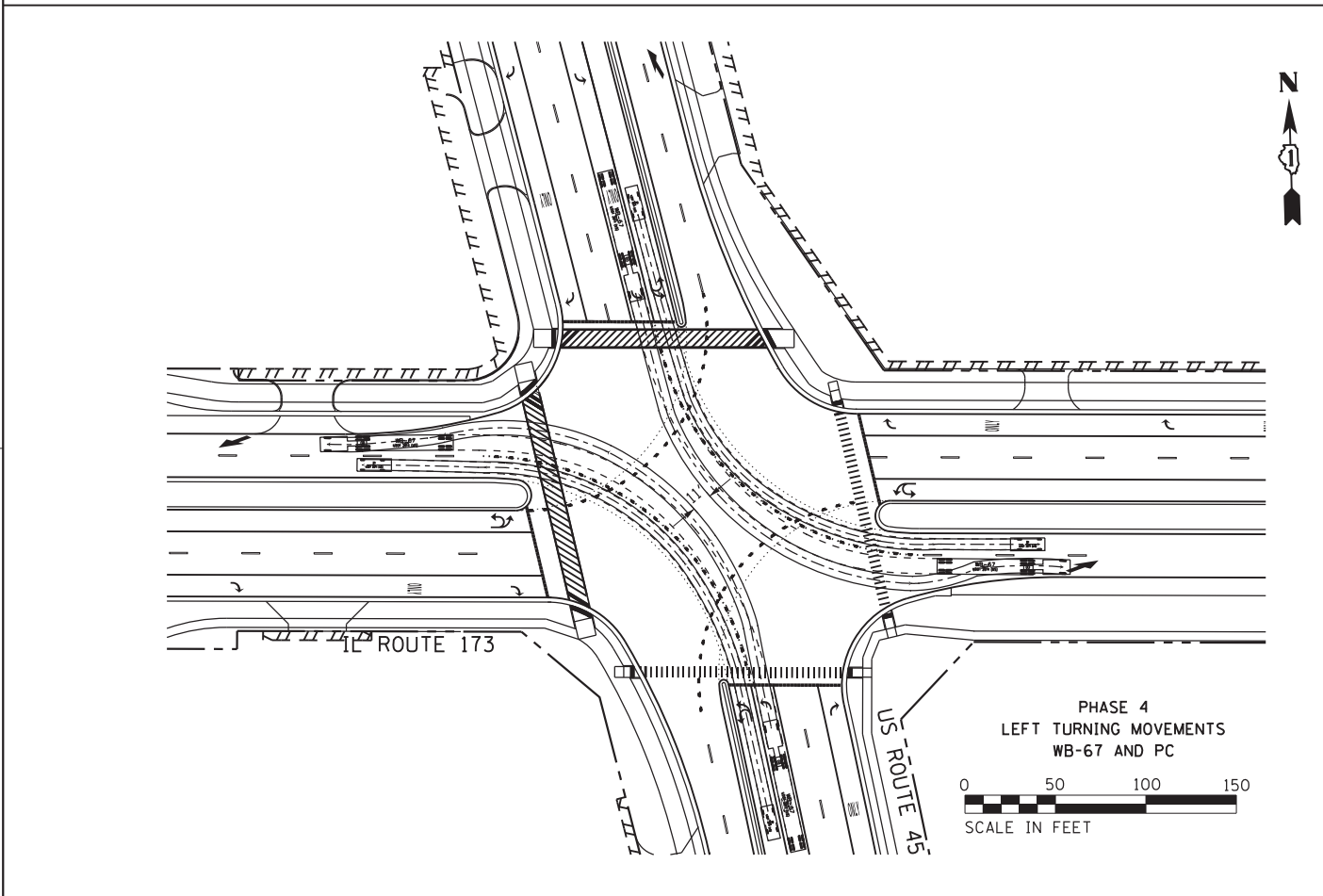
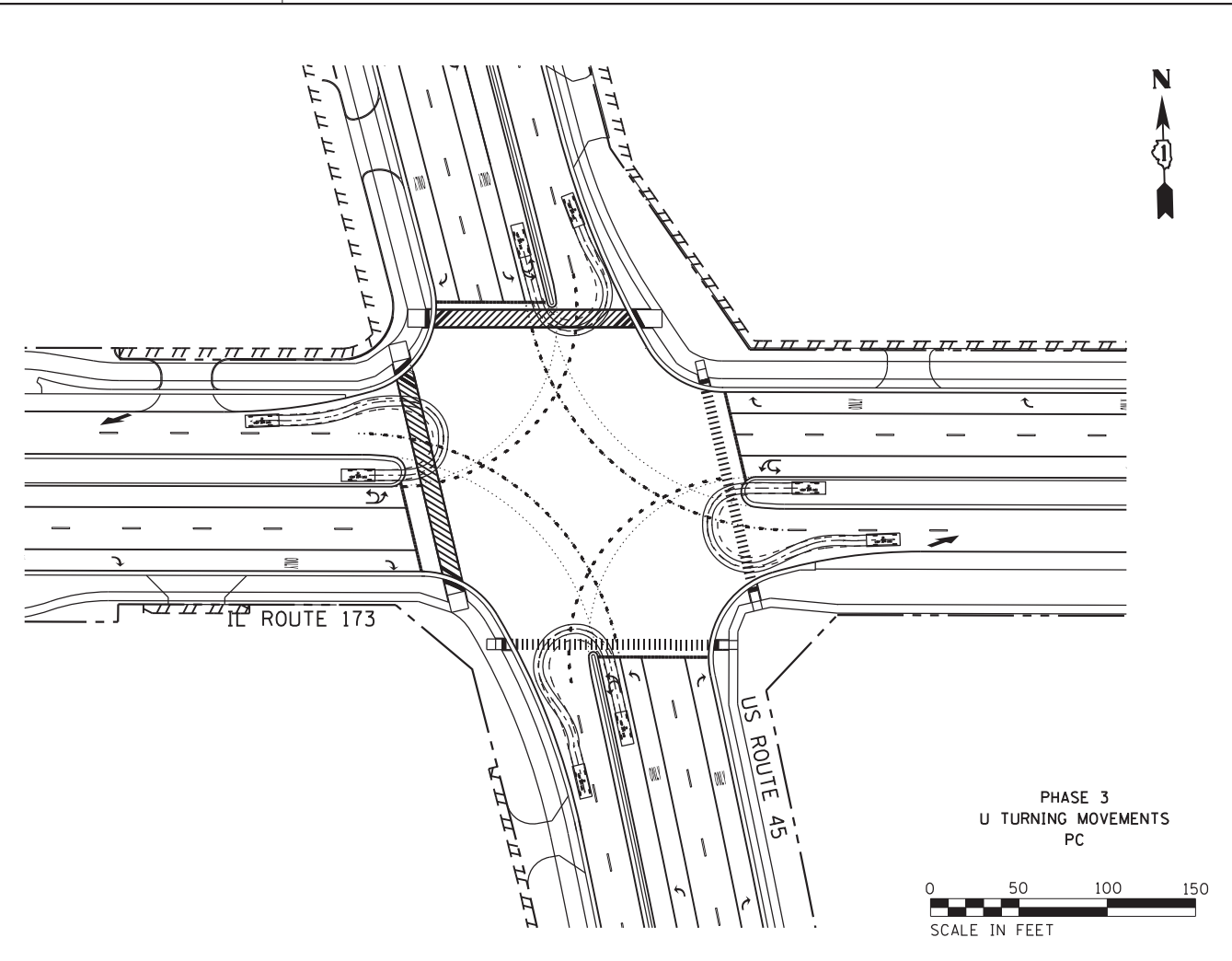
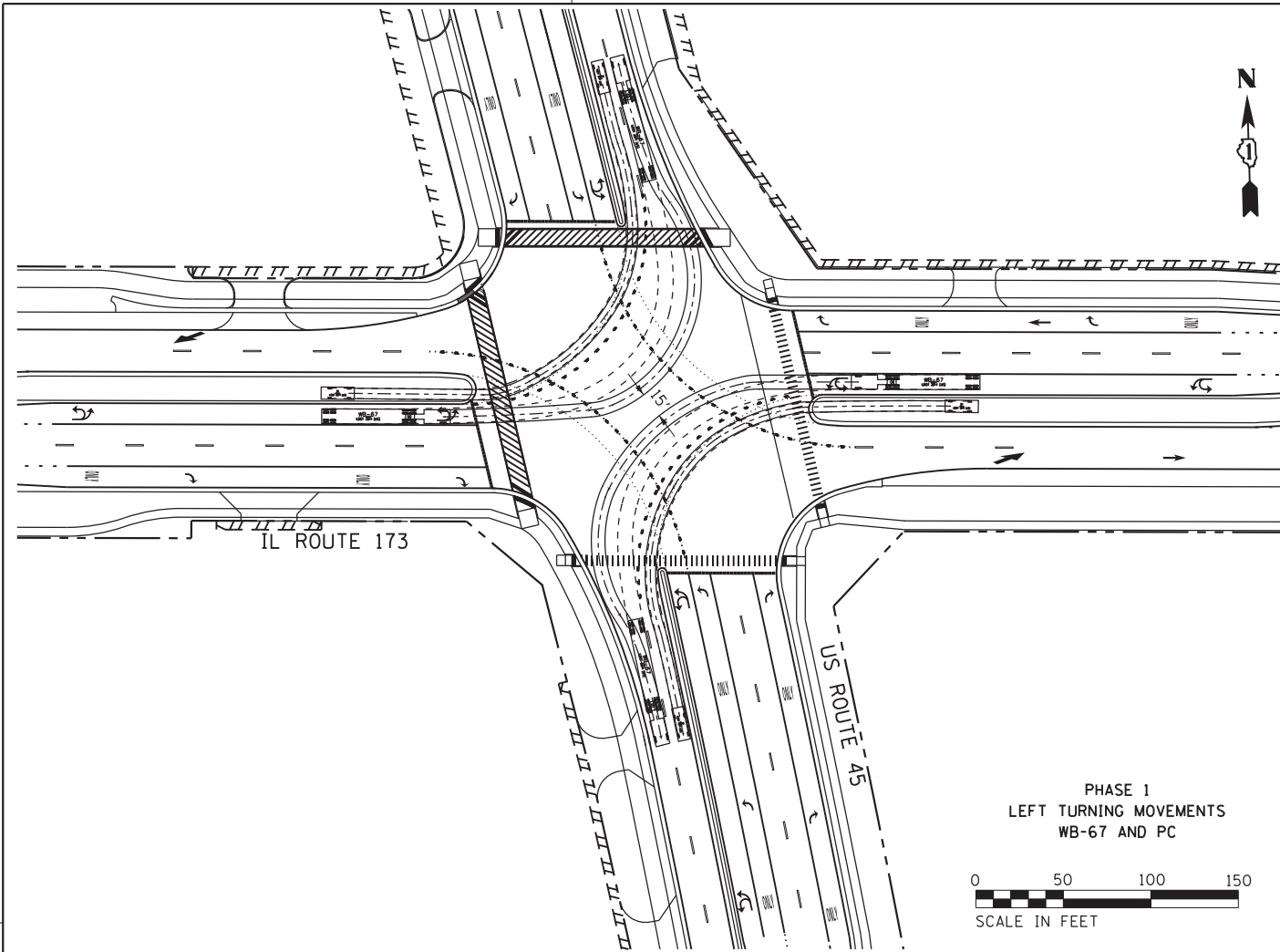


EXHIBIT 14

INTERSECTION DESIGN STUDY	
FAU/FAP ROUTE 344/872 (US ROUTE 45)	
FAP ROUTE 303 WITH (IL ROUTE 173)	
SEC. NO. _____	
SCALE: 1"=50'	COUNTY _____ LAKE _____
SJN : _____	PROJ. NO. _____
I.D.S. SHEET 6 OF 7	

PLOT DATE = 8/20/2019
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 PLOT SCALE = 50.0000 / in.
 USER NAME = pstantos



P

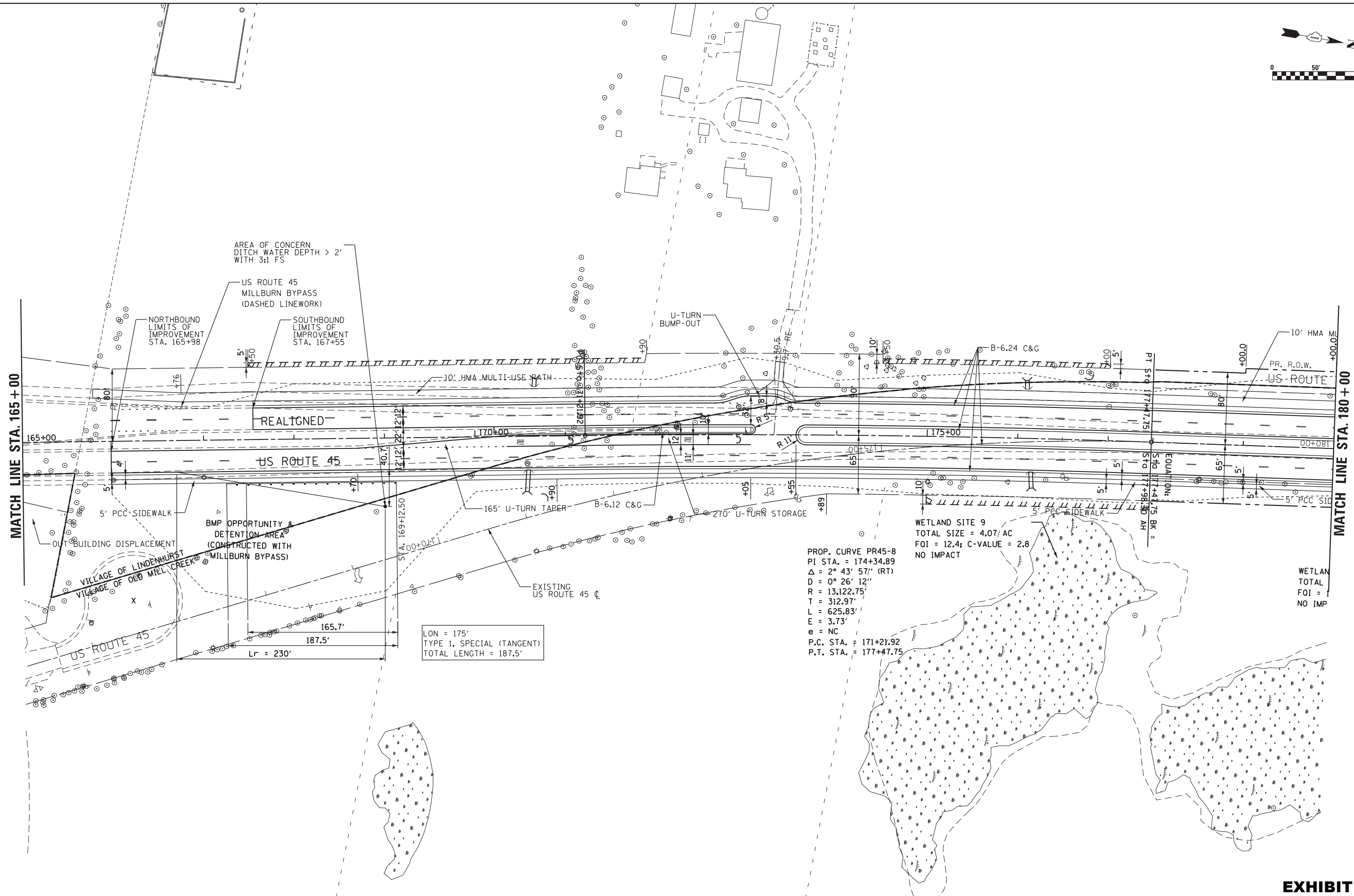
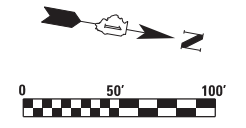
Width	: 7.00
Track	: 6.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.5

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		

EXHIBIT 14

INTERSECTION DESIGN STUDY	
FAU/FAP ROUTE 344/872 (US ROUTE 45)	
FAP ROUTE 303 WITH (IL ROUTE 173)	
SEC. NO. _____	COUNTY _____ LAKE _____
SCALE: 1"=50'	PROJ. NO. _____
SJN : _____	I.D.S. SHEET 7 OF 7

TITLE: DESIGN VEHICLE TURNING ANALYSIS
 (FUTURE DUAL LEFT TURN AND U TURN MOVEMENT)
 (WB-67 AND PASSENGER (P) CAR)
 US ROUTE 45 AND IL ROUTE 173



PROP. CURVE PR45-8
 PI STA. = 174+34.89
 $\Delta = 2^\circ 43' 57''$ (RT)
 $D = 0^\circ 26' 12''$
 $R = 13,122.75'$
 $T = 312.97'$
 $L = 625.83'$
 $E = 3.73'$
 $e = NC$
 P.C. STA. = 171+21.92
 P.T. STA. = 177+47.75

WETLAND SITE 9
 TOTAL SIZE = 4.07 AC
 FOI = 12.4; C-VALUE = 2.8
 NO IMPACT

WETLAN
 TOTAL
 FOI =
 NO IMP

LON = 175'
 TYPE 1, SPECIAL (TANGENT)
 TOTAL LENGTH = 187.5'

EXHIBIT 15

FILE NAME = N:\dot\100063\CADD_Sheets\138810_sht.BarrierWarrant.dgn	USER NAME = psantos	DESIGNED - MJH/MCW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	U.S. ROUTE 45 BARRIER WARRANT ANALYSIS				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = 50.0000' / in.	CHECKED - MJM	REVISED -	REVISED -		SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.	LAKE	3	1
PLOT DATE = 3/1/2019	DATE -	REVISED -	REVISED -		CONTRACT NO.								
ILLINOIS FED. AID PROJECT													

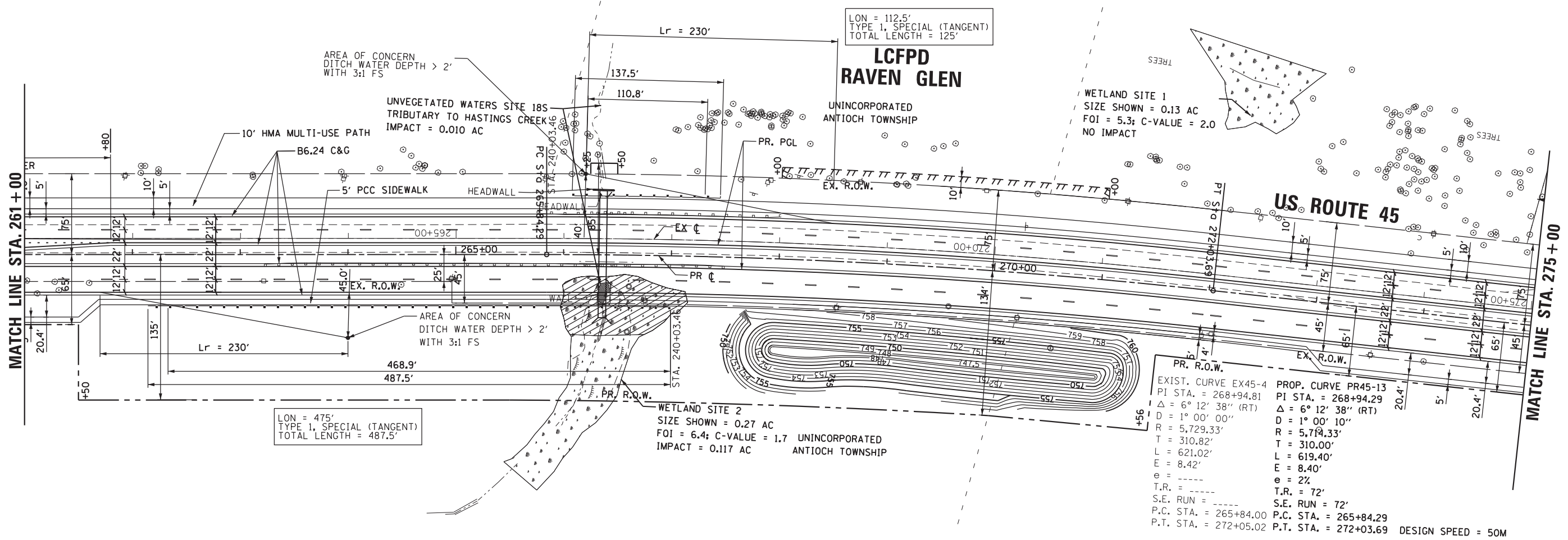
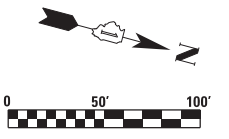
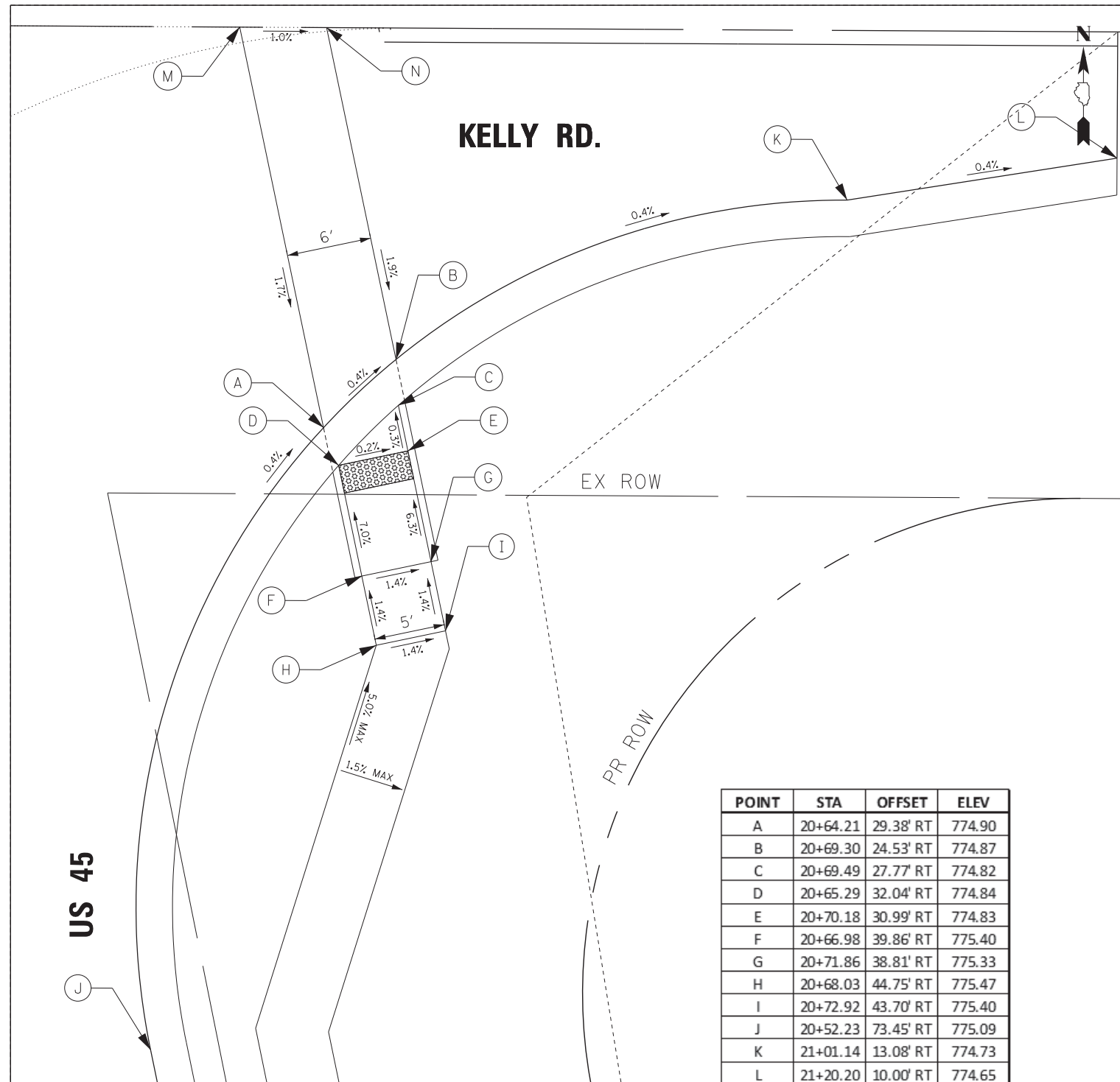


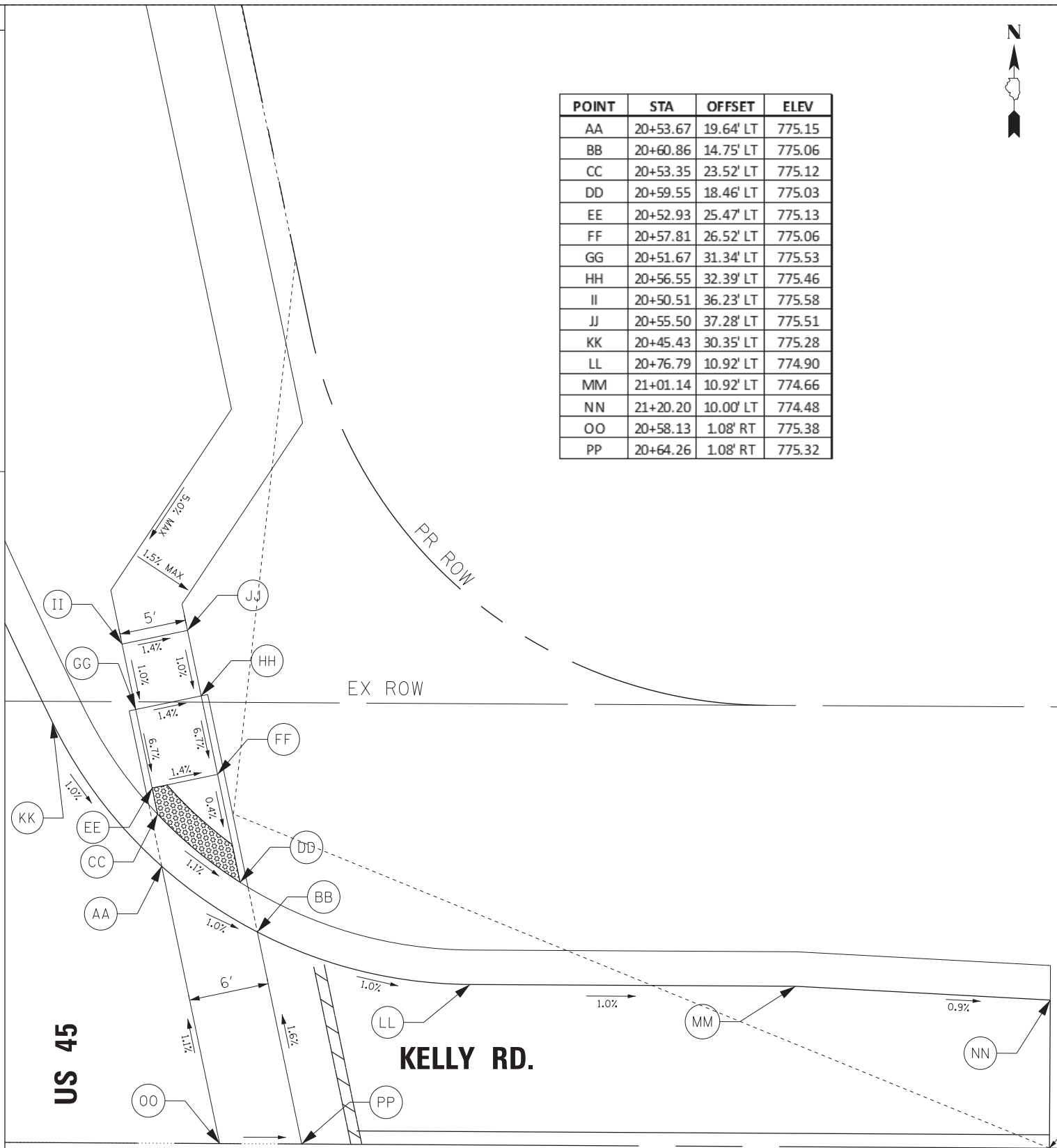
EXHIBIT 15

FILE NAME = N:\dot\100063\CADD_Sheets\PI38810_sht_BarrierWarrant4.dgn	USER NAME = psantos	DESIGNED - MJH/MCW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	U.S. ROUTE 45 BARRIER WARRANT ANALYSIS	F.A. RTE. = 344	SECTION = 05-00262-06-RO	COUNTY = LAKE	TOTAL SHEETS = 3	SHEET NO. = 3	
PLOT SCALE = 50.0000' / in.	CHECKED - MJM	REVISED -	SCALE:			SHEET NO. OF SHEETS	STA. TO STA.	CONTRACT NO.			
PLOT DATE = 3/1/2019	DATE -	REVISED -	ILLINOIS FED. AID PROJECT								



POINT	STA	OFFSET	ELEV
A	20+64.21	29.38' RT	774.90
B	20+69.30	24.53' RT	774.87
C	20+69.49	27.77' RT	774.82
D	20+65.29	32.04' RT	774.84
E	20+70.18	30.99' RT	774.83
F	20+66.98	39.86' RT	775.40
G	20+71.86	38.81' RT	775.33
H	20+68.03	44.75' RT	775.47
I	20+72.92	43.70' RT	775.40
J	20+52.23	73.45' RT	775.09
K	21+01.14	13.08' RT	774.73
L	21+20.20	10.00' RT	774.65
M	20+58.13	1.08' RT	775.38
N	20+64.26	1.08' RT	775.32

- NOTES:
- 1.) THESE ADA DETAILS ARE FOR PRESENTATION PURPOSES. REFER TO THE CURRENT BDE MANUAL AND ADA/PROWAG GUIDELINES FOR DESIGN REQUIREMENTS.
 - 2.) FOLLOW LEGEND FOR LABELING EXISTING ELEVATIONS, SLOPES, AND LENGTHS.
 - 3.) ESTABLISH STATIONS/OFFSETS BASED ON 1 CENTERLINE FOR EACH CORNER.
 - 4.) SHOW EXISTING (PROPOSED) ABOVE GROUND UTILITIES AND SIGNS.
 - 5.) ELEVATIONS FOR POINTS P, Q, R, AND S SHOULD MATCH WITH THEIR ASSOCIATED PROFILE.
 - 6.) IN ORDER TO ALLOW FOR CONSTRUCTION TOLERANCES THE CROSS SLOPES AND RAMP RUNNING SLOPES SHOULD BE DESIGNED TO THEIR MAXIMUM ALLOWABLE UNLESS NECESSARY. INSTEAD ALL CROSS SLOPES SHOULD BE DESIGNED AT 1.5% OR FLATTER WHEREAS RAMP RUNNING SLOPES SHOULD BE DESIGNED AT 1:14 (7.14%) OR FLATTER.
 - 7.) SUBMIT DETAILS ON 11"x17" SIZED PLAN SHEETS AND AT A SCALE OF 1"=10'. ONLY 1 OR 2 RADI OF RETURN SHOULD BE PROVIDED PER SHEET.
 - 8.) IF PARALLEL SIDEWALK SLOPES DO NOT MATCH, LABEL BOTH SLOPES. FOR EXAMPLE, IN FIGURE 1, IF M-L DOES NOT MATCH N-O, BOTH SLOPES SHOULD BE LABELED.



POINT	STA	OFFSET	ELEV
AA	20+53.67	19.64' LT	775.15
BB	20+60.86	14.75' LT	775.06
CC	20+53.35	23.52' LT	775.12
DD	20+59.55	18.46' LT	775.03
EE	20+52.93	25.47' LT	775.13
FF	20+57.81	26.52' LT	775.06
GG	20+51.67	31.34' LT	775.53
HH	20+56.55	32.39' LT	775.46
II	20+50.51	36.23' LT	775.58
JJ	20+55.50	37.28' LT	775.51
KK	20+45.43	30.35' LT	775.28
LL	20+76.79	10.92' LT	774.90
MM	21+01.14	10.92' LT	774.66
NN	21+20.20	10.00' LT	774.48
OO	20+58.13	1.08' RT	775.38
PP	20+64.26	1.08' RT	775.32

FIGURE 1 FIGURE 2

LEGEND

X.660.42	EXISTING ELEVATION	[Solid Grey Box]	PROPOSED SIDEWALK
[Dashed Line]	PROPOSED SIDE CURB	[Dotted Box]	DETECTABLE WARNINGS
x.x%	EXISTING SLOPE	[Cross-hatched Box]	SIDEWALK REMOVAL

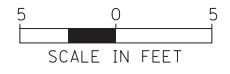


EXHIBIT 16

BORDER = 5 SCALE
CELLS = 20 SCALE

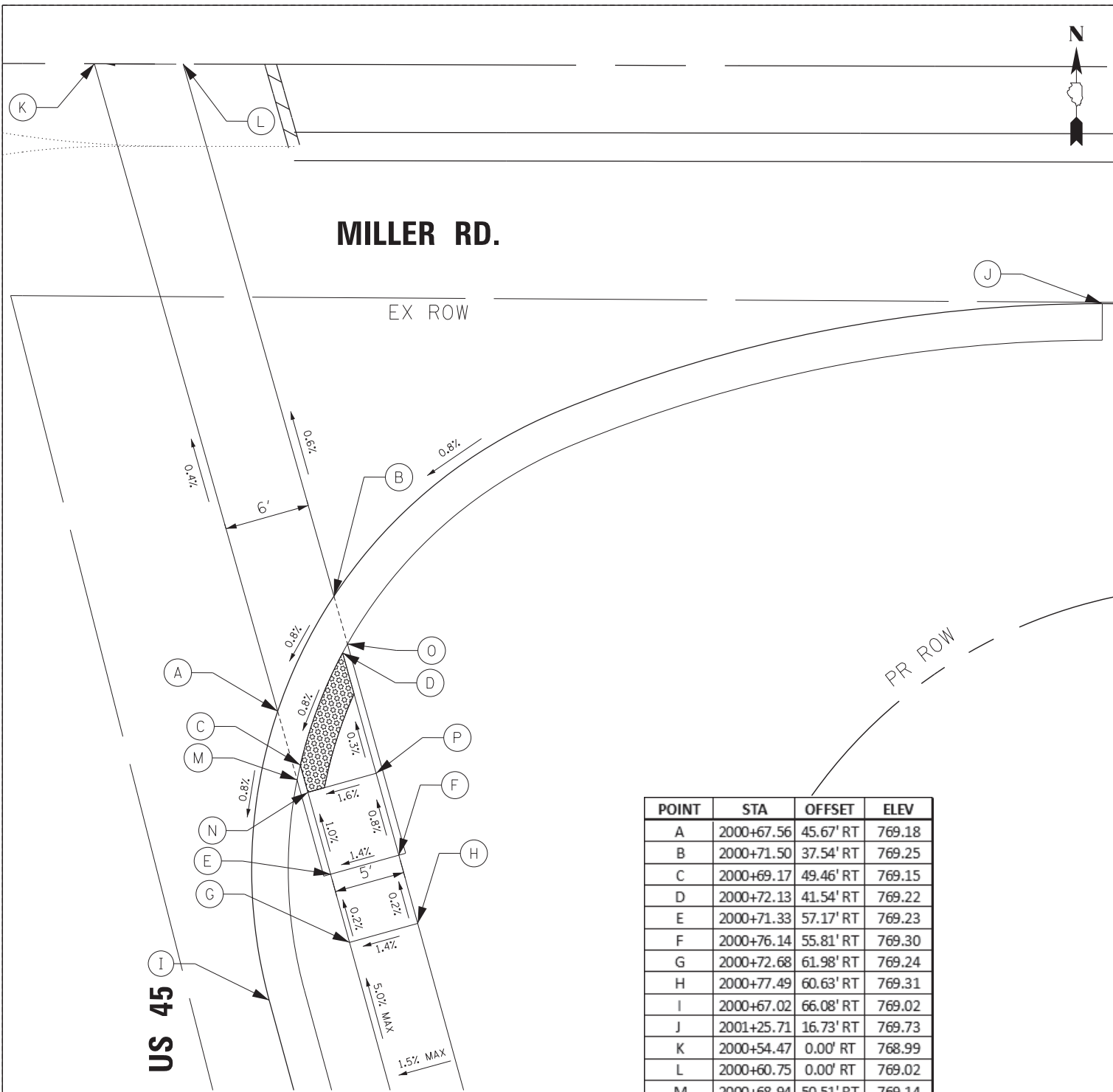
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PLOT SCALE = 5'		CHECKED - MJH	REVISED -
PLOT DATE = 12/13/2018		DATE - 12/13/2018	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

U.S. ROUTE 45 - ADA CURB RAMP DETAILS
KELLY ROAD SE & NE QUADRANTS

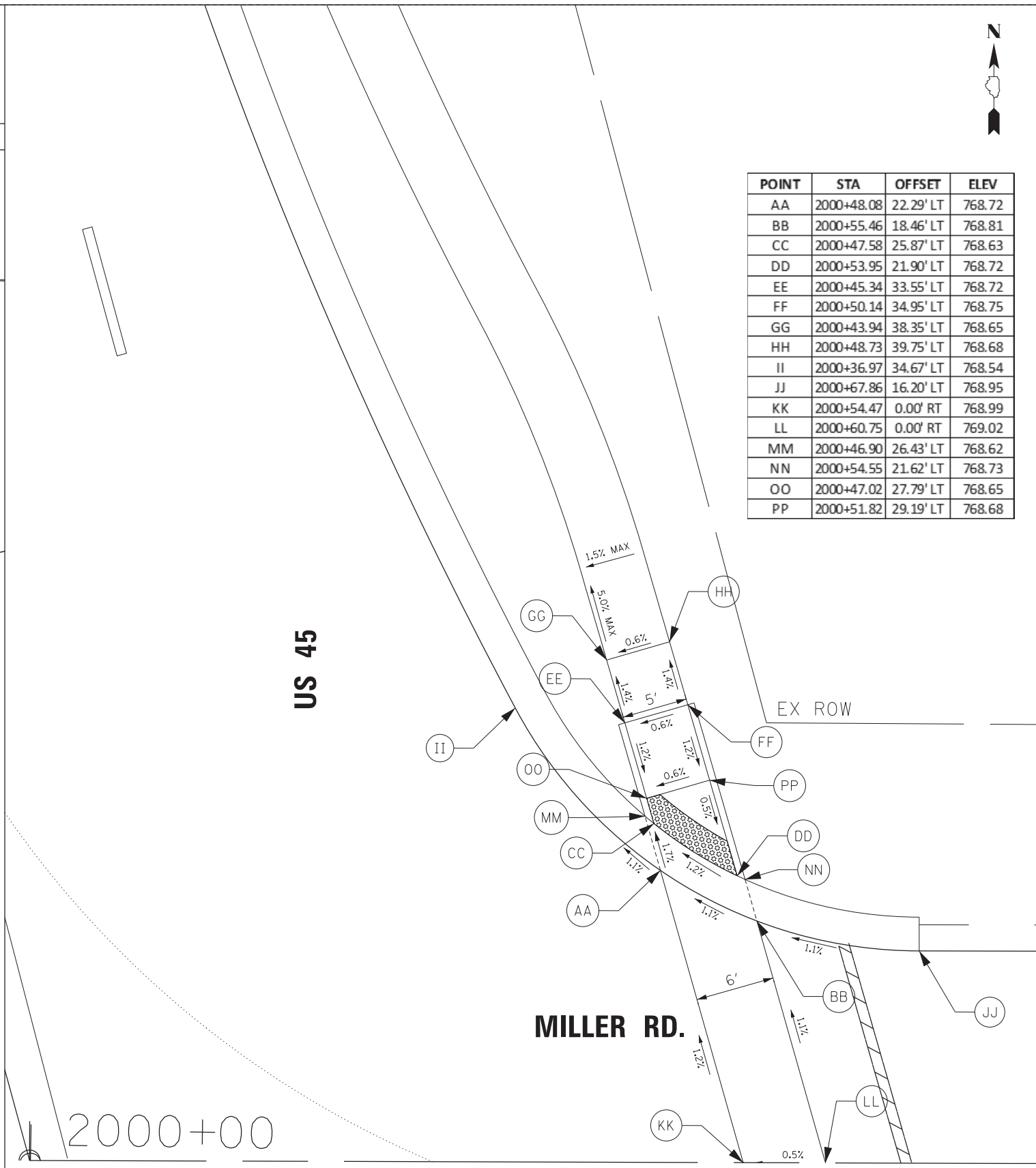
SCALE: 1" = 5' SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
344	05-00262-06-RO	LAKE	4	1
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



POINT	STA	OFFSET	ELEV
A	2000+67.56	45.67' RT	769.18
B	2000+71.50	37.54' RT	769.25
C	2000+69.17	49.46' RT	769.15
D	2000+72.13	41.54' RT	769.22
E	2000+71.33	57.17' RT	769.23
F	2000+76.14	55.81' RT	769.30
G	2000+72.68	61.98' RT	769.24
H	2000+77.49	60.63' RT	769.31
I	2000+67.02	66.08' RT	769.02
J	2001+25.71	16.73' RT	769.73
K	2000+54.47	0.00' RT	768.99
L	2000+60.75	0.00' RT	769.02
M	2000+68.94	50.51' RT	769.14
N	2000+69.71	51.39' RT	769.17
O	2000+72.47	40.91' RT	769.23
P	2000+74.52	50.03' RT	769.25

- NOTES:**
- 1.) THESE ADA DETAILS ARE FOR PRESENTATION PURPOSES. REFER TO THE CURRENT BDE MANUAL AND ADA/PROWAG GUIDELINES FOR DESIGN REQUIREMENTS.
 - 2.) FOLLOW LEGEND FOR LABELING EXISTING ELEVATIONS, SLOPES, AND LENGTHS.
 - 3.) ESTABLISH STATIONS/OFFSETS BASED ON 1 CENTERLINE FOR EACH CORNER.
 - 4.) SHOW EXISTING (PROPOSED) ABOVE GROUND UTILITIES AND SIGNS.
 - 5.) ELEVATIONS FOR POINTS P, O, R, AND S SHOULD MATCH WITH THEIR ASSOCIATED PROFILE.
 - 6.) IN ORDER TO ALLOW FOR CONSTRUCTION TOLERANCES THE CROSS SLOPES AND RAMP RUNNING SLOPES SHOULD BE DESIGNED TO THEIR MAXIMUM ALLOWABLE UNLESS NECESSARY. INSTEAD ALL CROSS SLOPES SHOULD BE DESIGNED AT 1.5% OR FLATTER WHEREAS RAMP RUNNING SLOPES SHOULD BE DESIGNED AT 1:14 (7.14%) OR FLATTER.
 - 7.) SUBMIT DETAILS ON 11"x17" SIZED PLAN SHEETS AND AT A SCALE OF 1"=10'. ONLY 1 OR 2 RADII OF RETURN SHOULD BE PROVIDED PER SHEET.
 - 8.) IF PARALLEL SIDEWALK SLOPES DO NOT MATCH, LABEL BOTH SLOPES. FOR EXAMPLE, IN FIGURE 1, IF M-L DOES NOT MATCH N-O, BOTH SLOPES SHOULD BE LABELED.



POINT	STA	OFFSET	ELEV
AA	2000+48.08	22.29' LT	768.72
BB	2000+55.46	18.46' LT	768.81
CC	2000+47.58	25.87' LT	768.63
DD	2000+53.95	21.90' LT	768.72
EE	2000+45.34	33.55' LT	768.72
FF	2000+50.14	34.95' LT	768.75
GG	2000+43.94	38.35' LT	768.65
HH	2000+48.73	39.75' LT	768.68
II	2000+36.97	34.67' LT	768.54
JJ	2000+67.86	16.20' LT	768.95
KK	2000+54.47	0.00' RT	768.99
LL	2000+60.75	0.00' RT	769.02
MM	2000+46.90	26.43' LT	768.62
NN	2000+54.55	21.62' LT	768.73
OO	2000+47.02	27.79' LT	768.65
PP	2000+51.82	29.19' LT	768.68

LEGEND

X.660.42	EXISTING ELEVATION	[Pattern]	PROPOSED SIDEWALK
---	PROPOSED SIDE CURB	[Pattern]	DETECTABLE WARNINGS
x.x%	EXISTING SLOPE	[Pattern]	SIDEWALK REMOVAL

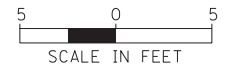


FIGURE 1

FIGURE 2

EXHIBIT 16

BORDER = 5 SCALE
CELLS = 20 SCALE

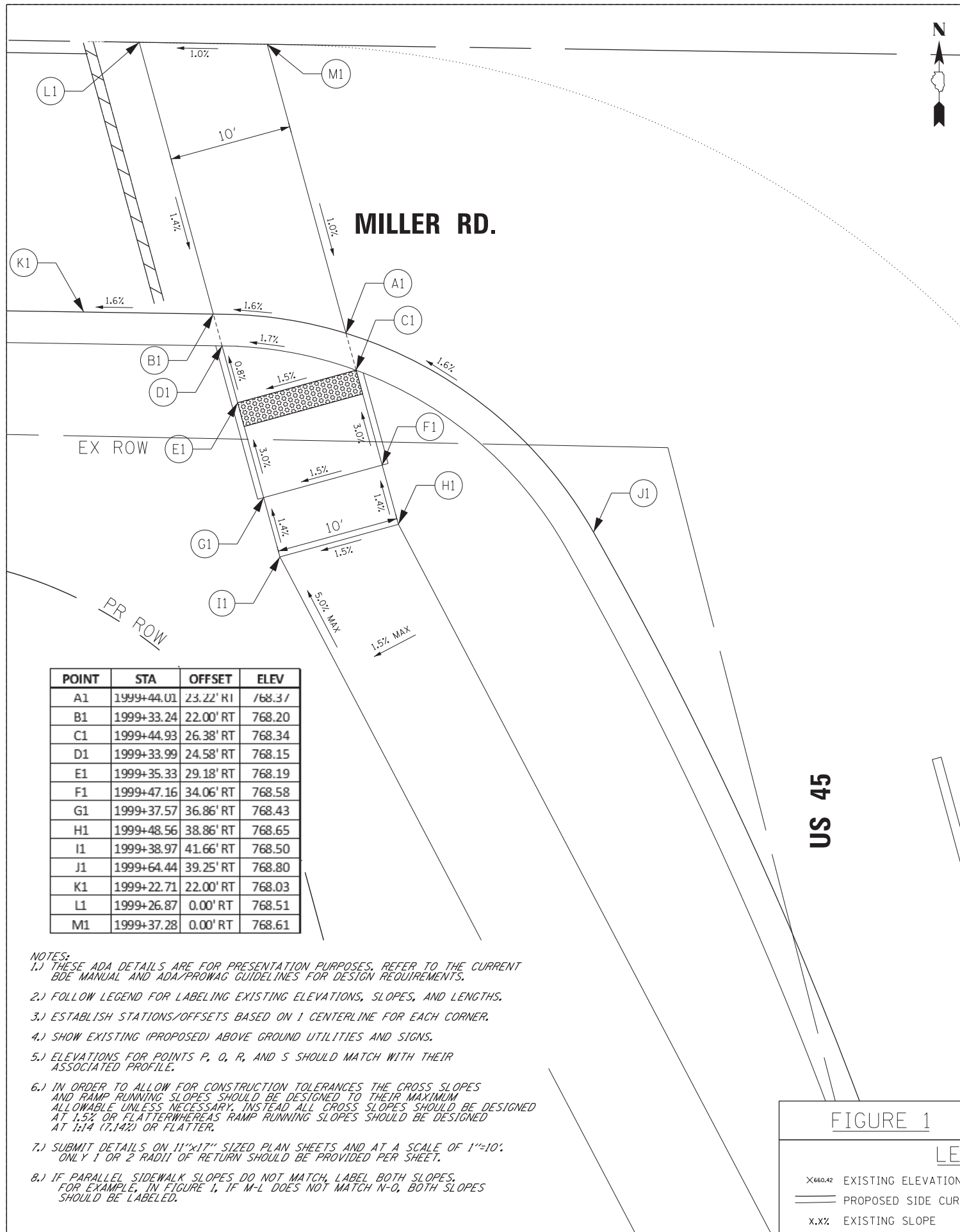
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PLOT SCALE = 5'		CHECKED - MJH	REVISED -
PLOT DATE = 12/13/2018		DATE - 12/13/2018	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**U.S. ROUTE 45 - ADA CURB RAMP DETAILS
MILLER ROAD SE & NE QUADRANTS**

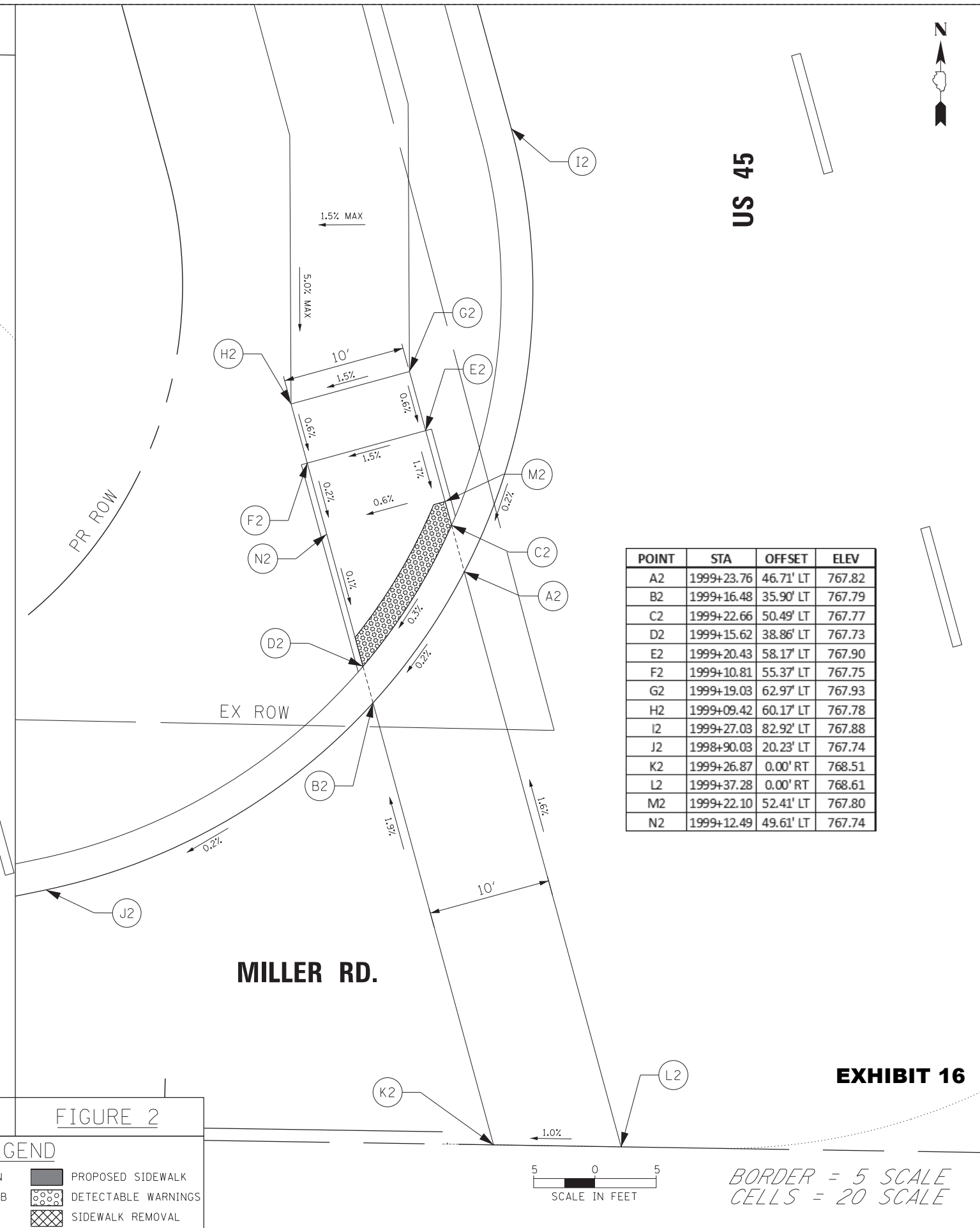
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
344	05-00262-06-RO	LAKE	4	2
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

SCALE: 1" = 5' SHEET NO. OF SHEETS STA. TO STA.



POINT	STA	OFFSET	ELEV
A1	1999+44.01	23.22' RT	768.31
B1	1999+33.24	22.00' RT	768.20
C1	1999+44.93	26.38' RT	768.34
D1	1999+33.99	24.58' RT	768.15
E1	1999+35.33	29.18' RT	768.19
F1	1999+47.16	34.06' RT	768.58
G1	1999+37.57	36.86' RT	768.43
H1	1999+48.56	38.86' RT	768.65
I1	1999+38.97	41.66' RT	768.50
J1	1999+64.44	39.25' RT	768.80
K1	1999+22.71	22.00' RT	768.03
L1	1999+26.87	0.00' RT	768.51
M1	1999+37.28	0.00' RT	768.61

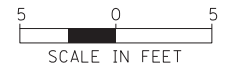
- NOTES:**
- 1.) THESE ADA DETAILS ARE FOR PRESENTATION PURPOSES. REFER TO THE CURRENT BDE MANUAL AND ADA/PROWAG GUIDELINES FOR DESIGN REQUIREMENTS.
 - 2.) FOLLOW LEGEND FOR LABELING EXISTING ELEVATIONS, SLOPES, AND LENGTHS.
 - 3.) ESTABLISH STATIONS/OFFSETS BASED ON 1 CENTERLINE FOR EACH CORNER.
 - 4.) SHOW EXISTING (PROPOSED) ABOVE GROUND UTILITIES AND SIGNS.
 - 5.) ELEVATIONS FOR POINTS P, O, R, AND S SHOULD MATCH WITH THEIR ASSOCIATED PROFILE.
 - 6.) IN ORDER TO ALLOW FOR CONSTRUCTION TOLERANCES THE CROSS SLOPES AND RAMP RUNNING SLOPES SHOULD BE DESIGNED TO THEIR MAXIMUM ALLOWABLE UNLESS NECESSARY. INSTEAD ALL CROSS SLOPES SHOULD BE DESIGNED AT 1.5% OR FLATTER WHEREAS RAMP RUNNING SLOPES SHOULD BE DESIGNED AT 1:14 (7.14%) OR FLATTER.
 - 7.) SUBMIT DETAILS ON 11"x17" SIZED PLAN SHEETS AND AT A SCALE OF 1"=10'. ONLY 1 OR 2 RADIi OF RETURN SHOULD BE PROVIDED PER SHEET.
 - 8.) IF PARALLEL SIDEWALK SLOPES DO NOT MATCH, LABEL BOTH SLOPES. FOR EXAMPLE, IN FIGURE 1, IF M-L DOES NOT MATCH N-O, BOTH SLOPES SHOULD BE LABELED.



POINT	STA	OFFSET	ELEV
A2	1999+23.76	46.71' LT	767.82
B2	1999+16.48	35.90' LT	767.79
C2	1999+22.66	50.49' LT	767.77
D2	1999+15.62	38.86' LT	767.73
E2	1999+20.43	58.17' LT	767.90
F2	1999+10.81	55.37' LT	767.75
G2	1999+19.03	62.97' LT	767.93
H2	1999+09.42	60.17' LT	767.78
I2	1999+27.03	82.92' LT	767.88
J2	1998+90.03	20.23' LT	767.74
K2	1999+26.87	0.00' RT	768.51
L2	1999+37.28	0.00' RT	768.61
M2	1999+22.10	52.41' LT	767.80
N2	1999+12.49	49.61' LT	767.74

LEGEND

X.660.42	EXISTING ELEVATION	[Pattern]	PROPOSED SIDEWALK
[Line]	PROPOSED SIDE CURB	[Pattern]	DETECTABLE WARNINGS
x.x%	EXISTING SLOPE	[Pattern]	SIDEWALK REMOVAL



BORDER = 5 SCALE
CELLS = 20 SCALE

FILE NAME =	USER NAME = psantos	DESIGNED - RPD	REVISED - MAY 5, 2017
N:\dot\100063\CADD_Sheets\PI38810-shr-ADA-N-03.dgn		DRAWN - RPD	REVISED - SEPTEMBER 8, 2017
	PLOT SCALE = 5'	CHECKED - MJH	REVISED -
	PLOT DATE = 12/13/2018	DATE - 12/13/2018	REVISED -

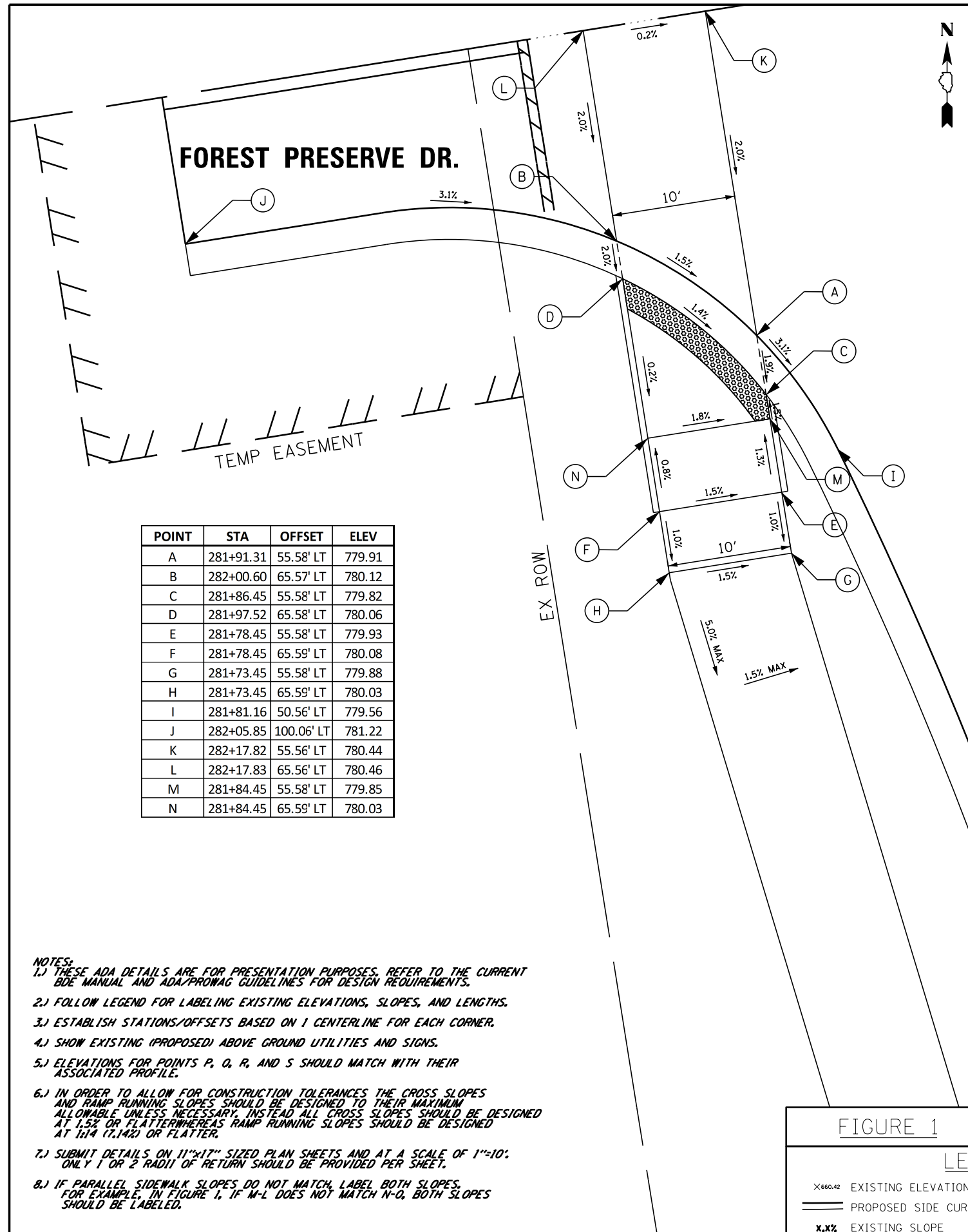
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**U.S. ROUTE 45 - ADA CURB RAMP DETAILS
MILLER ROAD SW & NW QUADRANTS**

SCALE: 1" = 5' SHEET NO. OF SHEETS STA. TO STA.

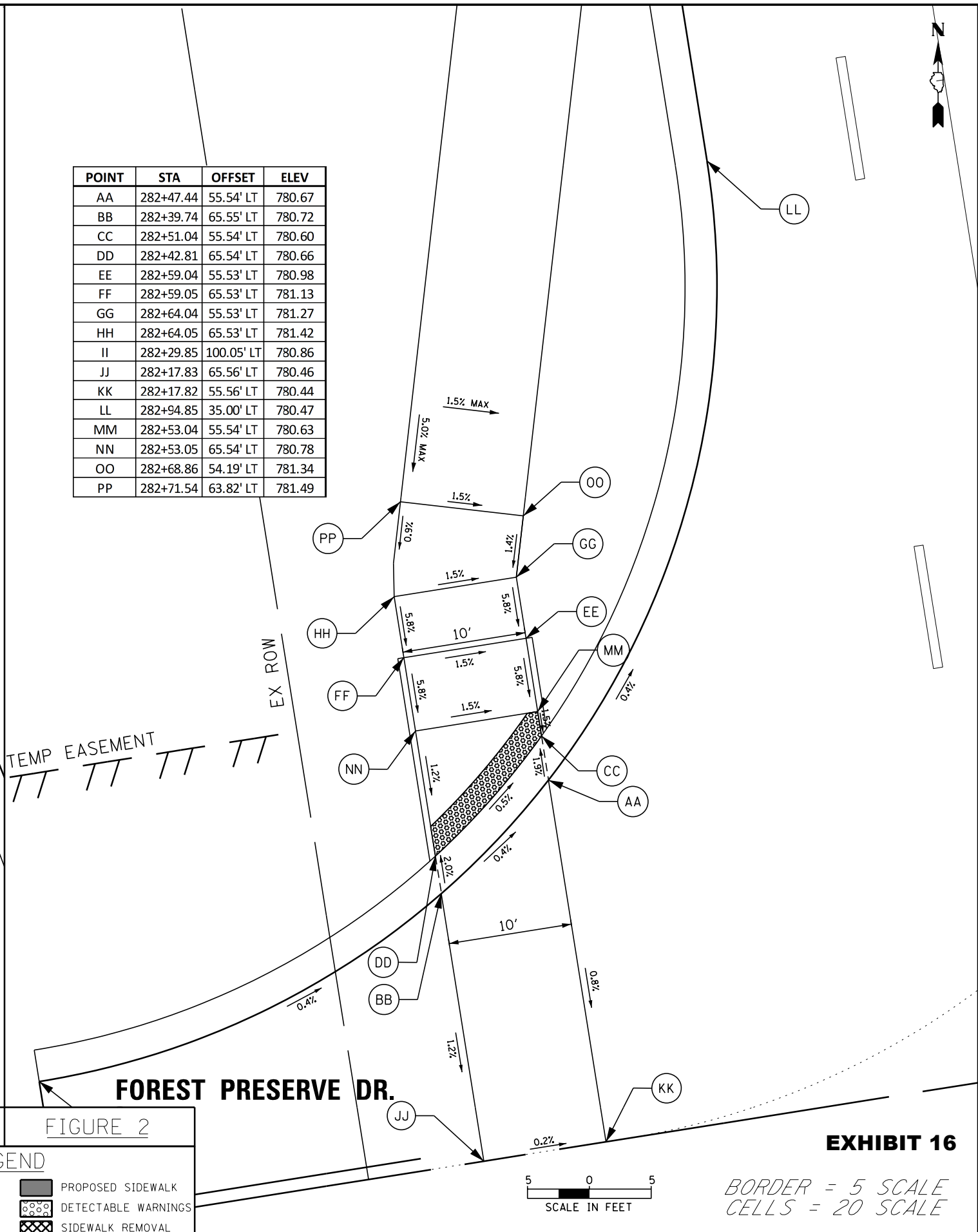
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
344	05-00262-06-RO	LAKE	4	3
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

EXHIBIT 16



POINT	STA	OFFSET	ELEV
A	281+91.31	55.58' LT	779.91
B	282+00.60	65.57' LT	780.12
C	281+86.45	55.58' LT	779.82
D	281+97.52	65.58' LT	780.06
E	281+78.45	55.58' LT	779.93
F	281+78.45	65.59' LT	780.08
G	281+73.45	55.58' LT	779.88
H	281+73.45	65.59' LT	780.03
I	281+81.16	50.56' LT	779.56
J	282+05.85	100.06' LT	781.22
K	282+17.82	55.56' LT	780.44
L	282+17.83	65.56' LT	780.46
M	281+84.45	55.58' LT	779.85
N	281+84.45	65.59' LT	780.03

POINT	STA	OFFSET	ELEV
AA	282+47.44	55.54' LT	780.67
BB	282+39.74	65.55' LT	780.72
CC	282+51.04	55.54' LT	780.60
DD	282+42.81	65.54' LT	780.66
EE	282+59.04	55.53' LT	780.98
FF	282+59.05	65.53' LT	781.13
GG	282+64.04	55.53' LT	781.27
HH	282+64.05	65.53' LT	781.42
II	282+29.85	100.05' LT	780.86
JJ	282+17.83	65.56' LT	780.46
KK	282+17.82	55.56' LT	780.44
LL	282+94.85	35.00' LT	780.47
MM	282+53.04	55.54' LT	780.63
NN	282+53.05	65.54' LT	780.78
OO	282+68.86	54.19' LT	781.34
PP	282+71.54	63.82' LT	781.49



- NOTES:**
- 1.) THESE ADA DETAILS ARE FOR PRESENTATION PURPOSES. REFER TO THE CURRENT BDE MANUAL AND ADA/PROWAG GUIDELINES FOR DESIGN REQUIREMENTS.
 - 2.) FOLLOW LEGEND FOR LABELING EXISTING ELEVATIONS, SLOPES, AND LENGTHS.
 - 3.) ESTABLISH STATIONS/OFFSETS BASED ON 1 CENTERLINE FOR EACH CORNER.
 - 4.) SHOW EXISTING (PROPOSED) ABOVE GROUND UTILITIES AND SIGNS.
 - 5.) ELEVATIONS FOR POINTS P, Q, R, AND S SHOULD MATCH WITH THEIR ASSOCIATED PROFILE.
 - 6.) IN ORDER TO ALLOW FOR CONSTRUCTION TOLERANCES THE CROSS SLOPES AND RAMP RUNNING SLOPES SHOULD BE DESIGNED TO THEIR MAXIMUM ALLOWABLE UNLESS NECESSARY. INSTEAD ALL CROSS SLOPES SHOULD BE DESIGNED AT 1.5% OR FLATTER WHEREAS RAMP RUNNING SLOPES SHOULD BE DESIGNED AT 1:14 (7.14%) OR FLATTER.
 - 7.) SUBMIT DETAILS ON 11"x17" SIZED PLAN SHEETS AND AT A SCALE OF 1"=10'. ONLY 1 OR 2 RADIi OF RETURN SHOULD BE PROVIDED PER SHEET.
 - 8.) IF PARALLEL SIDEWALK SLOPES DO NOT MATCH, LABEL BOTH SLOPES. FOR EXAMPLE, IN FIGURE 1, IF M-L DOES NOT MATCH N-Q, BOTH SLOPES SHOULD BE LABELED.

FIGURE 1 FIGURE 2

LEGEND

X.660.42	EXISTING ELEVATION	[Pattern]	PROPOSED SIDEWALK
[Line]	PROPOSED SIDE CURB	[Pattern]	DETECTABLE WARNINGS
x.x%	EXISTING SLOPE	[Pattern]	SIDEWALK REMOVAL

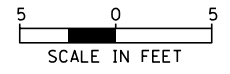


EXHIBIT 16

BORDER = 5 SCALE
CELLS = 20 SCALE

FILE NAME =	USER NAME = mhuffman	DESIGNED - RPD	REVISED - MAY 5, 2017
N:\Idot\100063\CADD_Sheets\PI38810-sht-A04-N-04.dgn		DRAWN - RPD	REVISED - SEPTEMBER 8, 2017
PLOT SCALE = 10'		CHECKED - MJH	REVISED - MARCH 1, 2019
PLOT DATE = 3/1/2019		DATE - 3/1/2019	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

U.S. ROUTE 45 - ADA CURB RAMP DETAILS
FOREST PRESERVE DRIVE SW & NW QUADRANTS

SCALE: 1" = 5' SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
344	05-00262-06-RO	LAKE	4	4
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

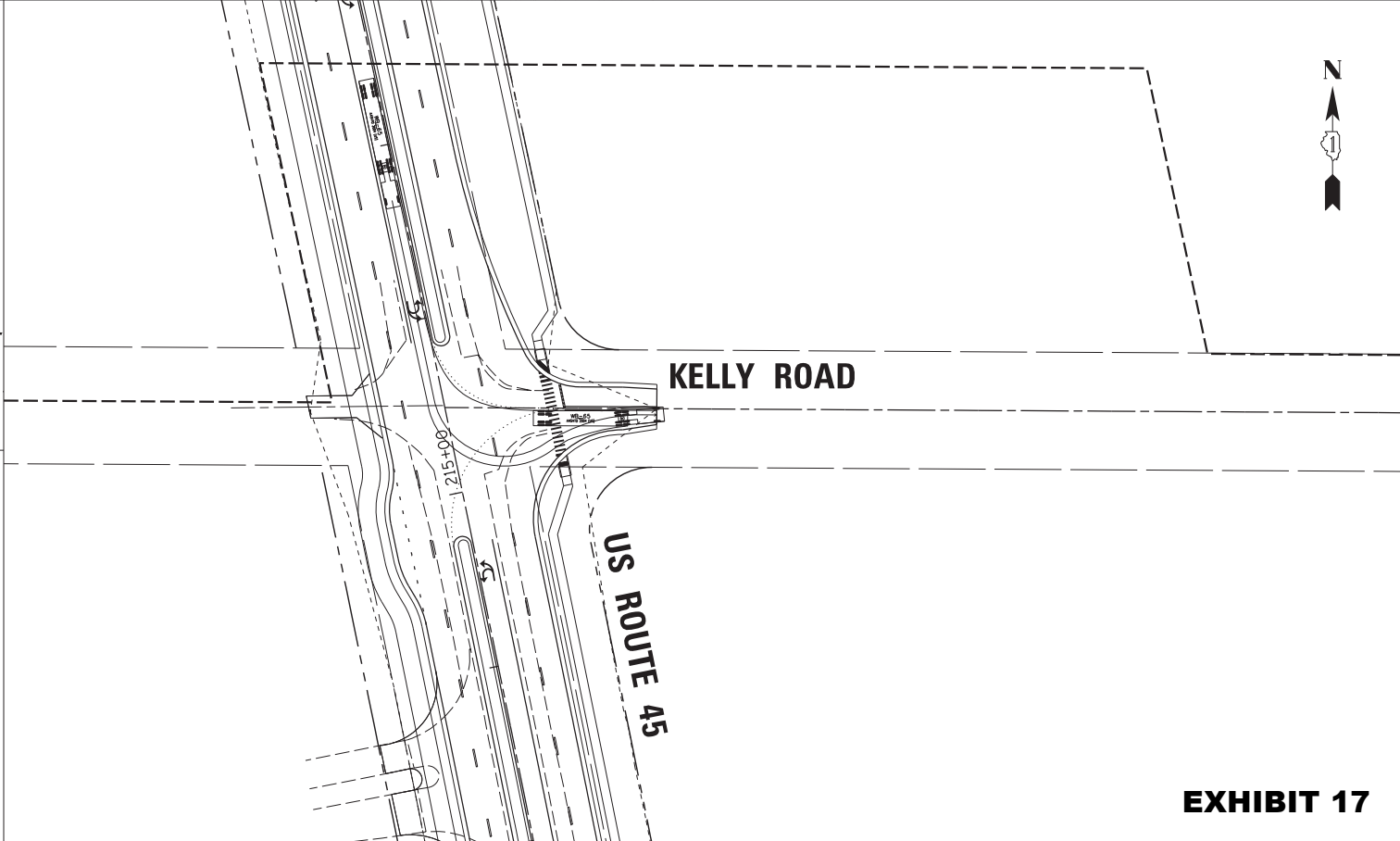
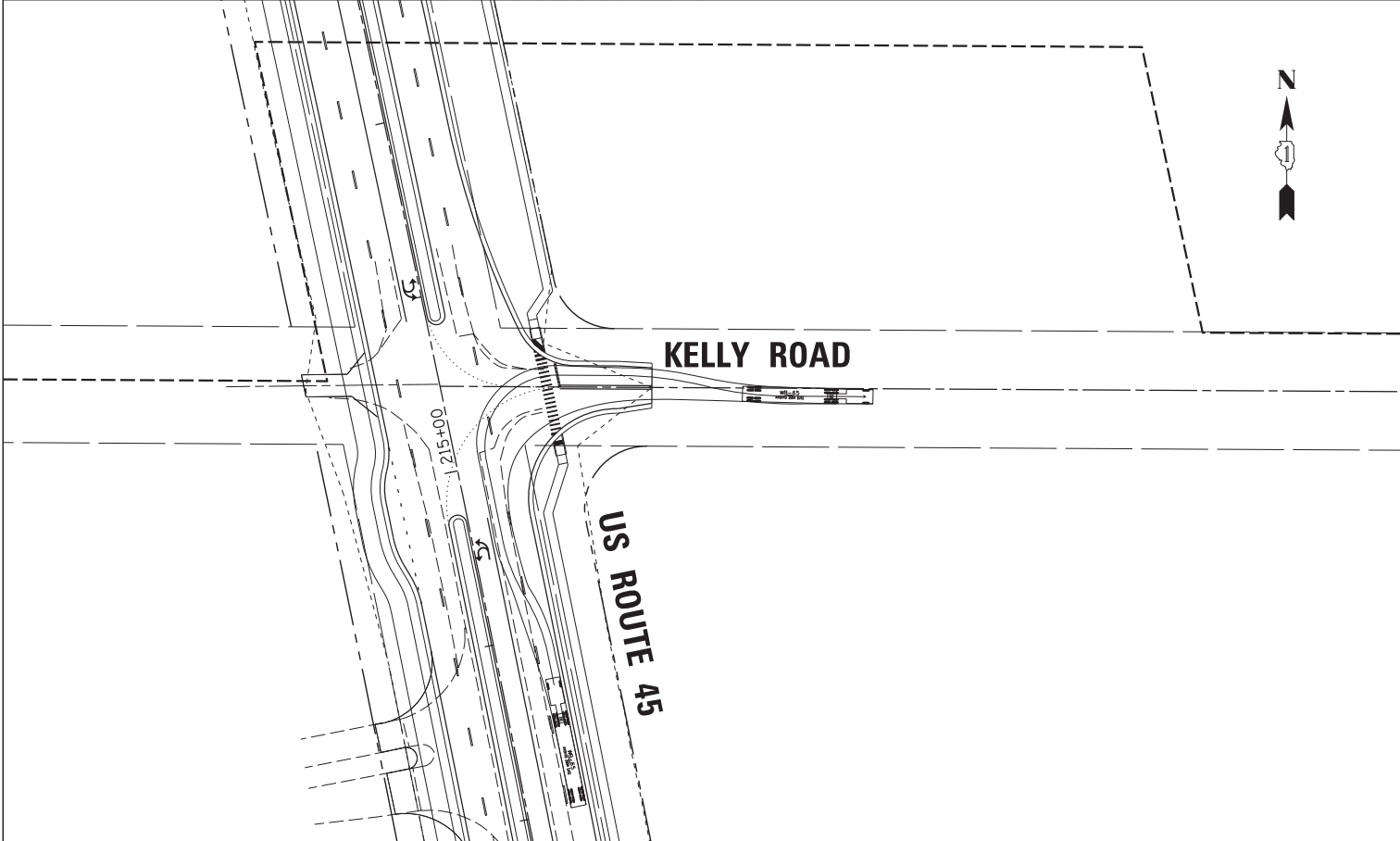
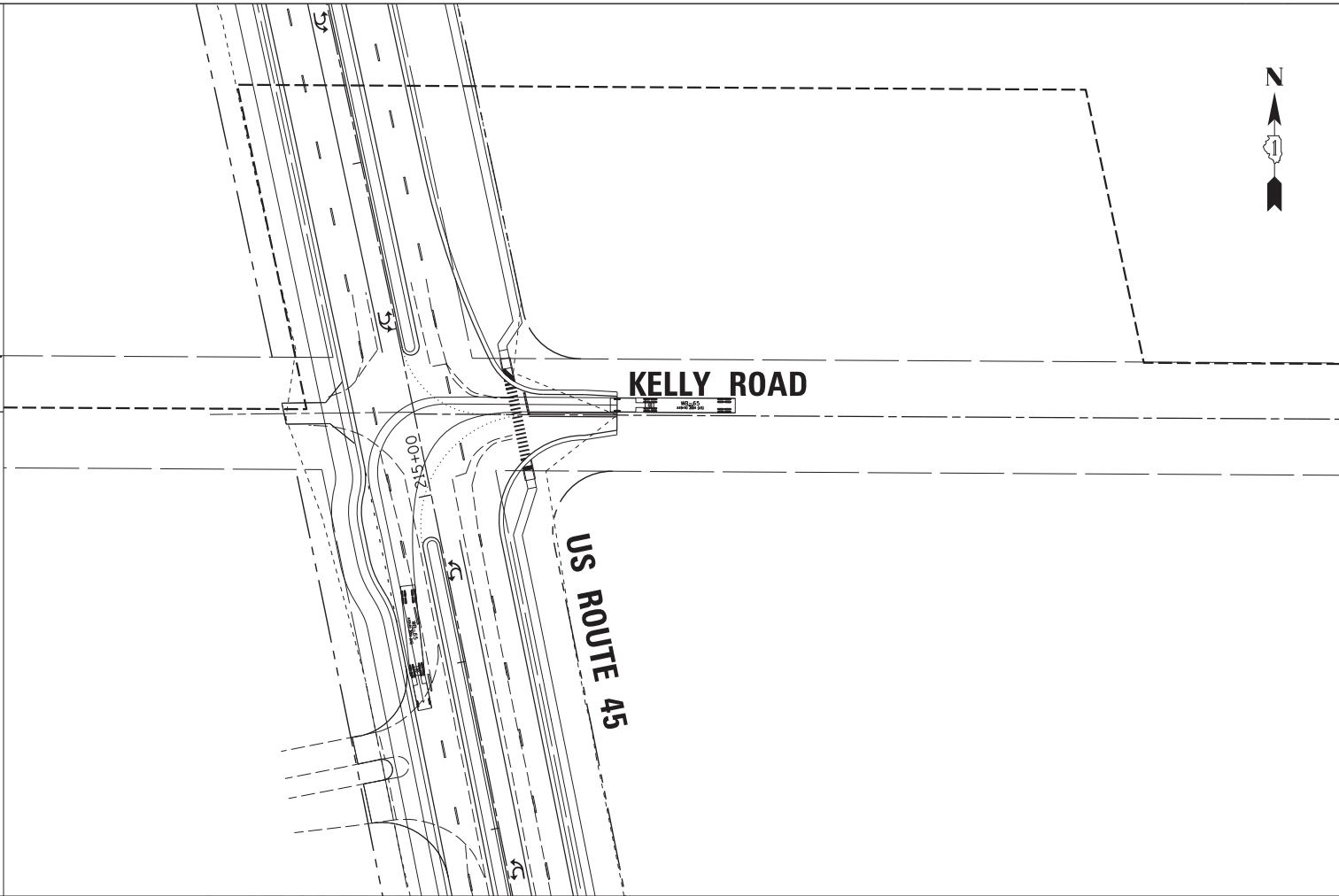
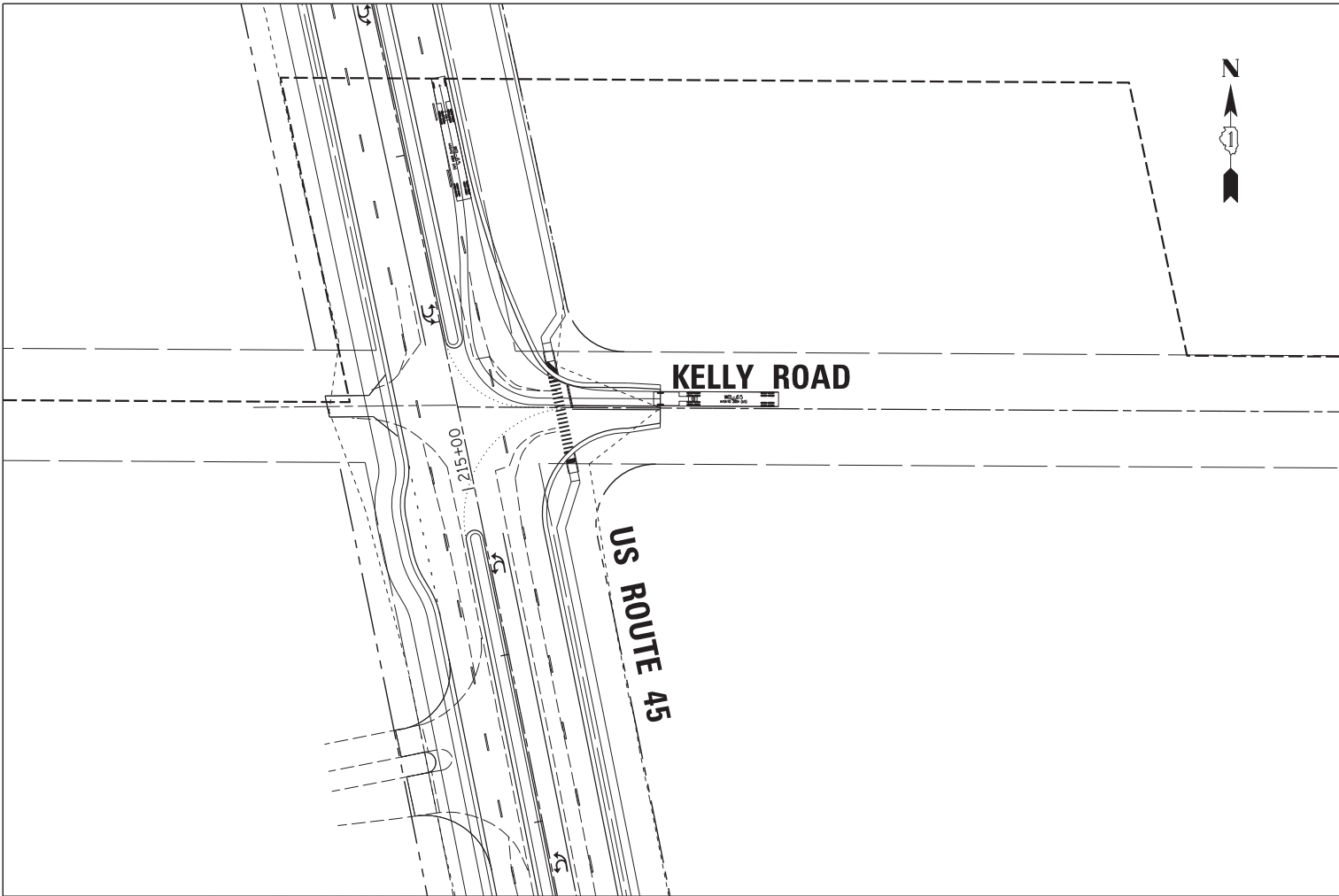


EXHIBIT 17

FILE NAME =	USER NAME = psontos	DESIGNED - MJH/MCW	REVISED -
N:\dot\100063\CADD_Sheets\P138810-sht-T-Kelly - WB65.dgn	DRAWN - MJH/MCW	REVISIONS -	REVISIONS -
PLOT SCALE = 50'	CHECKED - MJM	REVISIONS -	REVISIONS -
PLOT DATE = 12/13/2018	DATE -	REVISIONS -	REVISIONS -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**U.S. ROUTE 45 AT KELLY ROAD
WB-65 TURNING ANALYSIS**

SCALE:	SHEET NO.	OF	SHEETS	STA.	TO	STA.
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
344	05-00262-06-RO	LAKE	3	1
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

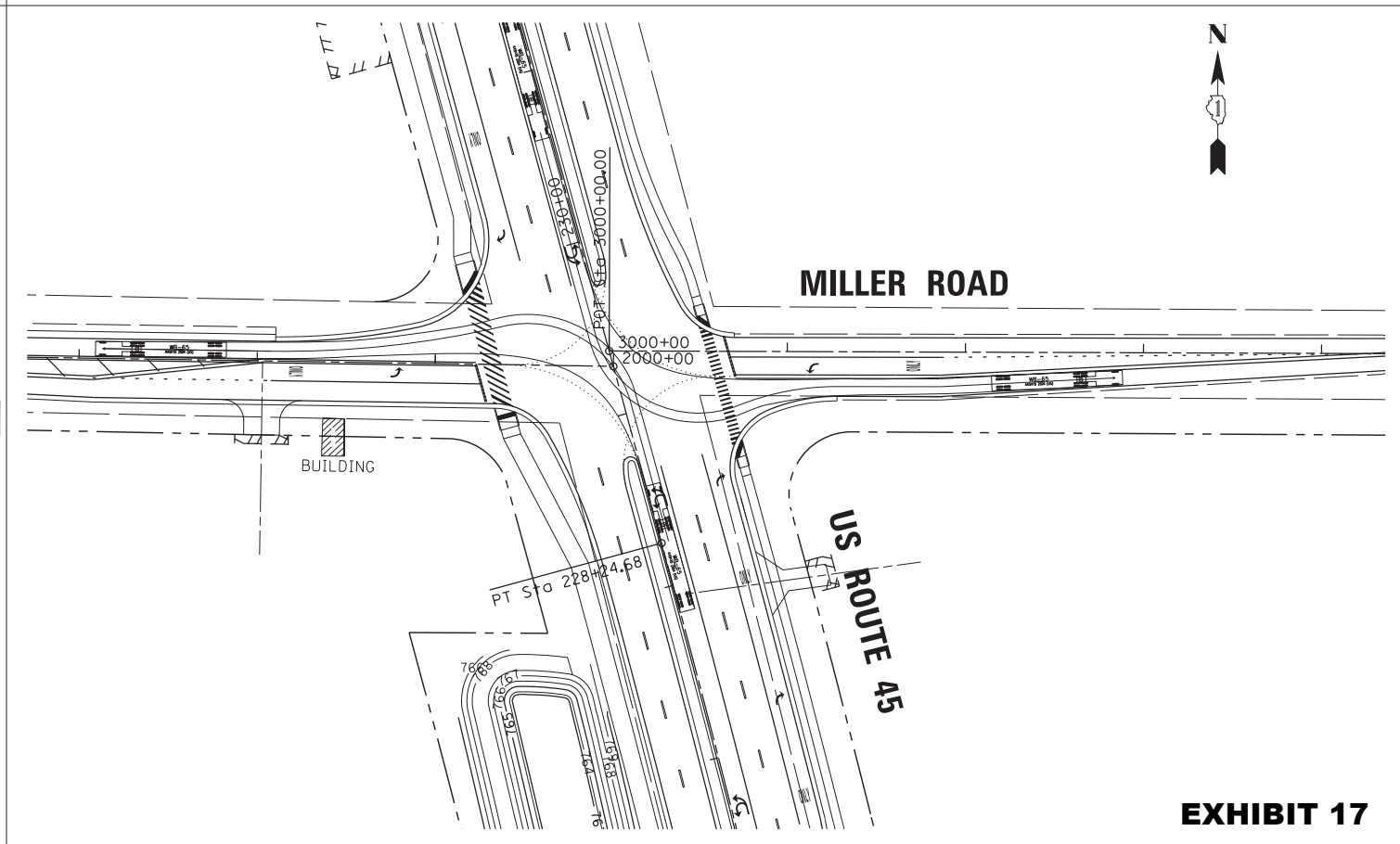
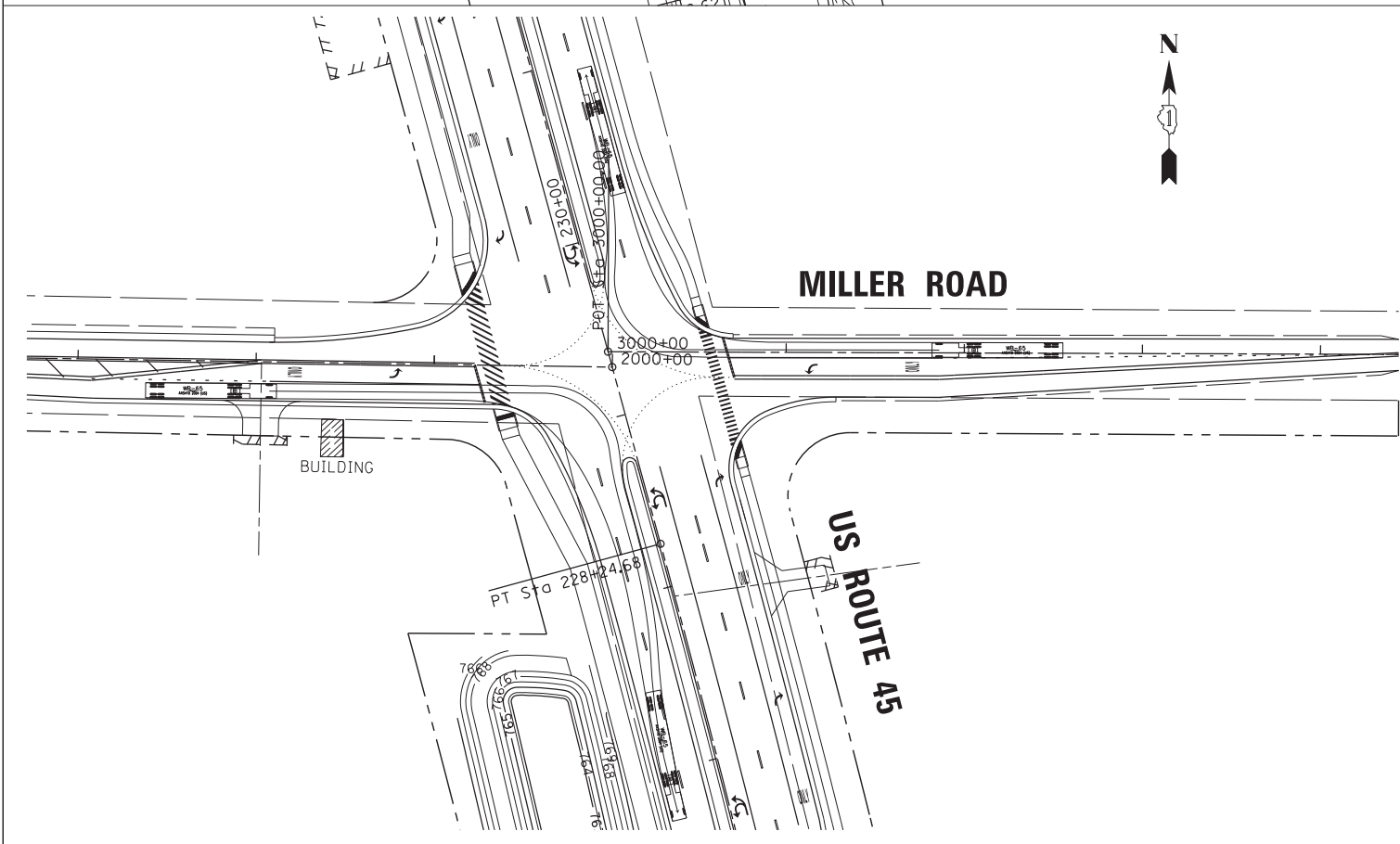
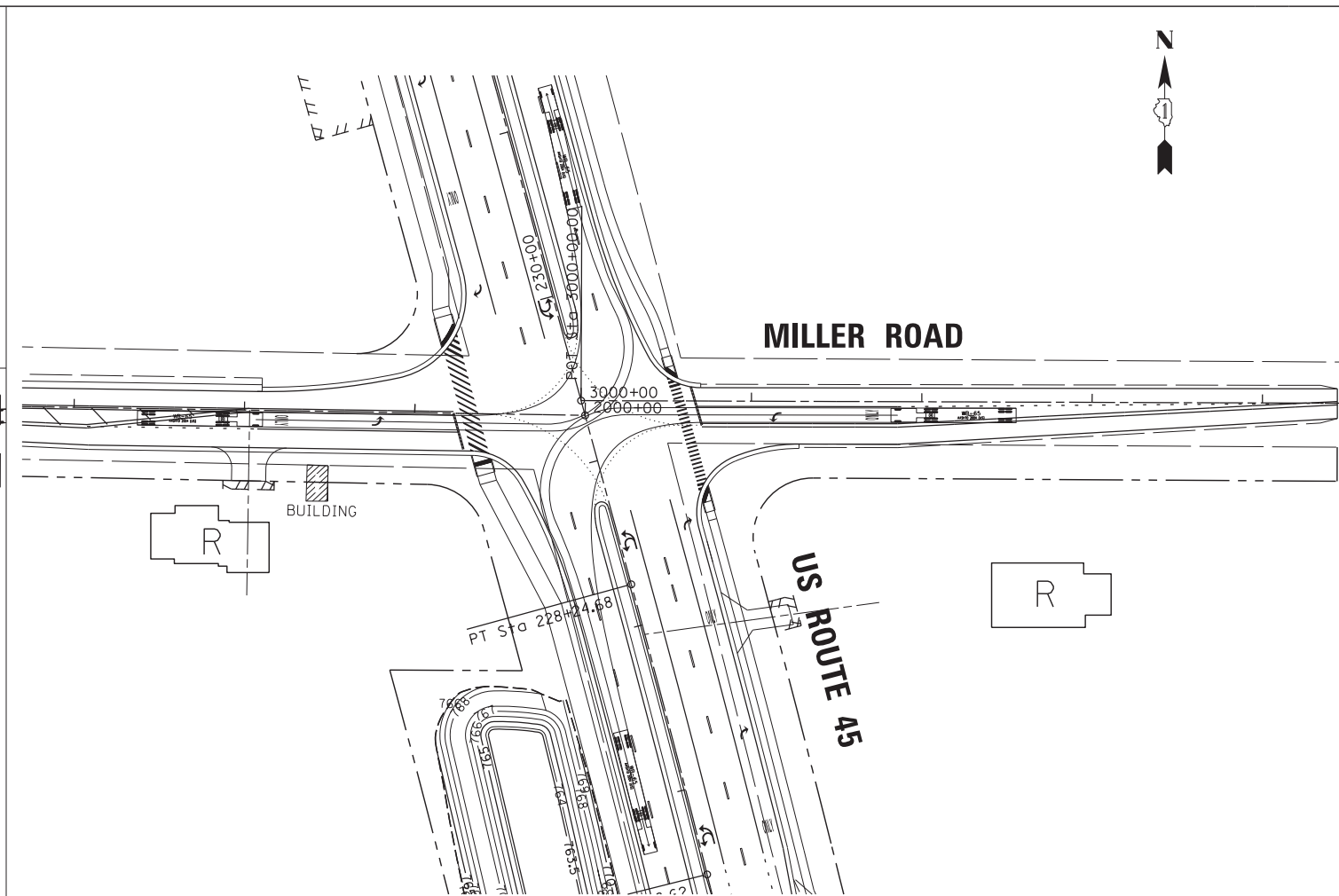
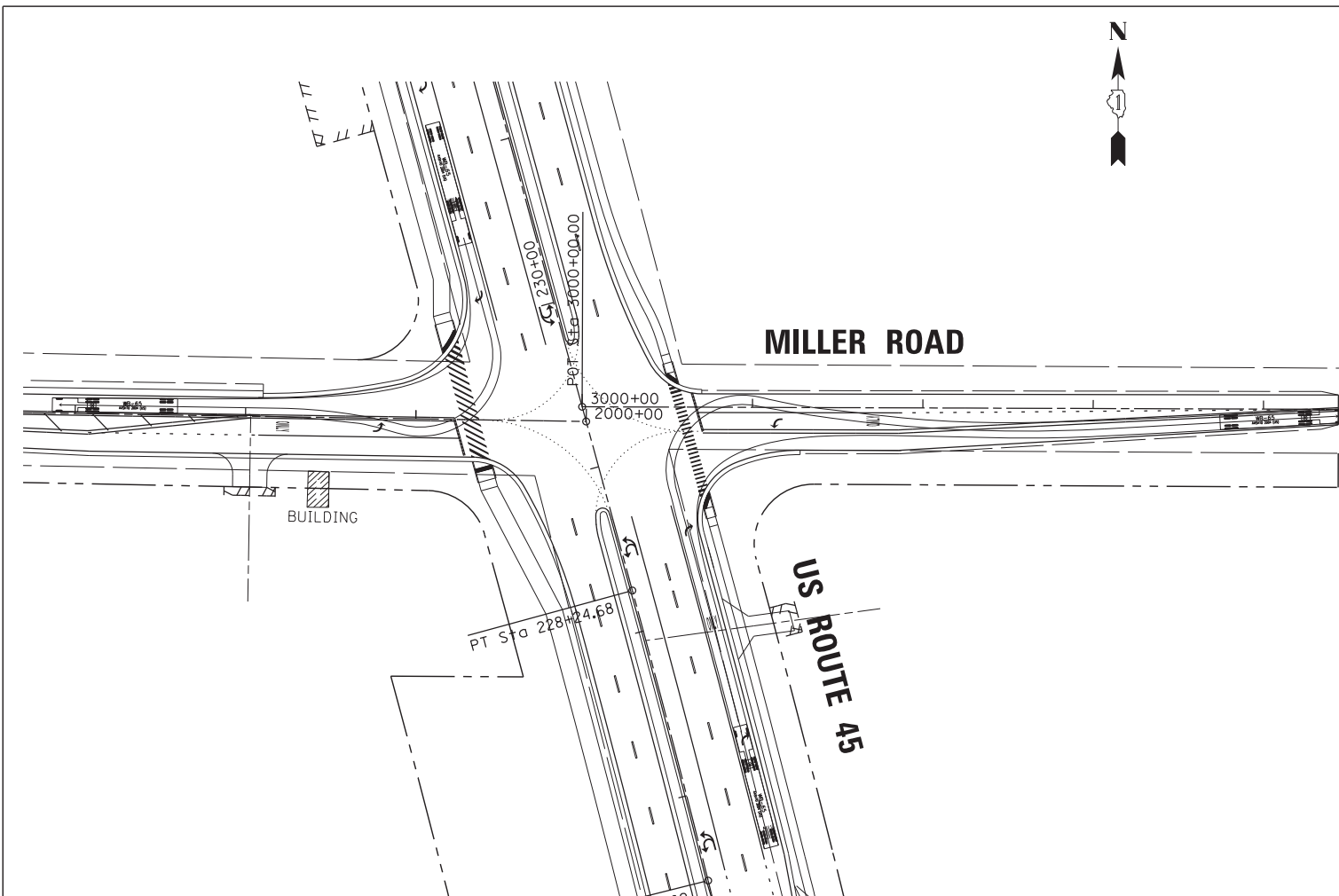


EXHIBIT 17

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N:\dot\100063\CADD_Sheets\138810-sht-1-Miller - WB65.dgn		DRAWN - MJH/MCW	REVISED -
	PLOT SCALE = 58'	CHECKED - MJM	REVISED -
	PLOT DATE = 12/13/2018	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**U.S. ROUTE 45 AT MILLER ROAD
WB-65 TURNING ANALYSIS**

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
344	05-00262-06-RO	LAKE	3	2
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

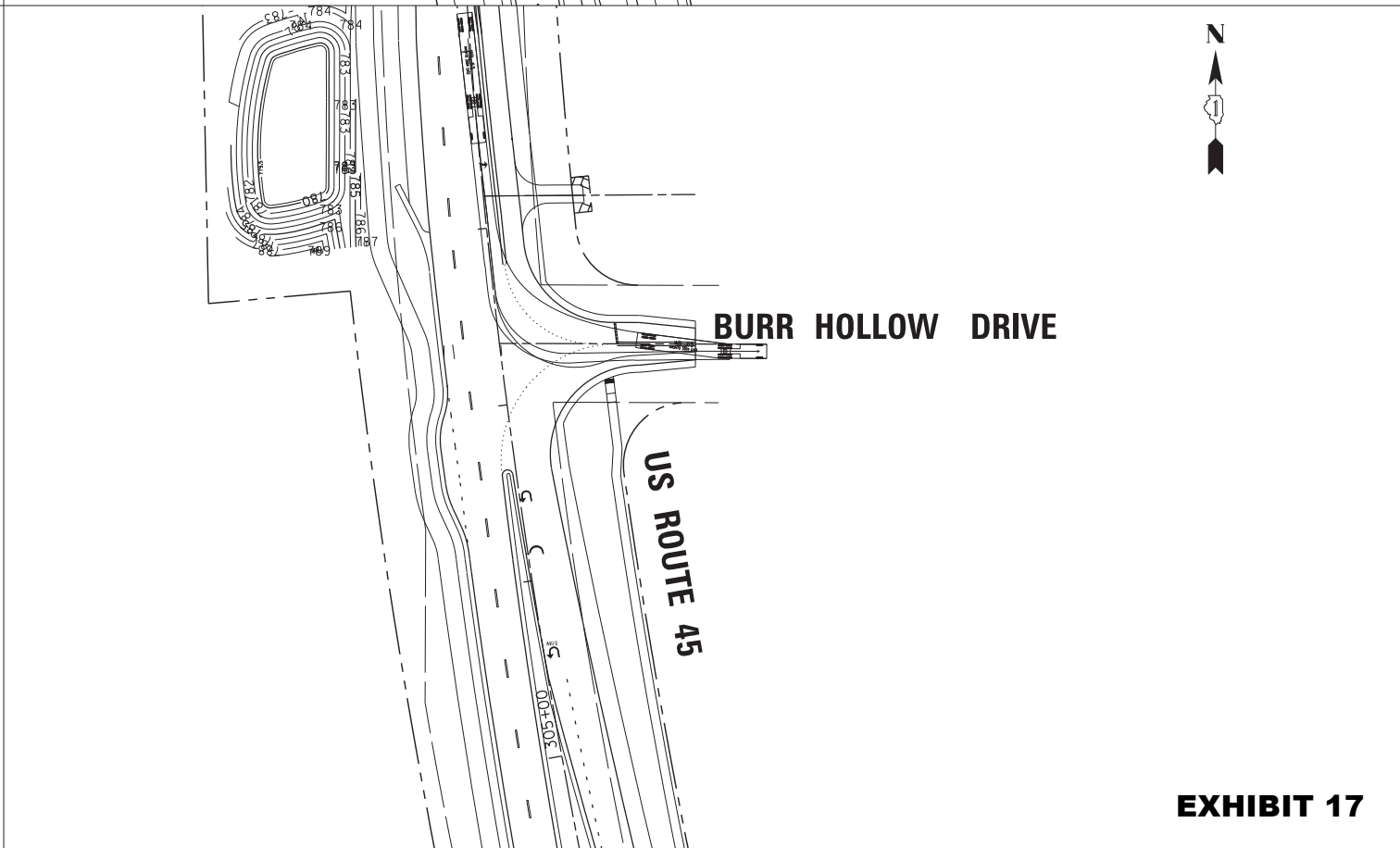
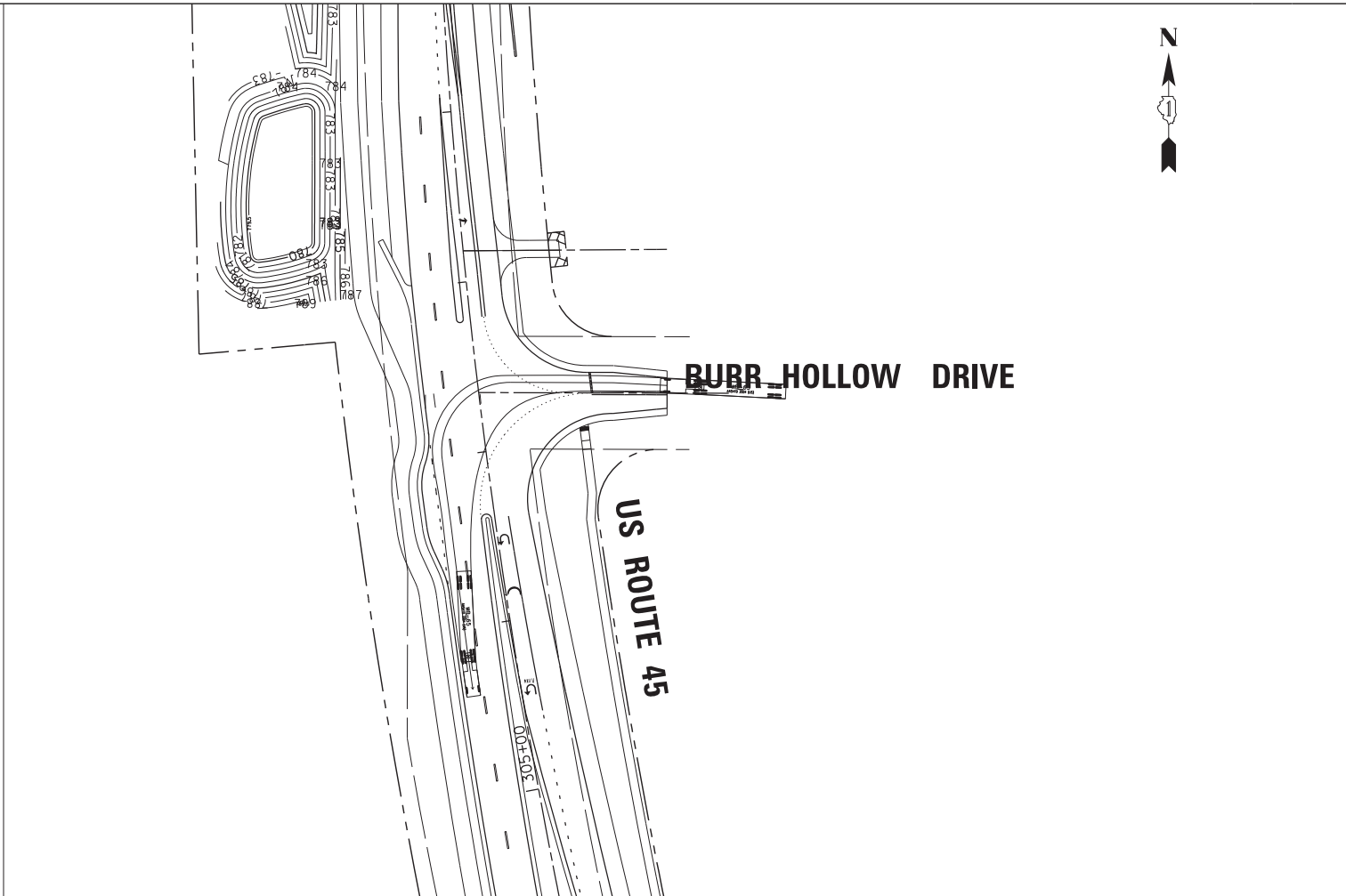
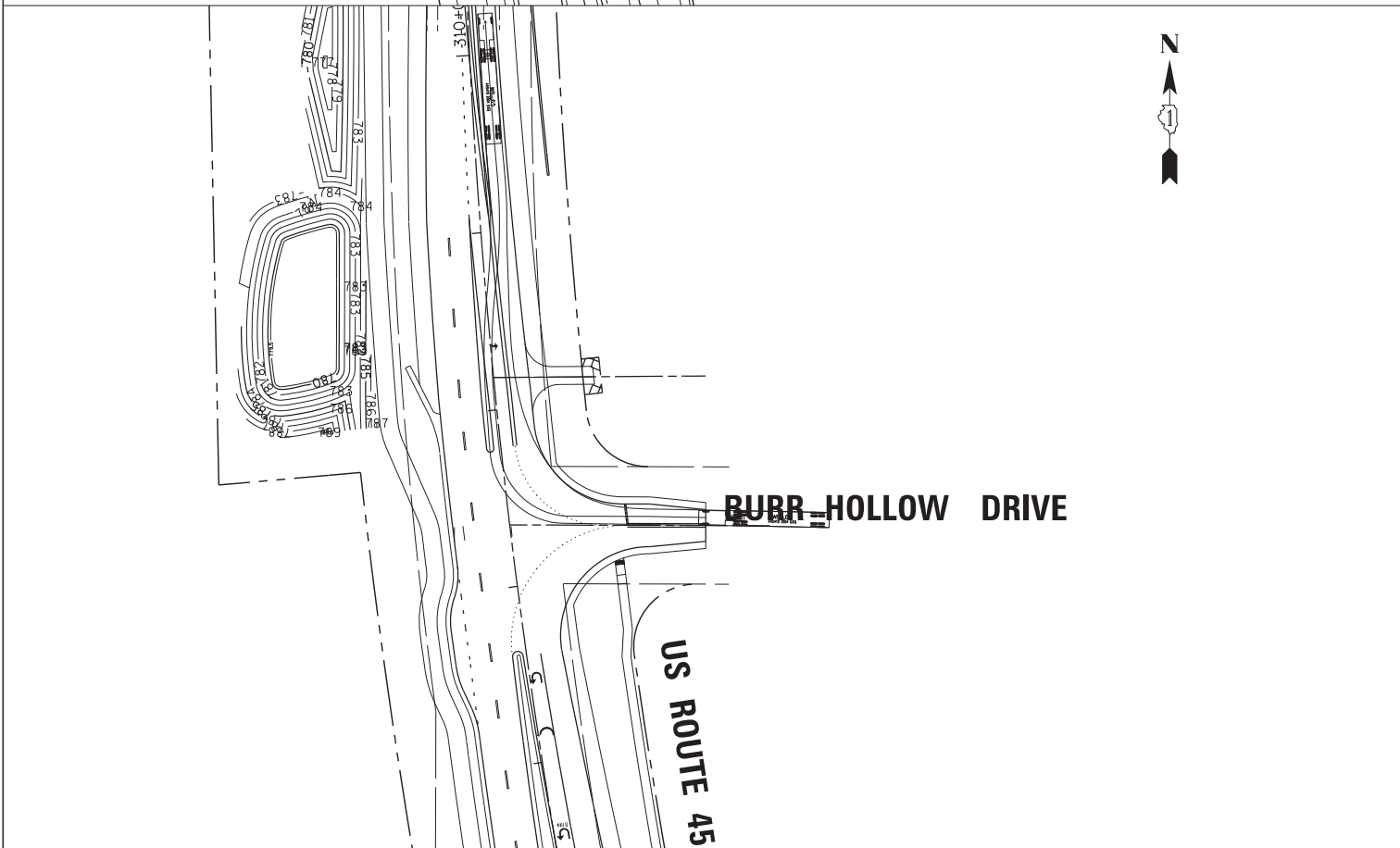
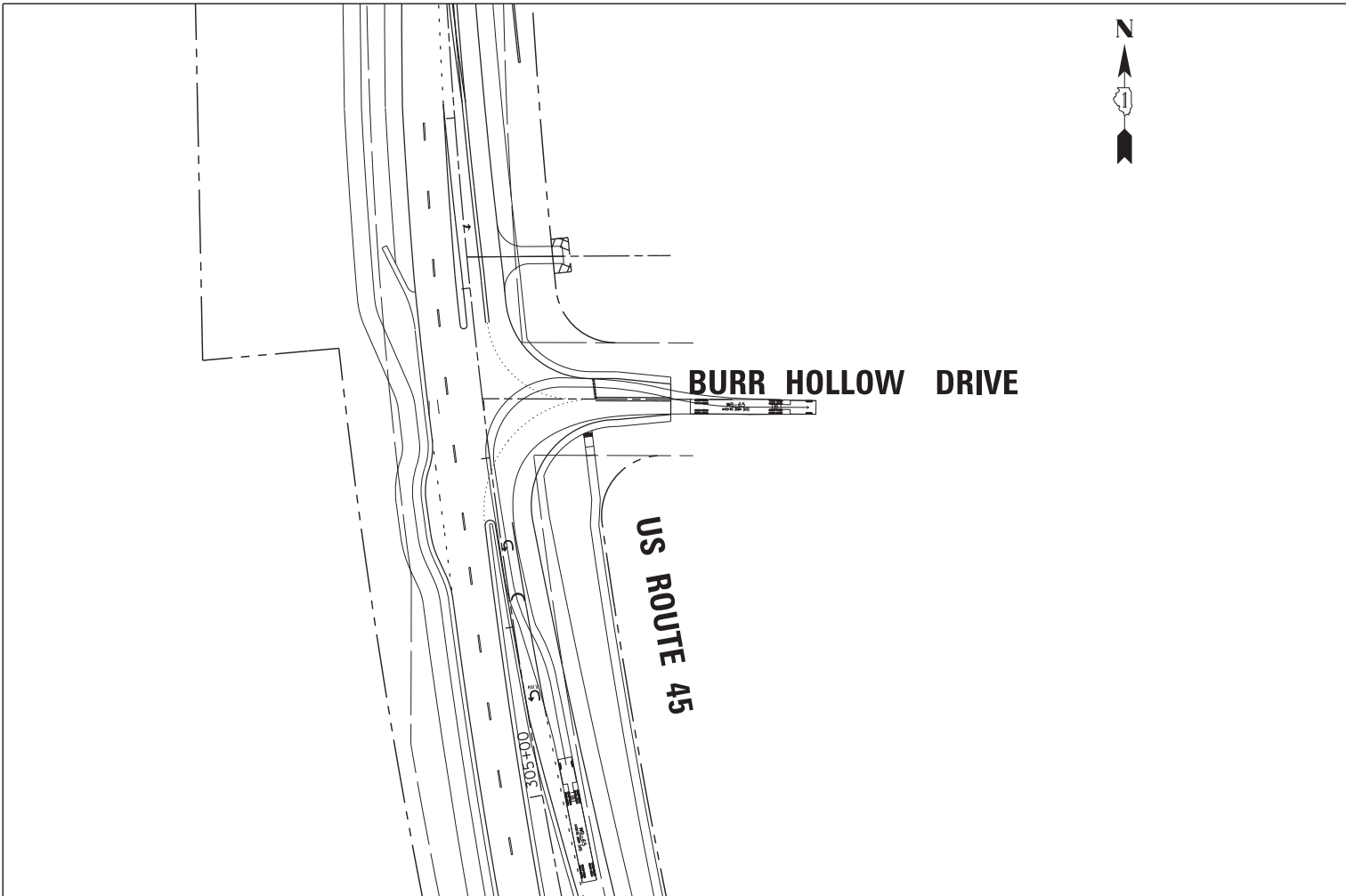


EXHIBIT 17

FILE NAME =	USER NAME = psontos	DESIGNED - MJH/MCW	REVISED -
N:\dot\100063\CADD_Sheets\P138810-sht-T-Burr Hollow - WB65.dgn		DRAWN - MJH/MCW	REVISED -
	PLOT SCALE = 58'	CHECKED - MJM	REVISED -
	PLOT DATE = 12/13/2018	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

U.S. ROUTE 45 AT BURR HOLLOW DRIVE WB-65 TURNING ANALYSIS			
SCALE:	SHEET NO.	OF SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
344	05-00262-06-RO	LAKE	3	3
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

Benchmark: Railroad spike in first power pole north of Miller Road on the east side of U.S. Rte. 45 at Sta. 230+40.62
Offset 60.25' Rt. NAVD '88 Elevation 767.76.

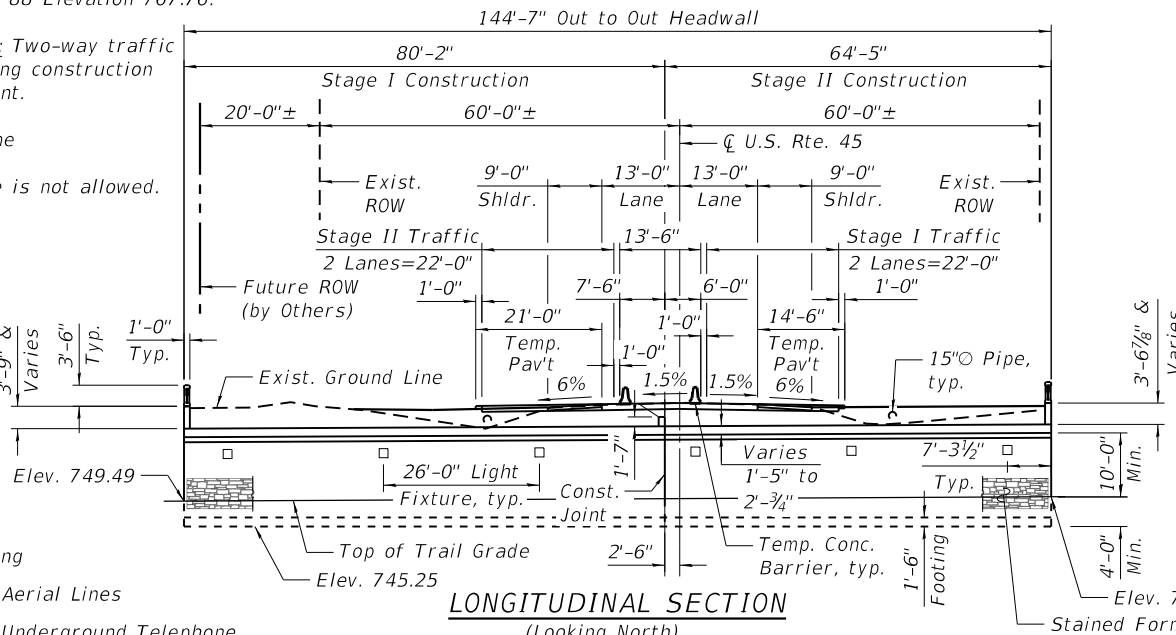
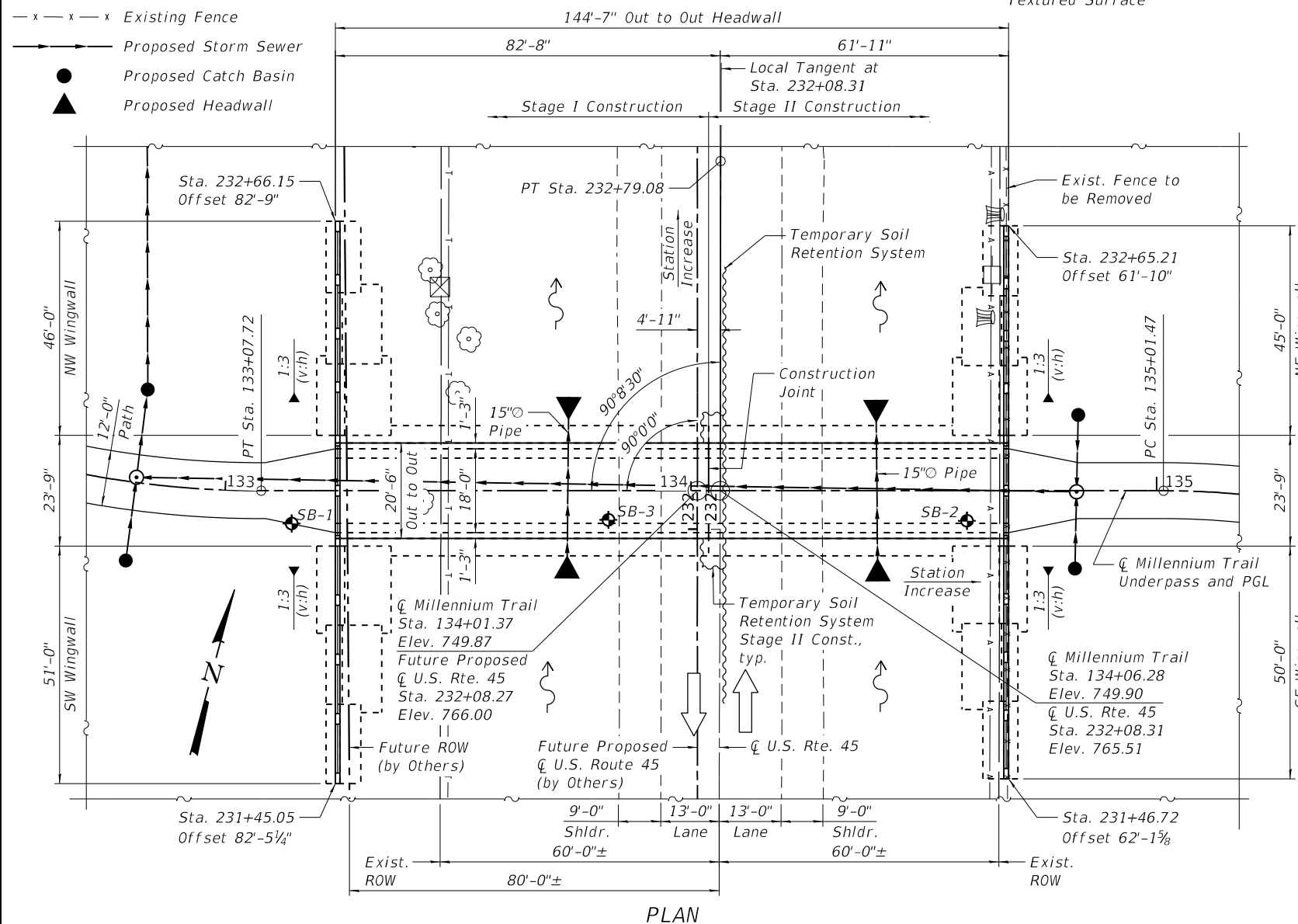
Maintenance of Traffic: Two-way traffic will be maintained during construction with temporary pavement.

Existing Structure: None

Note: Precast alternate is not allowed.

LEGEND

- Soil Boring
- Existing Aerial Lines
- Existing Underground Telephone
- Existing Fence
- Proposed Storm Sewer
- Proposed Catch Basin
- Proposed Headwall



HIGHWAY CLASSIFICATION

U.S. Rte. 45
Functional Class: Minor Arterial (Urban)
DHV: (1,655)
ADT: 11,750 (2015), (18,000 (2030))
ADTT: 10.0%
Design Speed: 60 m.p.h.
Posted Speed: 55 m.p.h.

DESIGN STRESSES

FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

LOADING HL-93

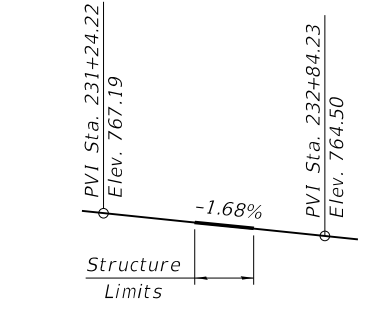
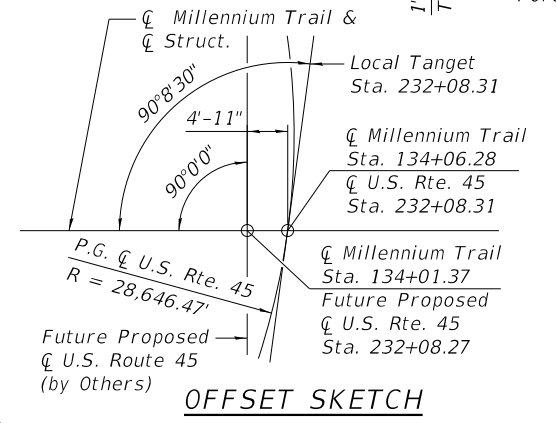
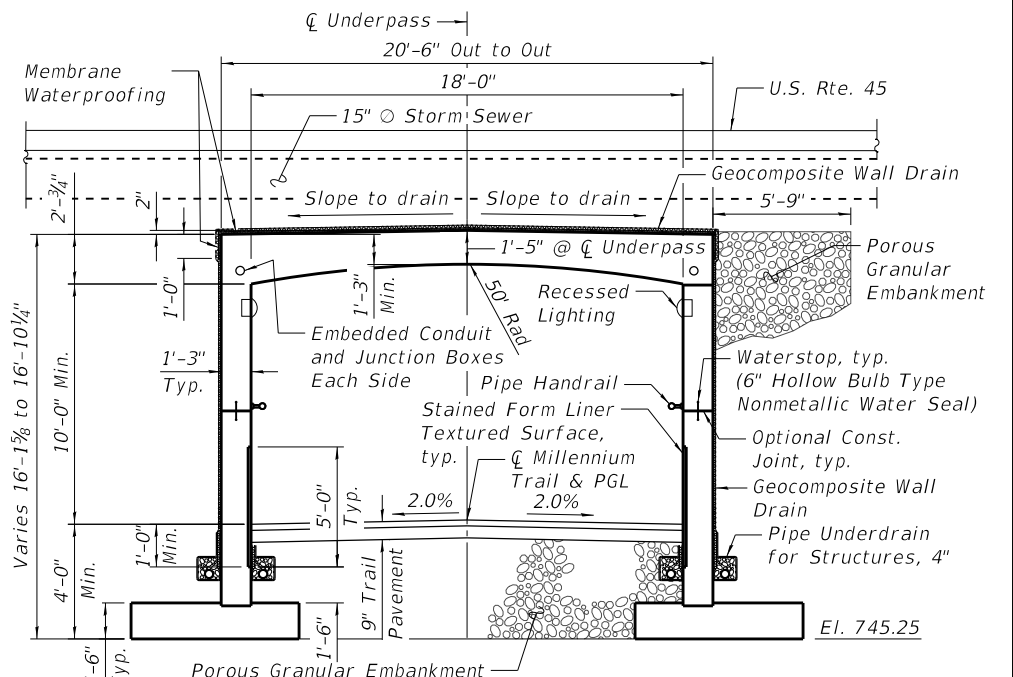
Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

SEISMIC DATA

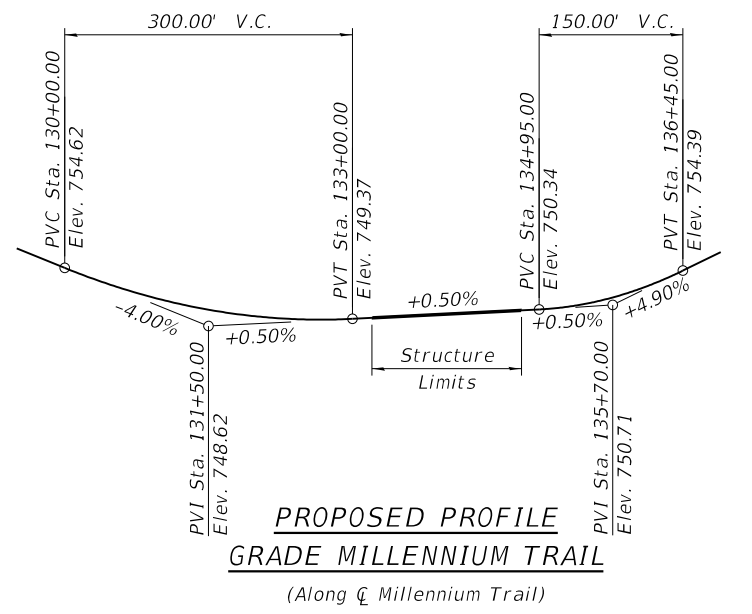
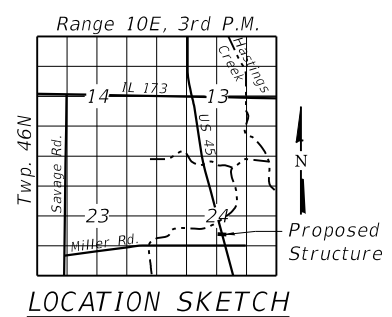
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.075
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.121
Soil Site Class = D



EXISTING PROFILE GRADE U.S. RTE, 45
(Along \bar{C} U.S. Rte. 45)

CURVE DATA U.S. RTE. 45

$\Delta = 6^\circ 49' 37''$
 $D = 0^\circ 12' 00''$
 $T = 1,708.69'$
 $L = 3,413.33'$
 $E = 50.91'$
 $R = 28,646.47'$
 $S.E. = \text{Normal Crown}$
 $P.C. = \text{Sta. } 198+65.75$
 $P.T. = \text{Sta. } 232+79.08$
 $P.I. = \text{Sta. } 215+74.44$



PROPOSED PROFILE GRADE MILLENNIUM TRAIL
(Along \bar{C} Millennium Trail)

EXHIBIT 18

**GENERAL PLAN & LONGITUDINAL SECTION
U.S. ROUTE 45 OVER MILLENNIUM TRAIL
SEC. 16-F3000-05-BT
LAKE COUNTY
STA. 232+08.31
STRUCTURE NUMBER 049-0505**

CIVILTECH
Two Pierce Place, Suite 1400
Itasca, Illinois 60143
Tel: 630.773.3900 Fax: 630.773.3975
www.civiltechinc.com

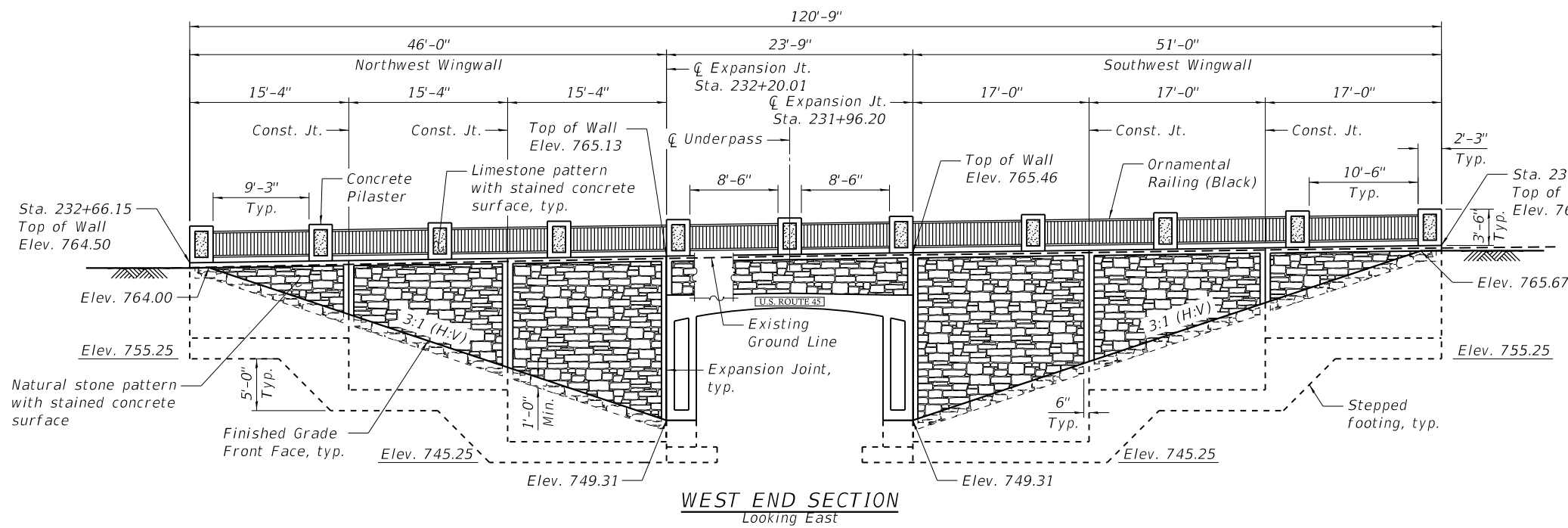
DRAWN	- J. LOAYZA-RAMOS	REVISED	-
DESIGNED	- J. LOAYZA-RAMOS	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- 06/20/19	REVISED	-

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

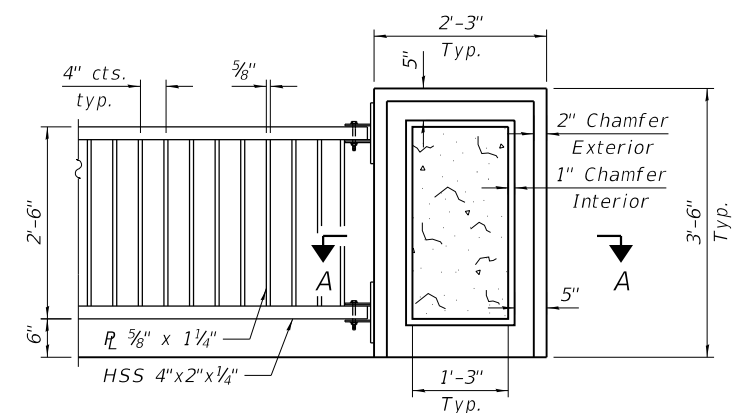
SHEET NO. 51 OF 52 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
045	16-F3000-05-BT	LAKE	002	001

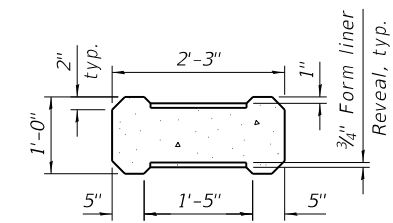
ILLINOIS FED. AID PROJECT



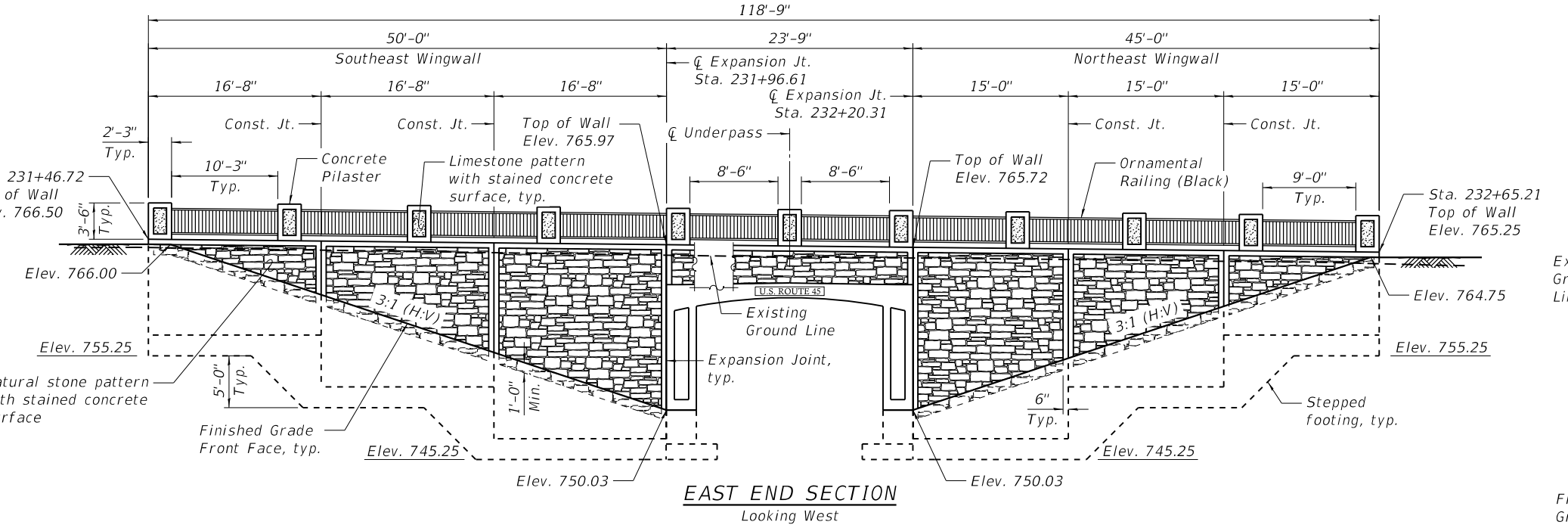
WEST END SECTION
Looking East



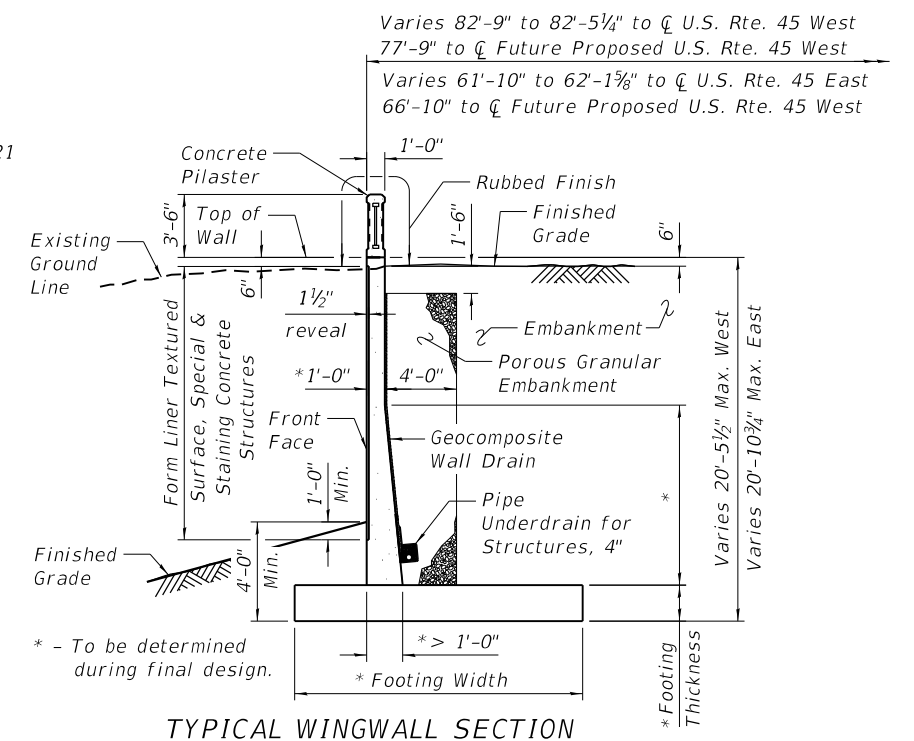
TYPICAL RAILING ELEVATION



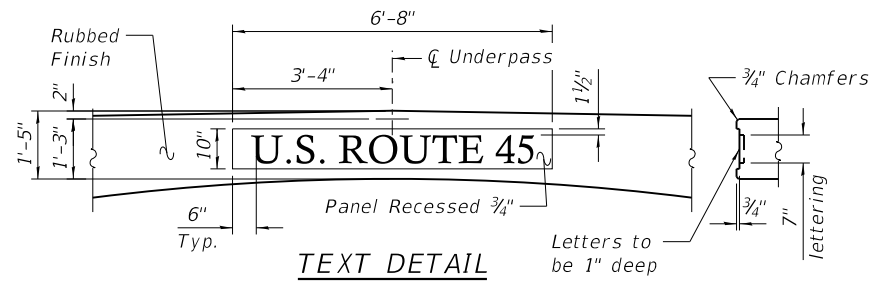
SECTION A-A



EAST END SECTION
Looking West



TYPICAL WINGWALL SECTION



TEXT DETAIL

Font Style to be Calisto MT
Letters are to be cast-in-place with a one piece form liner securely attached to the forms and according to Article 503.06(a). Individual letters are not permitted.

GENERAL PLAN & LONGITUDINAL SECTION
U.S. ROUTE 45 OVER MILLENNIUM TRAIL
SEC. 16-F3000-05-BT
LAKE COUNTY
STA. 232+08.31
STRUCTURE NUMBER 049-0505

EXHIBIT 18

CIVILTECH
Two Pierce Place, Suite 1400
Itasca, Illinois 60143
Tel: 630.773.3900 Fax: 630.773.3975
www.civiltechinc.com

DRAWN	- J. LOAYZA-RAMOS	REVISED	-
DESIGNED	- J. LOAYZA-RAMOS	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- 06/20/19	REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. S2 OF S2 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
045	16-F3000-05-BT	LAKE	002	002

ILLINOIS FED. AID PROJECT

APPENDIX B

AGENCY COORDINATION

FHWA

NEPA 404 MERGER PROCESS

IDOT

LCDOT

USACE

ENVIRONMENTAL SIGNOFFS

FEDERAL HIGHWAY ADMINISTRATION COORDINATION

FHWA MEETINGS

FHWA #1 - 10/7/2008

FHWA #2 - 1/14/2009

FHWA #3 - 2/10/2009

FHWA #4 - 4/8/2009

FHWA #5 - 5/13/2009

FHWA #6 - 7/8/2009

FHWA #7 - 1/8/2010

FHWA #8 - 5/12/2010

FHWA #9 - 3/16/2011

FHWA #10 - 5/11/2011

FHWA #11 - 6/8/2011

FHWA #12 - 5/9/2012

FHWA #13 - 10/24/2012

FHWA #14 - 12/5/2012

FHWA #15 - 2/6/2013

FHWA #16 - 5/15/2013

FHWA #17 - 7/10/2013

FHWA #18 - 8/14/2013

AGENDA ITEM #5

US Route 45 Bypass
At Millburn Historic District
Section 05-00262-02-RP
P # (TBD)
Lake County

October 7, 2008

This was the 1st presentation of this project. The purpose of this presentation was to provide an initial introduction to the project and request input from IDOT and FHWA on the required overall project development approach.

Introductions of the project team were made. The Lake County Division of Transportation (LCDOT) is the lead agency for this project and was represented by Ms. Paula Trigg, PE – Director of Planning and Programming with LCDOT. The project will be processed through IDOT’s Bureau of Programming vs the Bureau of Local Roads given the extensive involvement with US Route 45. The LCDOT selected Christopher B. Burke Engineering, Ltd (CBBEL) to prepare Phase I Engineering and Environmental studies for this project. CBBEL has teamed with Patrick Engineering as a core member of the consultant team for this project.

CBBEL gave an overview of the project which was originally studied as part of IDOT’s US Route 45 Strategic Regional Arterial (SRA) study in the mid 1990’s. As part of the SRA study, a US Route 45 bypass in north-central Lake County, near the intersections of Grass Lake Road and Millburn Road was evaluated based on impacts that would result from widening existing US Route 45, which traverses the Millburn Historic District in this area. The main objective remains to alleviate the north-south and east-west traffic burden through the Millburn Historic District to the extent possible/practical and avoid or minimize impacts to the Historic District resulting from improvements to US Route 45.

The Millburn Historic District is included on the National Register of Historic Places. As part of the SRA study, east and west bypass alternatives were evaluated and a west bypass alternative emerged as the preferred based on coordination with many entities, including IDOT, LCDOT, LCFPD, Village of Lindenhurst, Village of Old Mill Creek, Historic Millburn Community Association, and others. LCDOT indicated that all of these entities still strongly support the west bypass alternative. The main reason the west bypass emerged as the preferred alternative in the SRA studies was that it completely avoids bisecting the boundaries of the Millburn Historic District and that an east bypass alternative would continue to draw traffic from the west through the heart of the historic district. IDOT ultimately recorded an alignment and right-of-way protection map for the west bypass alternative, and purchased one parcel of property in the middle of the corridor due to pending development. The west bypass alternative completely avoids the Millburn Historic District, but does cut through the east portion of McDonald Woods, a LCFPD holding.

Traffic volumes have continued to grow since the mid 1990's with the existing ADT on US Route 45 being approximately 16,300 south of Grass Lake/Millburn Road, and the ADT's to the north, west and east being in the 7,000 to 9,000 range. It is anticipated that the 2030 traffic projections will require consideration of additional travel lanes along US Route 45 through this area. Widening existing US Route 45 would have direct impacts on individual buildings listed on the National Register of Historic Places within the Millburn Historic District.

This project received a \$2 million earmark as part of SAFETEA-LU, which has prompted the LCDOT to take the lead on moving this project forward. Based on the desire to utilize these earmark funds and ensure the project remains eligible for additional federal funding for implementation, the project will be advanced through the federal project development procedures.

FHWA indicated that although there was considerable effort with respect to developing and achieving consensus on the west bypass alternative through the SRA study, in order for the project to be eligible for federal funding, it must advance through the NEPA process. This effectively requires starting Phase I Engineering and Environmental studies from a "clean slate", meaning development of purpose and need, evaluating a full range of reasonable alternatives, and associated public involvement activities. It was agreed that the west bypass alignment certainly remains a viable alternative for full consideration.

FHWA also indicated that given the likely impacts to ADID wetlands and the need for an individual ACOE/404 permit, this project will need to be coordinated with the environmental resource agencies through the NEPA/404 merger process.

FHWA inquired about the anticipated logical termini for this project. CBBEL indicated that a complete Traffic Impact Study (TIS) is proposed to be prepared for this project that will evaluate the existing and projected traffic volumes and patterns and that logical termini will be determined on that basis. It is anticipated that the 2030 traffic projections to the north will not require additional traffic lanes or intersection improvements, which will allow a logical termini point to transition new roadway to existing roadway. The effect of 2030 traffic projections to the south is less certain due to the much higher existing traffic volumes to the south.

CBBEL reviewed the anticipated overall project development approach with respect to alternatives development and evaluation, and the public involvement program.

With respect to alternatives development and evaluation, the project team anticipates developing a project GIS database, based on the existing comprehensive Lake County GIS database and supplemented by field environmental surveys for wetlands for initial "macro level" project studies. The overall project GIS database will cover an approximate six square mile study area, with supplement field data obtained for a core study area extending approximately one mile in each direction from the US Route 45 at Grass Lake Road/Millburn Road intersection. Initial alternatives development and evaluation would occur on a "macro level" based on the project GIS database that would ultimately conclude with a preferred

alternative being identified. Detailed engineering and environmental studies, and reports would be prepared after identification of the Preferred Alternative. BDE and FHWA agreed with this approach.

With respect to the public involvement program, a Context Sensitive Solution (CSS) project development approach will be utilized based on the sensitivity of the project with respect to known socio-economic and environmental features, the extensive stakeholder coordination with prior study efforts, and to ensure all stakeholders involved in the previous studies as well as any other new project stakeholders are actively engaged in the project development process to ensure project consensus is achieved. An early project task will be development of a Stakeholders Involvement Plan (SIP) consistent with IDOT CSS policy. CBBEL suggested that based on the other CSS projects being advanced within IDOT and the time constraints associated with separate Project Study Group (PSG) meetings occurring for all of these projects, that the PSG group for this project be identified, but that the PSG meetings be facilitated through the monthly FHWA coordination meetings. BDE and FHWA concurred with this approach.

On the above basis, project negotiations will proceed with LCDOT and the consultants. The consultants authorization to proceed is anticipated this Fall.

Mike Matkovic - CBBEL
Jason Salley – IDOT

AGENDA ITEM #5

US Route 45 Bypass
At Millburn Historic District
Section 05-00262-02-RP
P # (TBD)
Lake County

January 14, 2009

This was the 2nd presentation of this project, which also served as meeting #1 of the Project Study Group (PSG). The purpose of this presentation was to provide an overall project status update, discuss logical termini for the project, present the Stakeholder Involvement Plan, and discuss the planned initial Public Meeting.

The Lake County Division of Transportation (LCDOT) is the lead agency for this project and authorized Christopher B. Burke Engineering, Ltd (CBBEL) to proceed with Phase I Engineering on December 3, 2008. CBBEL has teamed with Patrick Engineering (Patrick) for this project, with Patrick's responsibilities including the lead on public involvement activities.

CBBEL provided an overall status update for the project. Since authorization, various project kickoff meetings have occurred, initial project data collection has been ongoing, including collecting Crash Data from Lake County and IDOT sources, and development of the project GIS database has been initiated. Traffic counts and an Origin/Destination study for the US Route 45 at Grass Lake Road and Millburn Road intersections is planned for the next few weeks.

CBBEL reviewed the history of the project, which includes an evaluation of bypass alternatives as part of the previous IDOT Strategic Regional Arterial (SRA) planning study to avoid impacts to the Millburn Historic District, a National Register location, with the planned future capacity improvements to US Route 45. The SRA study was completed in 1995. Consensus was achieved at that time with all involved agencies on a west bypass alignment, which was recorded by IDOT, and IDOT has purchased one parcel of property on the recorded alignment. Given the elapsed time, and since the SRA study was a planning study without a NEPA component, the current study is taking a fresh look at the project, including purpose and need, and a full range of alternatives. LCDOT is using a Context Sensitive Solutions (CSS) project development approach based on the IDOT CSS procedures. CBBEL shared an initial project purpose statement. After discussion, it was agreed that the initial project purpose statement should be as follows, and that the project purpose statement will be adjusted after initial project stakeholder coordination as appropriate.

“Project Purpose: To provide highway capacity and safety improvements to US Route 45 at the Grass Lake Road and Millburn Road intersections, for existing and project future travel demand.”

There was discussion on the issue of 2030 vs 2040 traffic projections with the CMAP 2040 plan anticipated to be released in the Fall of 2010. Given uncertainties with actual release date of the 2040 plan and availability of 2040 traffic projections, it was agreed to proceed with 2030 traffic projections and revisit the issue toward mid 2010.

CBBEL gave an overview of the GIS database development. A project GIS database is being developed for preliminary alternatives analysis. The GIS database will be developed from data available through the Lake County GIS database, from data obtained directly from environmental resource agencies (IDNR, IEPA, HAARGIS, etc.), and from selected field reconnaissance work such as the planned wetland delineations for the core study area. The project GIS database will be compiled for an area generally bounded by IL 173 on the north, IL 132 on the south, I-94 on the east, and Deep Lake Road on the west. Wetland delineations will be performed for a smaller core study area that is approximately one-half mile east and west of US Route 45, and one mile north and south of Grass Lake Road and Millburn Road. The need for performing these delineations now is based on the identification of ADID wetlands from 1995 surveys that now overlap subsequent residential developments. The accurate location of wetlands, and particularly high quality wetlands, will play an important role in evaluating various alternatives. There was discussion on whether IDOT will have INHS perform the wetland delineations vs CBBEL as planned by LCDOT. CBBEL provided a White Paper to IDOT outlining the approach and methodology that is planned for the wetland delineations for IDOT's review. IDOT will discuss this internally with BDE staff and let CBBEL know if they can proceed with the delineations. It was also discussed that upon selection of a preferred alternative, CBBEL will submit an ESR for completion of environmental field work (T&E, PESA, etc.) by IDOT. CBBEL will also be submitting an initial ESR to IDOT for retrieval of readily available data for the study area. Otherwise, IDOT and FHWA concur with the GIS database approach for initial alternatives development and evaluation. This will also be discussed at the February 3rd NEPA/404 Merger meeting as part of an introductory project presentation, for resource agency concurrence.

The issue of logical project termini was discussed. At issue is the uniqueness of this project, which is essentially an intersection(s) improvement per the preliminary project purpose statement, and whether developing bypass alignments that tie back into US Route 45 north and south as soon as practical would be acceptable logical termini for this Phase I study, or whether each alternative had to be carried to certain designated locations or cross routes. CBBEL indicated that the logical termini guidance didn't seem to address projects like this with a somewhat localized bypass of a historic district, and requested IDOT and FHWA guidance in this regard. The previous SRA planning study evaluated future improvement needs for US Route 45 throughout Lake County. The recommended future configuration for US Route 45 per the SRA planning study includes two lanes in each direction separated by a median. Currently, US Route 45 is one lane in each direction north of IL Route 137, which is approximately seven miles south of Grass Lake Road/Millburn Road. The east and west bypass alignments considered as part of the SRA study tied back into US Route 45 as soon as practical north and south of Grass Lake Road/Millburn Road. CBBEL indicated that the current study is likely to propose two lanes in each direction along US Route 45 to

accommodate projected future travel demand, given the growth trends in travel demand and likely substantial projected increases. The nearest existing signalized intersections along US Route 45 are Sand Lake Road, 1.2 miles to the south, and IL Route 173, 2.8 miles to the north. On this basis, CBBEL reviewed the logical termini issue for the current project in the context of BDE 22-6.04. While it appears that criteria two (independent utility) and criteria three (does not restrict or force consideration of other improvements) would be met with a localized bypass based on consistency with previous planning studies, criteria one (connect logical termini of sufficient length for broad environmental review) is less clear. After discussion, it was agreed that IDOT and FHWA will consider this issue for further discussion at a February 2009 FHWA/PSG meeting.

Patrick reviewed the Stakeholders Involvement Plan (SIP) that has been prepared for this project. The SIP provides for a wide range of stakeholder participation opportunities, including a Community Advisory Group (CAG) that will be formed for the project. Relative to agency coordination, an Environmental Assessment is being prepared for this project and the project will be coordinated through the NEPA/404 Merger process. In addition, agencies with review/approval authority will be requested to be cooperating agencies. It was agreed that CBBEL will provide a list of those agencies to FHWA (via IDOT) and FHWA will send out the cooperating agency invite letters. Otherwise, CBBEL requested that IDOT and FHWA review the SIP and provide any comments by January 28th. CBBEL will provide the SIP to all reviewers in Word format for review. The SIP also includes the overall project schedule. FHWA indicated that a Timeframe Agreement will be prepared for this project.

Patrick distributed a white paper concerning the format/approach for the initial Public Meeting that is scheduled for Tuesday March 3rd. This will be an introductory Public Meeting to explain the project development procedures and the reason for taking a fresh look at this project in light of the previous SRA study, offer the opportunity for early public comment, and solicit CAG membership requests. The Public Meeting will be an Open House format with specific stations established for information exchange, with a project brochure developed to guide participants through the stations to ensure comprehensive coverage. There was concurrence with the Public Meeting approach and the target date of March 3rd.

Mike Matkovic - CBBEL

Marie Glenn – IDOT/CH2M Hill

AGENDA ITEM #1

US Route 45 – Millburn Bypass
At Grass Lake Road and Millburn Road
Section 05-00262-02-RP
Lake County

February 10, 2009

This was the 3rd presentation of this project, which also served as meeting #2 of the Project Study Group (PSG) in accordance with the Stakeholder Involvement Plan (SIP) prepared for this project. The purpose of this presentation was to provide an overall project update, including a summary of the NEPA/404 Merger meeting on February 3rd, seek PSG concurrence to release the SIP for public review, provide a Public Information Meeting preview, discuss logical termini for the project, provide an update to the GIS database development, and continue discussions on the project Logical Termini.

CBBEL provided an overall status update for the project, which included a summary of the NEPA/404 Merger meeting presentation on February 3, 2009 in Peoria. An introductory project presentation was made and no concurrence points were sought. However, it was confirmed that the resource agencies concurred with the project development approach using a GIS database for initial development and evaluation of alternatives, with subsequent detailed environmental surveys being acquired for detailed evaluation of the preferred/selected alternative.

CBBEL reviewed the revised SIP which was revised based on comments received from IDOT and FHWA and resubmitted. After discussion, a few more minor editorial corrections were requested, based on which IDOT and FHWA concurred with releasing the SIP for public information/comment including sharing at the upcoming Public Informational Meeting (PIM).

Patrick Engineering gave an overview of the open house PIM that is planned for March 3, 2009 from 4 pm to 8 pm at the Millburn West School in the Village of Lindenhurst. Various materials were distributed for discussion. The PIM will be arranged with the following six (6) stations set up in topical order.

PIM Stations:

1. Study Overview
2. Project Development Process (NEPA)
3. CSS/Community Advisory Group
4. Environment/Community Context
5. Transportation Assessment
6. Alternatives

Each PIM station will be staffed by LCDOT or consultant (CBBEL and Patrick) personnel. A Project Brochure will guide PIM attendees through the stations to learn about the project. The primary objectives of this PIM are to explain the overall project development process and

why this project is starting from a “clean slate” when IDOT has previously recorded a west bypass alignment, to solicit early stakeholder feedback on project purpose and need, identify community context issues/concerns, and solicit potential members for the Community Advisory Group (CAG) that is being established for this project in accordance with the SIP. Patrick reviewed the Project Questionnaire and CAG Membership Request form that will be used to solicit this feedback. IDOT requested minor changes to the CAG form and these changes will be made prior to the PIM. In addition, general comment sheets and a comment box will be available for attendees to submit general project comments to LCDOT.

CBBEL provided an update on the status of the GIS database development. After discussion, it was agreed that the project ESR will be submitted to request complete environmental surveys (not just macro level) for the identified core study area since IDOT felt the area was not overly large and it would be more efficient to just complete the environmental surveys while out there. CBBEL will submit the ESR accordingly. CBBEL will continue to develop the GIS database for the larger study area, which will be useful for eventual assessment of potential secondary and cumulative impacts. IDOT requested a minor shift in the west boundary of the core study area to cover potential improvements along Grass Lake Road to the west.

In follow-up to the January FHWA meeting, CBBEL inquired if there was any further direction from IDOT or FHWA on the logical project termini issue. CBBEL reviewed the fact that this project is essentially an intersection improvement. The likely impacts to the Millburn Historic District with capacity improvements at this location are driving the evaluation of a US Route 45 Bypass, consistent with the prior IDOT SRA studies. In addition, the prior IDOT SRA planning studies established a long range plan for a minimum two (2) lanes in each direction along US Route 45 through all of Lake County. The current study will consider additional capacity (add-lanes) based on the projected 2030 travel demand. US Route 45 is currently one (1) lane in each direction north of IL Route 137, although construction is planned for IL Route 137 to IL Route 120, and IDOT has completed Phase I Engineering up to IL Route 132, which is approximately 2.5 miles south of the project site. On this basis, CBBEL suggested that a localized US Route 45 bypass, that ties back into US Route 45 north and south of Grass Lake Road/Millburn Road as soon as is practical, would meet the following three (3) points for logical termini test per the BDE manual:

1. *Connect logical termini and be of sufficient length to address environmental matters on a broad scope;*
2. *Have independent utility or independent significance, i.e., be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made; and*
3. *Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.*

After discussion, FHWA requested an exhibit of US Route 45 in Lake County showing traffic volumes, number of lanes, and status of current/prior studies for added capacity, for further consideration of the logical termini question. CBBEL will prepare this map and forward to IDOT for distribution.

Per FHWA request, CBBEL will prepare a Timeframe Agreement for this project per established IDOT/FHWA guidelines.

Mike Matkovic - CBBEL

Marie Glynn – IDOT/CH2M Hill

AGENDA ITEM #1

US Route 45 – Millburn Bypass
At Grass Lake Road and Millburn Road
Section 05-00262-02-RP
Lake County

April 08, 2009

This was the 4th presentation of this project, which also served as meeting #3 of the Project Study Group (PSG) in accordance with the Stakeholder Involvement Plan (SIP) prepared for this project. The purpose of this presentation was to provide an overall project update, including a summary of the Public Information Meeting held on March 3, 2009, discuss plans for the Community Advisory Group (CAG) Meeting #1 planned for April 30, 2009, follow up discussion on concurrence to the project termini, and discuss the status of the ESRF submittal.

The consultant provided an overview of the results of the Public Information Meeting held on March 3, 2009. The meeting was held at Millburn West School in Lindenhurst from 4:00 p.m. to 8:00 p.m. The meeting was held in an open house format and approximately 250 people attended. Each attendee was provided with a project brochure and then directed to view the project exhibits, which were arranged in a series of six information stations where various project exhibits were on display and staff was available to answer questions.

A questionnaire was distributed to all attendees to provide feedback on the project and on transportation issues and area context values that were important to them. Comment sheets were also available for those choosing to provide written comments at the meeting or for mailing to the LCDOT after the meeting. Lastly, forms were available for attendees to complete and submit if they desired to be involved in the upcoming Community Advisory Group that will be used as part of the stakeholder involvement process for this project. 114 questionnaires were completed as a result of the public meeting interaction, along with 45 written comments that were provided at and following the Public Meeting. Copies of charts reflecting the results of the questionnaire were distributed to meeting attendees. Notable results were that the major concerns expressed by respondents with respect to this project were traffic congestion, property impacts, safety, and traffic noise. These four issues accounted for 50% of the most important issues. On the other end of the spectrum, potential impacts on the Millburn Historic District, adjacent farmland, and business development were deemed some of the least important issues. The questionnaire also polled respondents on their current feelings with respect to the US Route 45 alignment options being considered with this project (existing location, east bypass, west bypass) in light of the previous studies completed. 50% of the respondents prefer an east bypass, 28% prefer a west bypass, and 21% prefer the existing alignment or had other recommendations.

As mentioned above, a CAG membership request form was distributed at the Public Information Meeting so that interested parties could submit their names to be considered for the CAG. The membership request form indicated that the project PSG may limit the membership to ensure broad representation from agencies, groups, interests within the project

area, and to ensure a workable group size. 43 CAG membership request forms have been received to date. LCDOT, IDOT, and the consultant met to go over the requests and 21 CAG members have been selected with a few more possible selections. Copies of the selection and non-selection letters that were sent out on April 3, 2009 were provided to meeting attendees. The CAG will have membership from 18 different agencies, groups, or interests within the project area.

The consultant reviewed the agenda for the CAG meeting #1 that is tentatively planned for April 30, 2009. CAG meeting #1 will be primarily introductory with a group exercise to develop the CAG project problem statement. The project history will be reviewed with a discussion on why this project is starting from a clean slate in light of the previous planning studies. In addition, the overall CSS process will be reviewed and the Stakeholder Involvement Plan (SIP) will be reviewed in detail with CAG consensus sought on the SIP as an appropriate public involvement framework for the project. The NEPA process will be reviewed with respect to how it ties into the public involvement and engineering project development processes. A NEPA fact sheet will be used to facilitate this discussion.

The group exercise to develop the project problem statement will include a breakout exercise with approximately 4 groups of 6 individuals led by a facilitator. Each breakout group will develop their own project problem statement and then report back to the group to consolidate into a single CAG project problem statement of 3 or 4 sentences. The consultant staff will serve as facilitators. It will be explained that the CAG project problem statement will form the basis for developing the overall project Purpose and Need statement as required as part of the NEPA process. At the conclusion of CAG meeting #1, the overall project development schedule and anticipated future CAG meeting timeframes and content will be reviewed.

The project team inquired on the status of the logical termini question posed at the previous three FHWA coordination meetings. In follow-up to the February FHWA meeting, the consultant provided an exhibit of US Route 45 in Lake County showing traffic volumes, number of lanes, and status of current/prior studies for added capacity, for further consideration of the logical termini question. The request was reiterated that since this project is an intersection improvement project that requires evaluation of a potential localized bypass since the existing intersection is wholly contained within the Millburn Historic District, a National Register Location, with very narrow existing highway right-of-way width that may preclude improving the existing intersection(s), thus reconnecting with existing US Route 45 as soon as practical north and south is compliant with logical termini criteria. Further, any realignment developed based on this project would be and must be consistent with any realignment that would be considered as part of a larger US Route 45 corridor study, and this fact should not preclude the intersection realignment option. After lengthy discussion, FHWA expressed concern with the requested concurrence and further indicated that they felt the Phase I study should be expanded to include US Route 45 from IL Route 173 on the north to IL Route 132 on the south, a distance of 5.5 miles. Due to time constraints, the discussion was terminated with unresolved status with respect to logical termini and whether the project should proceed to CAG meeting #1. It was concluded that additional information is required for a final decision.

The consultant indicated that the project ESRF is complete and will be delivered within a day. It was discussed that notwithstanding the logical termini discussion that the ESRF should still be submitted, as any necessary additional surveys required if project limits change could be requested via an addendum ESRF.

Mike Matkovic - CBBEL

Marie Glynn – IDOT/CH2M Hill

AGENDA ITEM #9

Grass Lake Road and Millburn Road
At US Route 45
P-91-666-09
Lake County

May 13, 2009

This was the 5th presentation of this project. The previous presentation was on April 8, 2009. The purpose of this presentation was to secure concurrence to the project logical termini based on the Logical Termini White Paper submitted. Lake County Division of Transportation (LCDOT) is the lead agency for this project, with coordination and review through IDOT-Dist 1, Bureau of Programming.

In follow-up to the previous project presentation, a white paper was prepared and submitted regarding the logical termini for this project. The consultant provided an overview of the white paper which concluded that the proposed intersection improvement project by LCDOT is compliant with logical termini criteria as set forth in BDE 22-6.04 and 23 CFR 771.111(f). The intersection improvement project is being pursued to address capacity deficiencies due to the offset intersections of Grass Lake Road/Millburn Road at US 45, which traverses the Millburn Historic District, a National Register location. The intersection improvement project will include evaluation of a full range of alternatives including potential realignment of US Route 45 with reconnections to the north and south as soon as practical.

It was discussed that the available IDOT and FHWA guidance on logical project termini does not include a Case Study that is similar to this intersection improvement project. However, Case 2 is most similar since it includes a “smaller piece of a larger length of roadway with demonstrated need”. Case 2 concludes that the smaller piece would be acceptable logical project termini if there is no funding and no likelihood of improving the larger length of roadway and provided the smaller piece serves an identified need and would not force immediate transportation improvements on the remainder of the facility. It was pointed out that these Case 2 conditions are referred to but not included in the BDE Manual, but are included in the Logical Termini guidance from the FHWA website.

Based on the 2030 traffic projections received from the Chicago Metropolitan Agency for Planning (CMAP), is not anticipated that added through capacity is required for US 45. However, a full range of alternatives including potential realignment of US 45, will be discussed with the project stakeholders as part of this intersection improvement project, since any future (2040 or beyond) through capacity improvement needs along US 45 could not be accommodated through the Historic District. If there is clear consensus amongst the Project Stakeholders to realign US 45 with this project, it may very well be constructed with US 45 as one lane in each direction, but in a manner that is compatible with the eventual need to add through capacity. IL 19 at Wooddale Road and IL 38 at Kautz Road were pointed too as examples of IDOT projects where localized State Route realignments have been proposed as

part of intersection improvement projects without added through capacity and without specific cross route logical termini established.

After discussion, FHWA indicated that the Environmental Assessment (EA) needs to include US 45 from IL 132 to IL 173 to comply with logical termini requirements. FHWA further explained that the EA can be based on concept plan geometry resulting from traffic analysis for the larger limits, with detailed Phase I Engineering for the actual proposed construction limits only near the Millburn Historic District area only.

Concept plan geometry was described by FHWA as approximately 10% level for the purposes of assessing “footprint” environmental impacts within the established EA limits. On this basis, an ESR addendum will be submitted to IDOT for the expanded study limits, and additional traffic information will be obtained from CMAP as necessary. However, outside of the proposed intersection improvement project limits, traditional Phase I Engineering detailed analysis, including crash analysis, roadway profile development, cross sections, intersection design studies, location drainage studies, etc., will not be required. Detailed Phase I Engineering (Plan, Profile, Cross Sections, Intersection Design Study, Location Drainage Study, etc.) will be prepared for the actual proposed intersection improvement project limits based on the indentified preferred alternative arrived at through the public involvement process. On this basis, the EA would be prepared, and a FONSI issued for US Route 45 from IL 132 to IL 173, with a Combined Design Report (CDR) and Phase I Design Approval granted for the proposed intersection improvement project limits.

Post Meeting Note

Subsequent to this meeting, several follow-up discussions occurred between LCDOT, IDOT (Dist 1 and BDE), and FHWA. Based on these discussions, it was confirmed that an EA will be prepared for US Route 45 from IL 132 to IL 173 based on concept plan development to evaluate likely transportation improvements and associated environmental impacts within these limits. An addendum to the previously submitted Environmental Survey Request (ESR) will be submitted for these new EA limits. Within these overall project limits, detailed Phase I Engineering, as defined above, will only be prepared for the preferred alternative identified for the LCDOT proposed intersection improvement project in the vicinity of the Millburn Historic District.

Concept plan development was more clearly defined to be based on a traffic analysis for 2030 (and eventually 2040) traffic projections. Concept plan development will be based on available Lake County GIS data (aerials, two feet contours) as well as retrievable information from IDOT and LCDOT including microfilm plans, plat of highways, etc. On this basis, existing and proposed typical sections, proposed alignment, and proposed plan geometry (including intersections) will be developed. In addition, a general drainage map showing drainage reaches/features and tributary areas will be developed to determine size of tributary area, likely culvert replacement, floodway impacts, likely outlet improvements, storm water detention needs and compensatory storage needs. This information will be used to determine the anticipated right-of-way footprint for evaluation of environmental impacts in the Environmental Assessment.

The CDR (and LDS) will only be prepared for the preferred alternate associated with the LCDOT proposed intersection improvement project in the vicinity of the Millburn Historic District.

A FONSI will be signed by FHWA for US Route 45 from IL Route 132 to IL Route 173. Design Approval will be granted by IDOT for the CDR (and LDS) associated with the preferred alternate associated with the LCDOT proposed intersection improvement project.

Mike Matkovic - CBBEL

Marie Glynn – IDOT/CH2M Hill

AGENDA ITEM #4

Grass Lake Road and Millburn Road
At US Route 45
P-91-666-09
Lake County

July 8, 2009

This was the 6th presentation of this project. The previous presentation was on May 13, 2009. The purpose of this presentation was to provide an overview of previously completed discussions concerning larger Environmental Assessment (EA) limits from IL 132 to IL 173 and status thereof; discuss the conversion of the Stakeholder Involvement Plan to the Public Involvement Plan; provide a summary of the results of CAG meeting #1; discuss the next steps in the project development process.

EA Limits

The project consultant summarized the results of previous discussions between IDOT and FHWA concerning the project limits. Based on those discussions, an EA will be prepared for US Route 45 from IL 132 to IL 173 based on concept plan development to evaluate likely transportation improvements needed based on 2030 traffic analysis, and associated environmental impacts within these limits. Detailed Phase I Engineering and the associated Combined Design Report and Location Drainage Study will be prepared for the preferred alternative identified for the LCDOT proposed intersection improvement project in the vicinity of the Millburn Historic District. On this basis, additional traffic counts are being obtained for the larger EA limits, and an addendum Environmental Survey Request is being submitted.

It was discussed that feedback in the near future from the Illinois SHPO and the ACHP regarding the Millburn Historic District and potential impacts associated with various alternatives would be desirable in advance of the next CAG meeting in October. FHWA indicated that a conference call with the SHPO should be arranged after ESR Addendum A is submitted.

Public Involvement Plan

The project consultant indicated that based on previous discussions at the Jan '09 and Feb '09 FHWA coordination meetings for this project, the previous Stakeholder Involvement Plan has been converted to a Public Involvement Plan (PIP) since this LCDOT lead project has not been designated a formal CSS project. However, LCDOT is proceeding with project development utilizing CSS principles. The PIP presents a range of stakeholder involvement methods to be utilized for the full EA project (IL 132 to IL 173) and identifies the Community Advisory Group (CAG) as being used to advise the project team specifically regarding the US 45 at Millburn Road/Grass Lake Road intersection improvement area.

The PIP was presented to the CAG at meeting #1 on June 16th and CAG consensus concurrence was obtained with respect to the PIP for the entire project limits and with respect to the ground rules associated with the CAG proceedings, roles & responsibilities. Copies of

the PIP were distributed to meeting attendees and will be forwarded to conference call attendees from BDE and FHWA after the meeting.

CAG Meeting #1

The project consultant provided an overview of the 1st CAG meeting held on June 16th. A copy of the CAG #1 summary was distributed to meeting attendees and will be sent to conference call attendees from BDE and FHWA after the meeting.

The objective of CAG #1 was to provide a project introduction; introduce project team members and CAG members; provide an overview of the NEPA project development process; discuss the distinction of the EA project limits versus the intersection improvement project; discuss the CAG roles and responsibilities; secure CAG concurrence to the PIP and ground rules; and develop the CAG Project Problem Statement for the intersection improvement project area as input into the project Purpose and Need statement.

As noted above, the CAG concurred with the PIP and ground rules associated with CAG proceedings. A workshop session was held with the CAG split into three (3) separate working groups to develop Project Problem Statements for the intersection improvement project area. Each working group then reported their results to the full CAG and then a full consensus CAG Project Problem Statement was developed. Based on this exercise, the CAG Project Problem Statement was completed as follows:

“The transportation problems to be solved by the US 45 at Grass Lake Road/Millburn Road project are present and future congestion, safety and accessibility for all modes of transportation, and also impacts to natural and manmade environments”

The next CAG meeting is tentatively scheduled for October 2009 and will include review of the draft project Purpose and Need statement, and development of alternatives.

Next Steps

The project consultant reviewed the next steps with respect to project development activities. For the foreseeable future, project development activities will include the following:

- Complete traffic counts for EA limits and coordinate with CMAP for 2030 projections.
- Develop General Drainage Map for EA limits.
- ESR Addendum A will be submitted within the next few days.
- Attend the September NEPA/404 merger meeting to provide a project update relative to the EA limits, PIP, and CAG #1 results. Further discussion of the Millburn Historic District relative to various potential alternatives may also be discussed at this meeting.
- An EA Timeframe agreement is required for this project and will be submitted in the near future.
- CAG Meeting #2 is tentatively planned for October 2009.

Mike Matkovic - CBBEL
Marie Glynn – IDOT/CH2M Hill

AGENDA ITEM #3

US Route 45
IL Route 132 to IL Route 173
P-91-666-09
Lake County

January 8, 2010

This was the 7th presentation of this project. The previous presentation was on July 8, 2009. The purpose of this presentation was to provide a project status update; provide a summary of the 2nd Community Advisory Group (CAG) meeting; discuss the development of bypass alternatives near Grass Lake Road and Millburn Road; and discuss the next steps in the project development process. A package of information was distributed to all meeting attendees in advance or at the meeting.

Project Status

The project consultant provided a brief summary of the scope of the project which includes preparing an Environmental Assessment from IL Route 132 to IL Route 173, with a Combined Design Report for the proposed improvements by the Lake County Division of Transportation (LCDOT) near the offset intersections of Grass Lake Road and Millburn Road with US Route 45, including a potential bypass (i.e. Millburn Bypass). The project is currently on schedule, with Phase I completion anticipated by December 2011.

NEPA Status

The project is being presented at the February 18, 2010 NEPA/404 merger meeting for Concurrence Point #1, Purpose and Need. The Purpose and Need has been reviewed by IDOT and FHWA. Comments received were addressed and incorporated into the final draft that will be discussed at the NEPA/404 merger meeting. The draft Purpose and Need was also coordinated with the CAG as discussed below. An initial presentation of the range of alternatives will also be made at the NEPA/404 merger meeting based on the below discussion.

CAG #2 Summary

The project consultant summarized the second meeting of the CAG on November 3, 2010 (meeting minutes were distributed). The goal of CAG #2 was to update the members on the project status and schedule, obtain CAG comments on the draft project Purpose and Need, begin discussion on the alternatives development and evaluation process, and then hold a break out session to get CAG input on viable alternatives for development and evaluation moving forward.

A presentation was made to the CAG on the potential north-south (US Route 45) and east-west (Grass Lake Road, Millburn Road) alternatives identified based on input received at the initial Public Meeting in March 2009 and subsequent stakeholder input. As discussed further below (Alternatives Development), there were seventeen (17) such combinations of north-south and east-west potential alternatives identified. Three CAG breakout groups were formed

to review this information with the aid of a facilitator. CAG input was requested on the viability of each potential alternative for development and evaluation based on the project Purpose and Need, the CAG Project Problem Statement, and the context of the study area. The CAG was informed that the No-Action alternative, as well as at least one each of the north-south build alternatives (existing alignment, east bypass, west bypass) must be developed and evaluated in compliance with federal project development procedures.

Several new pieces of information were gained from the CAG and subsequently forwarded to IDOT for consideration as part of the ongoing cultural resource review. The Village of Old Mill Creek's Historic Preservation Commission (HPC) established a South Millburn Historic District which includes structures that were not incorporated in the recorded National Register of Historic Places Millburn Historic District, which is locally known as the Central Millburn Historic District. Documentation provided by the HPC specified the boundaries of the South Millburn Historic District. The CAG also indicated that remnants from the original Millburn Cemetery may exist just north of the Millburn Historic District, just east of US Route 45. The CAG indicated that they believe the head stones were relocated to the existing Millburn Cemetery, but all caskets may not have been relocated. Documentation of an old map was received that showed an approximate location. IDOT indicated they received the supplemental information and that ITARP review has been requested.

CAG meeting #3 is planned for April 2010 and will include further review and comment on the alternatives development and evaluation process.

Alternatives Development

The project consultant discussed the alternatives development process for the project with respect to the US Route 45 at Grass Lake Road/Millburn Road intersection. As noted, based on input received at the March 2009 Public Meeting and subsequent stakeholder input, the range of potential alternatives identified includes seventeen (17) combinations of three north-south alternatives and six east-west alternatives. A letter-number system was developed, with the north-south alternatives being letters and the east-west alternatives being numbers. A packet of the potential alternatives was distributed to all meeting attendees.

Based on input received at the 2nd CAG meeting, as well as subsequent discussions with LCDOT and IDOT, 9 alternatives were determined to not be viable for development and evaluation as discussed below, and as summarized in the attached table.

- A3, B3, C3 – These alternatives include extending Grass Lake Road to the east of US Route 45 and realigning with Millburn Road. This would result in displacement of the Pantall-Martin Store (Structure #9) which is designated as a “structure of primary significance” as described in the national Register of Historic Places Nomination Form. This is one of five structures of primary significance out of the eighteen (18) total structures in the Millburn Historic District. This impact was viewed as severe and thus these alternatives were considered not viable.

- A5, B5, C5 – These alternatives include realigning Millburn Road to Haven Lane (local road). These alternatives were viewed as not viable for development and evaluation since it would either draw traffic through a residential area on Haven Lane (A5), and/or disconnect the Millburn Historic District from the Village of Old Mill Creek (B5 and C5).
- A6 & B6 – These alternatives include either disconnection of Grass Lake Road and Millburn Road to the east (A6) and/or providing an additional east-west connection via a new roadway connecting Country Place to Crawford Road (B6). These alternatives were viewed as not viable for development since they would not provide east-west capacity and therefore not address the northwest-southeast travel demand in the project area as identified in the Purpose and Need.

An additional alternative was raised at CAG #2, which connected Wadsworth Road on the east to Independence Boulevard on the west (named C6). This alternative was viewed as not viable for development since it did not provide east-west capacity in the vicinity of the Grass Lake Road/Millburn Road intersections, and based on its location to the north, would not address the northwest-southeast travel demand in the project area as identified in the Purpose and Need.

On the above basis, based on input received from the CAG and subsequent discussions with IDOT and LCDOT, remaining alternatives A1, A2, A4, B1, B2, B4, C1, C2, and C4 have been identified as the full/reasonable range of alternatives for the Grass Lake Road/Millburn Road intersection improvements, which includes a potential bypass. These alternatives will be developed and evaluated for relative comparison based on the available socio-economic and environmental information. Based on discussion, IDOT-BDE and FHWA concurred with the potential alternatives considered, those dropped from further development, and those carried forward for development and evaluation.

The project consultant provided a copy of the evaluation matrix that will be used for the alternatives development and evaluation.

Design Criteria

The project team distributed a design criteria spreadsheet for review by FHWA and IDOT. US Route 45, IL Route 173 and IL Route 132 will be designed using BDE Suburban SRA design criteria. IDOT concurred that a 50 mph design speed should be used for these Suburban SRA's although the BDE manual stipulates a 45 design speed. Millburn Road, Grass Lake Road and Sand Lake Road are Lake County routes and will be using BLR criteria. IDOT will review the design criteria spreadsheet provided and forward any comments.

IDOT Environmental Surveys

IDOT indicated that the project received biological clearance on January 8, 2010. IDOT has completed all wetland surveys and provided information to the project team. Cultural surveys are not expected to be completed until fall 2010. IDOT indicated that the cultural ground surveys may be completed and available prior to fall 2010. Vanessa Ruiz will contact John Walthall to coordinate ground surveys.

Traffic

CMAP is currently developing all 2030 build traffic projections for the remaining alternatives to be developed and evaluated. This information is anticipated to be available in early February. Alternatives development will proceed without this information for now.

Next Steps

The project consultant reviewed the next steps with respect to project development activities. Upcoming milestone activities include the following:

- Attend the February 18, 2010 NEPA/404 merger meeting for concurrence on purpose and need, and initial discussion of alternatives.
- CAG meeting #3 is tentatively planned for April 2010.
- IDOT is developing new project mapping with one-foot contours and updated aerial photography for the entire EA project limits. This information is anticipated to be available in the Spring. Project development will proceed for now based on available Lake County GIS information.
- Based on discussion, it was agreed that a modified ECAD journal will be used to track status with respect to environmental issue areas for subsequent meeting purposes.
- The consultant was requested to develop and submit a Timeframe Agreement for this project.

Mike Matkovic - CBBEL

Marie Glynn – IDOT/CH2M Hill

Millburn Bypass Alternatives Development/Evaluation Next Steps

The following range of potential Millburn Bypass alternatives were identified by stakeholders at and subsequent to the initial Public Meeting, and by the project team based on knowledge of the project area and the project purpose and need statement.

Based on the project requirements for alternatives development/evaluation with respect to Federal project development procedures (NEPA), and based on further input received at CAG #2, the following is a summary of the range of alternatives considered, as well as an initial assessment and recommendation of alternatives to be dropped, or to be carried forward for design development and further evaluation per the attached evaluation matrix.

Alternative Considered	CAG Breakout Group Support			NEPA Factor	Other Factors	Carry Forward
	Yellow	Green	Red			
A1	+	+ (?)	+(-)			Y
A2		+ (?)	+		Potential Remnant Cemetery Impacts. Alignment per Design Criteria.	Y
A3					Displacement of Primary Historic Bldg #9 and bisects heart of HD. Minor Transportation Benefit as compared to A1 due to west bypass.	N
A4	+		+			Y
A5					Draws regional traffic through local street and disconnection of HD from Millburn	N
A6					Does not provide E/W capacity	N
B1				Must be considered under NEPA		Y
B2			+		Remnant Cemetery. Viable Geometry	Y
B3					Displacement of Primary Historic Bldg #9 and bisects heart of HD.	N
B4			+			Y
B5					Disconnection of HD from Millburn. Undesirable alignment of County Route with local street.	N
B6					Disconnection of HD from Millburn. Does not provide viable E/W capacity due to proximity of Sand Lake Road to south.	N
C1	+					Y
C2		+	+		Remnant Cemetery. Viable Geometry	Y
C3					Displacement of Primary Historic Bldg #9 and bisects heart of HD. Disconnection of HD from Millburn.	N
C4	+		+			Y
C5					Disconnection of HD from Millburn. Undesirable alignment of County Route with local street.	N
C6: Wadsworth Road Extension				Does not meet P & N as a stand alone alternative.	Does not address E/W capacity per Select Link analysis.	N

AGENDA ITEM #6

US Route 45
IL Route 132 to IL Route 173
P-91-666-09
Lake County

May 12, 2010

This was the 8th presentation of this project. The previous presentation was on January 8, 2010. The purpose of this presentation was to present the results of the Millburn Bypass alternatives development and evaluation process that has occurred since January 8th, and the stakeholder input received at the 3rd Community Advisory Group (CAG) meeting that was held on April 27, 2010. A similar presentation is planned for the June 11th NEPA/404 Merger meeting to seek resource agency concurrence with the alternatives screening process and results, with the remaining alternatives to be presented at a Public Meeting in the Summer.

The following package of information was distributed to all meeting attendees in advance and/or at the meeting:

- 11x17 color exhibits of all nine remaining alternatives
- 11x17 color evaluation matrix
- Project Status Summary (as provided to CAG in advance)
- CAG 3 Meeting Minutes
- Alternatives Screening Recommendations

Mike Matkovic of Christopher B. Burke Engineering, Ltd. (CBBEL) provided an overview of the Millburn Bypass alternatives development and evaluation process that has occurred since the January 8, 2010 FHWA coordination meeting and the NEPA/404 Merger meeting on February 18, 2010. At the February 18th NEPA/404 Merger meeting, concurrence was received with the initial screening of the full range of eighteen potential bypass alternatives to nine alternatives for development and evaluation. This process is described in more detail in the Project Status Summary that was distributed to meeting attendees.

The nine remaining bypass alternatives (A1, A2, A4, B1, B2, B4, C1, C2, and C4) represent the combinations of three north-south alignment options for US Route 45 (represented by A, B, and C) with the three east-west alignment options for Grass Lake Road and Millburn Road (represented by 1, 2, and 4). The “A” alternatives represent a US Route 45 west bypass, which uses the previously recorded IDOT alignment. The “B” alternatives represent the existing US Route 45 alignment, and the “C” alternatives represent a US Route 45 east bypass. The “1” option maintains existing alignments of Grass Lake Road and Millburn Road. The “2” option realigns Grass Lake Road and Millburn Road to the north. The “4” option realigns Grass Lake Road to the south to meet Millburn Road.

The nine alternatives were developed based on project design criteria assembled and reviewed by LCDOT and IDOT to ensure each alternative represents a viable alternative with respect to

roadway design at this stage of development. Review meetings for the developed alternatives were held with LCDOT and IDOT to ensure they were acceptable for coordination and review with the project stakeholders.

The performance and/or impacts of each of the nine developed alternatives was evaluated and summarized on the preliminary impact evaluation matrix, which was distributed to meeting attendees. Various impact criteria were used within the four main categories of Transportation Performance, Environmental Impacts, Socioeconomic Impacts, and Cost. For the majority of the criteria, the results were quantity based, when direct measurable performance or impacts could be developed. For some of the criteria, the results were quality based, with the project team developing these results based on the best available information at this stage of overall project development. A color grading system was used to provide a visual representation as to which alternatives perform relatively strong or relatively weak when compared to the other alternatives, within each criterion. The color coding system is described in the Project Status Summary that was distributed to meeting attendees.

The Project Status Update paper, 11x17 color exhibits of the nine developed alternatives, and 11x17 color copies of the evaluation matrix were provided to each CAG member a week in advance of the April 27th CAG #3 meeting for review and preparation.

Ryan Westrom of Patrick Engineering, Inc (PEI) provided a summary of the 3rd meeting of the project CAG on April 27, 2010. A powerpoint presentation was used to update the CAG members on the project developments since the 2nd CAG meeting, which was also described in the Project Status Summary paper. A detailed explanation of how the nine bypass alternatives were developed and evaluated was given, as well as an explanation for the color coding system used with the evaluation matrix.

The CAG members were then placed in one of three breakout groups (Group 1, 2, or 3) to discuss the results of the bypass alternatives development and evaluation process, and to formulate their opinions on whether each alternative compares relatively strong or relatively weak to the other alternatives (and why), and whether the alternatives should be considered for more detailed development or dismissed (and why).

Based on the CAG input received, there was general consensus that the “B” alternatives should not be considered any further due to the resulting impacts to historic structures. There was also general consensus for dropping the “2” options due to higher cost resulting from the greater length of roadway construction, as well as due to the property impacts/acquisition required within the Millburn Historic District boundaries. There appeared to be general consensus for four alternatives: A1, A4, C1, and C4. Group 1 supported A1, A2, C2, and C4. Group 2 supported A4 and C4. Group 3 supported Alt A1, A4, and C4.

Mike Matkovic noted that the input received from the CAG breakout groups is summarized in the Alternatives Screening Recommendations paper that was distributed to meeting attendees (copy attached). Subsequent to the CAG #3 meeting, LCDOT, IDOT and the project consultants met to discuss the overall bypass alternatives evaluation results and the recommendations moving forward. There was consensus within LCDOT and IDOT/District

One that alternate C1 also be dismissed from further consideration based on the comparatively weak transportation performance. On this basis, LCDOT and IDOT/District One are recommending that alternatives A1, A4, and C4 be carried forward for further development and evaluation, and that the other six alternatives be dismissed from further consideration, which is summarized in the Alternatives Screening Recommendations paper that was distributed to meeting attendees.

It was noted that the “A” alternatives cross through forest preserve property. The Consultant Team and Lake County DOT have met with the Lake County Forest Preserve District (LCFPD). LCFPD does not object to the “A” alternatives. A 4(f) evaluation will need to be completed. It was also noted that the “A” alternatives would result in an approximate 30 feet wide “buffer” area adjacent to a residential subdivision. This “buffer” area could potentially be used for mitigation to compensate for impacts associated with this project.

After discussion, the IDOT/BDE and FHWA representatives present concurred with the recommendation to dismiss the bypass alternatives A2, B1, B2, B4, C1, C2, and to carry forward with bypass alternatives A1, A4, and C4, and to present this information to the resource agencies at the June NEPA/404 Merger meeting.

IDOT/District One provided an update on the project cultural resource surveys. Based on recent field surveys completed by the Illinois State Archeological Survey (ISAS), the original Millburn Burying Ground has been identified north and east of US Route 45 at Grass Lake Road. The delineated boundary appears to be within the east bypass alignment. This information will be emailed to LCDOT and the project consultant.

Mike Matkovic reviewed the next steps with respect to project development activities. Upcoming milestone activities include the following:

- Attend the June 11, 2010 NEPA/404 merger meeting to present the results of the Millburn Bypass alternatives development and evaluation process, and the recommendations for bypass alternatives screening for resource agency concurrence.
- Public Meeting at the end of July to present overall project development results and the remaining bypass alternatives for public comment.
- Complete concept geometry for the remaining portions of the EA project limits and submit to LCDOT and IDOT for review.

Post Meeting Notes

On May 17, 2010, after additional review, Matt Fuller of FHWA communicated to IDOT District One that he concurred with the alternatives screening process and results, and presentation of this information at the June 11th NEPA/404 Merger meeting.

Mike Matkovic - CBBEL
Marie Glynn – IDOT/CH2M Hill

US Route 45 - Millburn Bypass Post CAG #3 Alternatives Screening Recommendations

Subsequent to CAG #2 and various coordination meetings including the Project Team (LCDOT, IDOT, Consultants), FHWA, and the February 2010 NEPA/404 Merger meeting, the nine alternatives listed below were conceptually developed based on the design criteria developed by LCDOT and IDOT for the involved State and County roadways. Each alternative was comparatively evaluated with respect to transportation performance, environmental impacts, socio-economic impacts, and costs for discussion at CAG #3.

Based on the reviews of the comparative analysis, and based on input received at CAG #3, the following is a summary of the Project Team's recommendation with respect to alternatives to be dropped or carried forward for further development and evaluation, and for presentation at a Public Meeting in the Summer 2010.

Alternative Considered	CAG Group Recommendation			CAG Group Comments	Carry Forward
	1	2	3		
A1	+	-	+	CAG Group 1 felt that the A1 was advantageous since best matches travel patterns. CAG Group 2 felt that A1 was undesirable due to potential noise and forest preserve impacts. CAG Group 3 felt A1 would work well since most traffic would use the west bypass.	Y
A2	+	-	-	Same comment from CAG Group 1 per above relative to transportation, but with concerns for Historic District impacts and cost. CAG Groups 2 and 3 felt that the E-W "2" options in general were too expensive with better transportation options available.	N
A4	U	+	+	CAG Group 1 was undetermined with respect to A4 due to the residential displacements involved. CAG Groups 2 and 3 felt that A4 was a preferred transportation alternative and should be considered further.	Y
B1	-	-	-	All CAG groups felt that B1 should be dropped from further consideration due to the substantial resulting impacts to the Millburn Historic District, including displacement of 9 historic buildings.	N
B2	-	-	-	All CAG groups felt that B2 should be dropped from further consideration due to the substantial resulting impacts to the Millburn Historic District, including displacement of 9 historic buildings.	N
B4	-	-	U	CAG groups 1 and 2 felt that B3 should be dropped from further consideration. CAG group 3 initially felt this alternative should be carried forward without additional travel lanes. However, it was explained that maintaining one travel lane in each direction on US 45 would not meet the project Purpose and Need.	N
C1	U	-	-	CAG Group 1 felt that C1 had fewer residential impacts, but would cost more and was uncertain with respect to a recommendation. CAG Groups 2 and 3 felt that C1 does not address the east-west movement and was poor with respect to transportation performance.	N
C2	+	-	-	CAG Groups 2 and 3 felt that the E-W "2" options in general were too expensive with better transportation options available. CAG Group 1 felt that C2 was viable but with concerns with the higher cost and property impacts to the Historic District.	N
C4	+	+	+	All CAG Groups felt that C4 was comparatively strong with respect to impacts and transportation performance and should be considered further.	Y

Legend: **"+"** = Preferred with respect to further consideration; **"U"** = Uncertain with respect to further consideration; **"-"** = Undesirable with respect to further consideration.

AGENDA ITEM #7

US Route 45
IL Route 132 to IL Route 173
and Millburn Bypass
P-91-666-09
Lake County

March 16, 2011

This was the 9th presentation of this project. The previous presentation was on May 12, 2010. The purpose of this presentation was to provide a project status update, gain IDOT/FHWA concurrence to drop Alternative C4 from further consideration, and discuss the next steps in the project development.

The following package of information was distributed to all meeting attendees in advance and/or at the meeting:

- 8½ x 11 color exhibits of the three finalist remaining alternatives (A1, A4, C4)
- 8½ x 11 color evaluation matrix of the three finalist alternatives
- NEPA-404 Merger Meeting Minutes September 9, 2010 (5th Presentation)
- Finalist Alternatives Positives-Negatives List
- Finalist Alternatives Measurers of Effectiveness (MOE) Spreadsheet for transportation performance

Mike Matkovic of Christopher B. Burke Engineering, Ltd. (CBBEL) provided an overview of the Millburn Bypass alternatives development and evaluation process that has occurred since the May 12, 2010 FHWA coordination meeting and the NEPA/404 Merger meetings on June 9, 2010 (4th presentation) and September 9, 2010 (5th presentation). As part of the June 9, 2010 NEPA/404 Merger meeting, which included follow-up coordination with USACOE, USFWS, and IHPA, concurrence was received for the screening of the nine preliminary alternatives to three finalist alternatives (A1, A4, C4) for further development and evaluation, and presentation at a Public Meeting on September 2, 2010. This process is described in more detail in the September 9, 2010 NEPA/404 Merger meeting minutes distributed at the meeting. The finalist alternatives include A1 and A4, which both consist of a western bypass of US Route 45 with the difference being the east/west component. A1 retains the existing configuration of Grass Lake Road and Millburn Road and A4 realigns Grass Lake Road to meet with Millburn Road. Finalist alternative C4 is an eastern bypass with Grass Lake Road realigned to meet with Millburn Road.

The second Public Meeting was held on September 2, 2010 which displayed the three finalist alternatives and a comparative impact evaluation matrix for public comment. The project development process since the initial Public Meeting on March 3, 2009 was communicated through a series of stations and a power point presentation. Over 201 attendees responded to the project questionnaire that was distributed, with a majority of respondents residing in the Forest Trail and Heritage Trail Subdivisions, west of existing US Route 45. Of the

respondents, 78 percent agreed that a US Route 45 bypass is a necessity. The number one expressed concern for 73 percent of respondents was transportation performance and traffic delay. 87 percent of respondents indicated a preference for an eastern bypass, with their prominent concern being proximity of the US Route 45 bypass to the Heritage Trail and Forest Trail subdivisions. Both subdivisions were developed after the completion of the 1995 US Route 45 SRA bypass study by IDOT, which recommended a west bypass, and after the west bypass centerline and proposed right-of-way was recorded. IDOT purchased a portion of this right-of-way within the Forest Trail Subdivision while it was being subdivided. 95 percent of respondents favored realigning Grass Lake Road to the south to meet with Millburn Road at existing US Route 45.

The projects cultural resource review is still ongoing with respect to the eligibility of the Druce-Hoffman property for the National Register of Historic Places. The primary residence on the Druce-Hoffman property is directly impacted by finalist alternatives A4 and C4 due to the realignment of Grass Lake Road to the south. Although the IDOT-BDE evaluation determined that the Druce-Hoffman property was not eligible, IHPA sent a letter to IDOT on January 24, 2011 concluding that the property was eligible and therefore afforded protection. Based on the detailed evaluation prepared by IDOT, FHWA does not feel there is sufficient information to conclude that the Druce-Hoffman property is eligible for the National Register. Therefore, FHWA is requesting further documentation from IHPA and the property owner to support this finding. IHPA and the property owner will have 30 days to submit any further documentation to support the potential eligibility. Depending on the information received, FHWA could request a determination by the Keeper of the National Register for the Department of the Interior. IDOT indicated that the Cultural Resource Review for this project will be completed after the FHWA determination of eligibility is completed.

Mike Matkovic from CBBEL reviewed the finalist alternatives and reviewed the evaluation matrix, which has been updated based on year 2040 traffic projections recently received from CMAP. In addition, the Positive-Negatives list, and the MOE spreadsheet was reviewed. Based on this information, Alternative A4 is the superior transportation alternative, although all three finalist alternatives meet the project Purpose and Need. After further engineering, and in particular to ensure compliance with Complete Streets requirements, there would be two residential impacts associated with Alternative C4 north of Independence Boulevard, and potentially a third. Alternative C4 bisects the east portion of the Millburn Historic District boundary and disconnects the primary historic building (Strang House) from the remaining historic buildings. From the CMAP select link analysis there is a regional northwest to southeast flow of traffic, the east bypass pulls all traffic originating from or destined to the developed areas to the west, through or past the Millburn Historic District whereas a west bypass redirects the significant portion of north-south traffic prior to reaching the Millburn Historic District. Although Alternative C4 meets all IDOT SRA design criteria, the proposed reverse curves to avoid impact to the identified Historic Millburn Burial Site are continuously rotating (versus more desirable tangent section in between reverse curves) at a minimum radius with the maximum super elevation. This alignment design is less desirable than the proposed west bypass alignment with respect to driver expectancy, access, intersection spacing and sight distance. When comparing the transportation networks, Alternative C4 has a 16 percent higher travel time and 18 percent high total delay than Alternative A4. A west

bypass is more compatible with connection to planned Lake County Forest Preserve District (LCFPD) trails and existing Lindenhurst trails, even though a west bypass requires property acquisition from the McDonald Woods Forest Preserve. At a coordination meeting on February 21, 2011, LCFPD indicated that they would likely concur in a *de minimis* finding based on a west bypass. Based on this information, the Lake County Division of Transportation (LCDOT) has indicated that Alternative A4 is the County's preliminary preferred alternative. IDOT-District One concurs with this preference based on the above evaluation. On this basis, concurrence was requested from IDOT-BDE and FHWA that Alternative C4 be dropped from further consideration.

Matt Fuller indicated that FHWA does not disagree with the County's assessment of alternatives, and would not object to dropping Alternative C4 provided the necessary steps in a *de minimis* finding occur with respect to the McDonald Woods Forest Preserve, and a *de minimis* finding can be granted. Otherwise, Alternative C4 could not be eliminated since it would remain as an avoidance alternative as part of a Section 4(f) evaluation.

FHWA indicated that the Public Meeting on September 2, 2010 which presented the three finalist alternatives for public comment met the requirements to provide an opportunity for public comment on the potential impact to the McDonald Woods Forest Preserve property. It was agreed that LCDOT will send a letter to LCFPD requesting their concurrence with a *de minimis* finding based on a west bypass, and providing copies of the comments received at the second Public Meeting regarding the effects of a west bypass on McDonald Woods. FHWA indicated that if LCFPD concurs in the *de minimis* finding in writing, that FHWA would grant the *de minimis* finding. It was also discussed that a *de minimis* finding will be pursued for property acquisition required from the Raven Glen Forest Preserve and the Ethel's Woods Forest Preserve at the north end of the project. FHWA indicated that each individual taking would require its own *de minimis* finding.

The project team is anticipating the next Community Advisory Group (CAG) meeting in several months, subsequent to the eligibility finding of the Druce-Hoffman property.

The Purpose and Need Statement is being updated with 2040 traffic, 2009 accident data, and 2010 census data. The alternatives chapter is being compiled.

Discussion occurred regarding pursuit of NEPA/404 Merger Concurrence Points 2 and 3. After discussion, there was general agreement that Concurrence Point 2 (Alternatives Carried Forward) was essentially reached at the June 2010 NEPA/404 Merger meeting and the associated subsequent coordination with USACOE, USFWS and IHPA in July 2010 wherein all agencies concurred with the three finalist alternatives. Matt Fuller indicated that FHWA will coordinate with all agencies involved in the NEPA/404 Merger process to request their concurrence with amending the September 2011 meeting minutes to state Concurrence Point 2 was met. Pending the timing of the determination of the Druce-Hoffman NRHP eligibility finding and LCFPD *de minimis* finding, the project may be able to be presented for Concurrence Point 3 at the June 2011 meeting. If not, the project will be presented at the June 2011 meeting regardless as a status update as well as presentation at the September 2011

meeting for Concurrence Point 3. The alternative chapter of the EA will be submitted as soon as possible with a place holder in for the areas not yet determined.

Post Meeting Notes

On March 17, 2011, FHWA sent out letters to IHPA and the owners of the Druce-Hoffman property requesting further information supporting the potentially eligibility determination for inclusion on the Nation Register of Historic place.

Matthew Huffman - CBBEL

Marie Glynn – IDOT/CH2M Hill

AGENDA ITEM #13

US Route 45
IL Route 132 to IL Route 173
and Millburn Bypass
P-91-666-09
Lake County

May 11, 2011

This was the 10th presentation of this project. The previous presentation was on March 16, 2011. The purpose of this presentation was to provide a project status update with respect to the eligibility of the Druce-Hoffman property for the National Register of Historic Places (i.e.; National Register), and to discuss the next steps for project development.

At the request of Matt Fuller from FHWA who could not attend this meeting, Marie Glynn of IDOT-District One provided a status update of the coordination between FHWA and IHPA concerning the Druce-Hoffman property. Marie indicated that FHWA and IHPA met on Monday May 9th to discuss this matter. Based on the additional information gathered and the additional coordination that has occurred, IHPA concurs with FHWA that there is not sufficient information to consider the Druce-Hoffman property as eligible for the National Register. IHPA will be sending a letter to FHWA and the property owner to confirm this determination. FHWA will forward a copy of this letter to IDOT. Receipt of this letter from IHPA will conclude the review process with respect to the Druce-Hoffman property. The previously anticipated coordination with the Keeper of the National Register will not be required. Project development will be able to proceed based on the Druce-Hoffman property not being eligible for the National Register.

As discussed at the 9th FHWA Coordination Meeting, the west bypass alternatives (A1 and A4) would require property acquisition from the Lake County Forest Preserve District (LCFPD). FHWA recommended that previously initiated discussions with LCFPD confirming that the impact would not have an adverse impact on their property be formalized. On April 4, 2011, LCFPD concurred in writing with a *de minimis* impact finding for impacts to McDonald Woods Forest Preserve based on the west bypass alternatives.

The next steps in the project development process were reviewed. The next major project development activity is to schedule a meeting with the Community Advisory Group (CAG) to discuss the preliminary preferred alternative. Contingent upon resolution of the Druce-Hoffman property eligibility determination, coordination has occurred between the Lake County Division of Transportation (LCDOT) and IDOT-District One through which Alternative A4 (West Bypass with Grass Lake Road realignment to meet Millburn Road) has been mutually identified as the preliminary preferred alternative. Alternative A4 does required property acquisition from the north portion of the Druce-Hoffman property and would result in displacement of the residence on this property. Although the majority of attendees at the Public Meeting in September 2010 indicated a preference for Alternative C4 (East Bypass with Grass Lake Road realignment to meet Millburn Road), both LCDOT and IDOT feel that

Alternative A4 is the best overall transportation alternative amongst the three finalist alternatives presented at the Public Meeting. Although Alternative A4 does require property acquisition from the Lake County Forest Preserve District (LCFPD), as noted above, they have concurred in writing with a *de minimis* impact finding. Alternative A1 is less desirable than A4 since it would retain the existing alignment of Grass Lake Road through the Millburn Historic District. It was noted that two of the three finalist alternatives, which emerged through the CAG process from a full range of eighteen initial potential alternatives, were west bypass alternatives.

This project is planned to be presented at the NEPA/404 Merger meeting on June 28, 2011. The presentation topic is expected to request Concurrence Point 2 (Alternatives Carried Forward) based on the previous merger meeting presentations and overall project development, and discussion of Concurrence Point 3 (Preferred Alternative). Draft Environmental Assessment Chapters 1 (Purpose and Need), 2 (Alternatives), and 4 (Coordination and Public Involvement) are being prepared and are anticipated to be submitted to LCDOT, IDOT and FHWA for review in the near future, in advance of the NEPA/404 Merger meeting. If Concurrence Point #3 is not granted at the June NEPA/404 Merger meeting, it will be requested at the September NEPA/404 Merger meeting.

On the above basis, a Public Hearing to present the Preferred Alternative is anticipated for late Fall 2011. The Public Involvement Plan and overall project schedule are being updated accordingly.

Mike Matkovic - CBBEL
Marie Glynn – IDOT/CH2M Hill

AGENDA ITEM #6

US Route 45
IL Route 132 to IL Route 173
and Millburn Bypass
P-91-666-09
Lake County

June 8, 2011

This was the 11th presentation of this project. The previous presentation was on May 11, 2011. The purpose of this presentation was to provide a status update regarding the Section 4(f) *de minimus* impact finding for McDonald Woods, request concurrence on an identified Preliminary Preferred Alternative (A4), and discuss next steps in the project development process.

As discussed at the 9th and 10th FHWA Coordination Meetings, the west bypass alternatives (A1 and A4) would require property acquisition from the Lake County Forest Preserve District (LCFPD) in the northwest corner of McDonald Woods. On April 4th, 2011, LCFPD concurred in writing with a *de minimis* impact finding. On this basis, a section 4(f) *de minimis* impact documentation package was prepared and submitted to IDOT and FHWA in advance of this meeting for review.

Based on a review of the section 4(f) *de minimis* documentation package, FHWA granted a *de minimis* impact determination for the use of McDonald Woods as it will not adversely affect the activities, features, and attributes of this Lake County Forest District resource. The *de minimis* impact determination is based on the impact avoidance, minimization or enhancement measures detailed in the *de minimis* documentation submitted to FHWA on June 3, 2011. FHWA noted that the *de minimis* impact determination should be documented in the FONSI with the following statement:

US Route 45 Project (IL Route 132 to IL Route 173) will result in the use of McDonald Woods, a Section 4(f) resource. FHWA hereby makes a de minimis impact determination for this use as it will not adversely affect this resource's activities, features, and attributes. The de minimis impact determination is based upon the impact avoidance, minimization, and mitigation or enhancement measures as detailed in the Environmental Assessment.

There are two other Section 4(f) properties that will be impacted north of the Millburn Bypass study area, Raven Glen and Ethel Woods, both Lake County Forest Preserve District holdings. Separate *de minimis* findings are anticipated for each of the impacts resulting from roadway widening. The impacts will be displayed for public comment at the anticipated December 2011 Public Hearing. The impacts to these forest preserves results from both being directly adjacent to the US Route 45 right-of-way north of Miller Road, such that complete avoidance is not possible under a build scenario. In this section LCFPD is planning an underpass at US Route 45 to connect both forest preserves. The multiuse path along the west side of the proposed US Route 45 project will connect the McDonald Woods Forest Preserve trail system to Raven Glen and Ethel Woods Forest Preserves.

Discussion occurred regarding Alternative A4 as the Preliminary Preferred Alternative. Numerous factors were discussed including: Druce-Hoffman property NHRP eligibility, Public Meeting Summary, Finalist Alternatives Evaluation Matrix, Finalist Alternatives Positive/Negatives white paper, and Transportation MOE Spreadsheet.

Following the May 11, 2011 FHWA meeting, IHPA provided their official determination regarding the Druce-Hoffman property, which is impacted with Alternatives A4 and C4, is eligible for the National Register of Historic Places. A letter was sent by IHPA, dated May 24, 2011 stating that, "... in accordance with section 106 of the National Historic preservation Act of 1966, as amended, that neither the site as a complex or an individual structure is eligible for the NRHP." On this basis Alternatives A4 and C4, which propose a realignment of Grass Lake Road with Millburn Road at US Route 45, are still prudent alternatives for consideration.

The second public meeting for the project was held on September 2, 2010 where the three finalist alternatives were presented for public comment. The results of the public meeting showed that out of the 201 questionnaires received 78 percent thought the bypass was a necessity and 75 percent indicated transportation performance as their number one concern and 95 percent of respondents favored realigning Grass Lake Road with Millburn Road. However, 89 respondents indicated they preferred an east bypass which is indicative that the area west of US Route 45 is more developed than the area east of US Route 45, which remains agricultural land. Although the disparity amongst the public's opinion of the bypass location and the chosen preliminary preferred alternative, two of the three finalist alternatives which were carried through the Community Advisory Group process were west bypass alternatives, due to their transportation performance and relatively low impacts on the surrounding community. The Village of Lindenhurst supports an east bypass, whereas the Village of Old Mill Creek supports a west bypass. Millburn Historic District is contained within the Village of Old Mill Creek and the municipal boundary between the two municipalities is along US Route 45 and/or several parcels to the west of US Route 45 (indicated on the alternative exhibits distributed).

Materials were distributed to the meeting attendees that included the three finalist alternatives, impact evaluation matrix, MOE spreadsheet, and Positives/Negatives white paper. Discussion occurred regarding the three finalist alternatives and the relative comparisons. Alternative A4 was recommended to be carried forward as the Preliminary Preferred Alternative for presentation at the June 2011 NEPA/404 merger meeting to reach concurrence point 3.

Alternative A1 is composed of a west bypass with leaving the remaining alignments of Grass Lake Road and Millburn Road, leaving the existing geometry and signalized intersections that exist today, which does not best suit the northwest to southeast regional traffic pattern identified in the purpose and need statement. Therefore Alternative A1 was recommended to be dismissed from further consideration, as the Grass Lake Road realignment is a preferred feature.

Alternative C4 is composed of an east bypass with a realignment of Grass Lake Road with Millburn Road. Alternative C4 is the worst performing transportation alternative compared to Alternatives A1 and A4 as a result of "pulling" traffic through or near the Historic District to access the north-south roadway. From the CMAP 2040 build projections, Alternative C4 has 17,000 ADT on Millburn Road, whereas Alternative A1 and A4 have 12,000 and 14,000 respectively. The travel times through the Alternative C4 network are higher than Alternatives A1 and A4, as referenced in the MOE spreadsheet. Although all finalist alternatives meet IDOT SRA criteria, the alignment for Alternative C4 has continuously rotating, max super-elevated reverse curves, which is less desirable than the alignment for Alternatives A1 and A4. The proximity of the proposed intersection of the east bypass with Millburn Road is close to the existing US 45 intersection and creates less than desirable intersection spacing as noted in a previous IDOT review. The east bypass also bisects the Millburn Historic District and separates the most historically significant structure (Strang House - Structure #1) from the rest of the historic structures within the Historic District, whereas Alternatives A1 and A4 have no property impacts to the Historic District. There are two definite residential impacts with a potential third impact. Therefore Alternative C4 was recommended to be dismissed from further consideration, as A4 is a superior transportation Alternative.

Alternative A4 is the best transportation performing Alternative in the PM peak period and is comparable to the other alternatives in the AM peak period, as supported by the Finalist Impact Evaluation Matrix and MOE Spreadsheet. The Lake County Forest Preserve District prefers Alternative A4 with respect to their Master Trail Plan for the area and signed the section 4(f) *de minimis* document for the impact to their property. The west bypass is consistent with the previous IDOT SRA planning effort and Alternative A1 and A4 both use the exact recorded centerline. As a result of the planning effort, residential developments set aside ROW for the bypass and planned for a potential west bypass. The combination of the west bypass and the realignment of Grass Lake Road with Millburn Road best accommodate the area traffic patterns (northwest to southeast).

On this basis, LCDOT and IDOT-District One have identified Alternative A4 as the preliminary preferred alternative. Based on the above discussion, FHWA concurred with Alternative A4 moving forward as the Preferred Preliminary Alternative for presentation at the June 28, 2011 NEPA/404 merger meeting for concurrence point 3, preferred alternative.

The fifth Community Advisory Group meetings is being planned for mid July to announce the preliminary preferred alternative; review the project development process; discuss the preliminary preferred alternative selection process; review the results of the September 2010 public meeting; and conduct a workshop to address challenges or concerns with the preliminary preferred alternative. Lakota Group will be brought in to facilitate some planning ideas and possibilities for the Millburn Historic District.

The noise analysis is ongoing for US Route 45 from IL Route 132 to IL Route 173. Preliminary findings from the noise analysis show potential impacts exceeding the 67 dBA threshold at Haven Lane Subdivision and Forest Trail Subdivision for the preliminary preferred alternative. Huff and Huff, the noise consultant, is aware of the coming changes to IDOT's noise policy and will ensure the analysis is compliant.

Preliminary plan and profile sheets will be submitted to IDOT and Lake County Division of Transportation for their review. The Draft Environmental Assessment is also under development and will be in draft form by the end of July 2011. Vanessa Ruiz (IDOT) indicated that she will check on archeological survey status and will forward on the signoff accordingly.

From further detailed engineering design for the proposed improvement from IL Route 132 to IL Route 173, wetlands and Waters of the US impacts were tabulated. A wetlands/waters impact summary table was distributed to all meeting attendees. The table indicated that there are a total of 0.75 acres of wetlands and waters impacts for the preliminary preferred alternative. There is a small difference of 0.01 acres of wetlands and waters impacts between the three finalist alternatives. There is one wetland and waters site which has a total impact of 0.26 acres. A retaining wall will likely be used to minimize impacts at this location. Under the Army Corps Individual Permit requirements, it states that if the total wetland and waters impact is less than 1.0 acres and if any individual site is less than 0.25 acres the project could go through the Regional Permit process. FHWA indicated that on this basis the project could be removed from the NEPA/404 process if Army Corps of Engineers determined that the project would go through the Regional Permit process.

The southern project limits of the project were discussed. The IL Route 132 and US Route 45 intersection was previously covered under a previous IDOT Phase I Combined Design Report and Environmental Assessment that has remained active with staged implementation. IDOT has secured Phase II design services for the section from IL Route 132 south to Washington Avenue. The LCDOT US Route 45 Environmental Assessment project limits will match the planned IDOT improvements on the north leg of the intersection. FHWA concurred with this approach.

The next steps in the project process include the presenting the preliminary preferred alternative A4 at the NEPA/404 Merger meeting on June 28, 2011. The presentation will request Concurrence Point 2 (Alternatives Carried Forward) based on the previous merger meeting presentations and overall project development, and request Concurrence Point 3 (Preferred Alternative) for Alternative A4. If Concurrence Point 3 is not granted at the June NEPA/404 Merger meeting, it will be requested at the September NEPA/404 Merger meeting.

Mike Matkovic - CBBEL
Marie Glynn – IDOT/CH2M Hill

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AGENDA ITEM #4

US Route 45
IL Route 132 to IL Route 173
and Millburn Bypass
P-91-666-09
Lake County

May 9, 2012

This was the 12th presentation of this project. The previous presentation was on June 8, 2011. The purpose of this presentation was to discuss review comments received from IDOT and FHWA concerning the submitted Environmental Assessment (EA). The following summarizes the points of discussion and results:

Traffic Noise Analysis

The main comment received regarding the noise analysis was that coordination with local officials have jurisdiction over adjacent undeveloped lands with the project area needs to be completed and included in the EA, before the EA can be signed. CBBEL indicated that it desirable that this coordination occur via a meeting with the Village of Lindenhurst to explain the results of the noise analysis, as opposed to sending only the template coordination letter per the IDOT noise policy. This is due to the sensitivity of the results of the noise analysis for this bypass project, which concludes that there is a noise impact, and that noise abatement walls are feasible, but they are not reasonable to construct based on cost and therefore are not proposed with this project. CBBEL indicated that some of the review comments received seem to indicate that not all reviewers had a copy of the completed noise report. It was agreed that BDE and FHWA will review the completed noise report and provide their concurrence with the report for local agency coordination. Copies of the noise report were provided to FHWA at this meeting. Additional copies of the noise report were also provided to IDOT.

Improvement Plans in the EA

Several comments were received to include exhibits showing the recommended Alternative B in the north and south sections of the project. After discussion it was agreed to provide an exhibit that is similar to the concept exhibit provided for Preferred Alternative A4 in the middle (Bypass) project section.

Section 3.1.1 (Community Characteristics and Cohesion)

CBBEL indicated that some of the suggested revisions in this section of the EA with respect to remaining ingress and egress for the Forest Trails subdivision after construction of the Bypass are somewhat subjective and could be viewed differently by residents within the subdivision. After discussion, it was agreed that disclosure of modified ingress/egress as a result of the Bypass needs to be included, but CBBEL will review the language to ensure it is objective.

Section 3.1.6 (Relocations)

One of the comments in the EA requested more analysis of the cited similar replacement housing in the project area for the three residential relocations. After discussion, it was agreed that more information needs to be included about the information gather through the cited website (www.illinoisrealestate.com) that lead to the conclusion that similar replacement housing is available.

Agricultural Lands Coordination

This was an open issue while the EA was under review. This coordination has since been completed. A letter dated May 2, 2012 was received from the Illinois Department of Agricultural (IDOA) indicating that the IDOA has determined that the project complies with IDOT's Agricultural Land Preservation Policy and the Illinois' Farmland Preservation Act. On this basis, no further coordination is required.

Wetlands Clearance

This was an open issue while the EA was under review. This coordination has since been completed and wetlands clearance was provided on March 2, 2012.

Next Steps

The next steps in the overall project development process were discussed as follows:

- Based on the above discussion, CBBEL will target completing the revisions to the EA and resubmitting to IDOT for further review by Friday, May 18th. The completed correspondence to adjacent jurisdictions will be provided as follow-up documentation after IDOT-BDE and FHWA indicate their concurrence to the Traffic Noise Report and the coordination with adjacent jurisdictions is completed.
- The overall EA concept geometry and the detailed Bypass geometry is currently under review by LCDOT and IDOT. Concurrence with the geometry is required before proceeding to the Public Hearing.
- Two new bridges are proposed carrying the Bypass over tributaries to Mill Creek south of Haven Lane, both of which have been identified as Waters of the U.S. (WOUS) and high quality aquatic corridors. The primary function of these bridges is to avoid impacts to the delineated WOUS and to provide for terrestrial wildlife movement along these corridors as requested by the USFWS for medium to small size animals. These bridges are not required for hydraulic purposes. These bridges have nominal clearances of a few feet from the low beam to the normal water elevation (depending on upstream or downstream face) to facilitate this wildlife movement. The New Bridge Technical Memoranda for each of these proposed bridges have been submitted to IDOT and is under review.
- The Existing Drainage Plan is being revised based on IDOT review comments and the Proposed Drainage Plan is being prepared with anticipated submittal of both within a couple weeks for IDOT review.
- The Design Report is under development and is at about the 70% level. Submittal to LCDOT and IDOT for review is anticipated by the end of May.
- The Public Hearing is planned to occur as soon as possible, based on when the EA is signed. Lake County has expressed a desire to hold the Public Hearing by mid July, based on which EA signature is being requested by mid June if possible.

All those in attendance concurred with proceeding on the above basis.

Mike Matkovic - CBBEL

Srikanth Panguluri – IDOT/CH2M Hill

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AGENDA ITEM #20

US Route 45
IL Route 132 to IL Route 173
and Millburn Bypass
P-91-666-09
Lake County

October 24, 2012

This was the 13th presentation of this project. The previous presentation was on May 9, 2012. The purpose of this presentation was to discuss modifications to the previously submitted Environmental Assessment (EA) of U.S. Route 45 from IL Route 132 to IL Route 173 pertaining to the design and impacts associated with crossing of Millburn Creek and a Tributary to Millburn Creek and Back Channel. These design modifications occur within the Millburn Bypass (i.e.; the central section of the overall project). The EA describes that both of these creeks are delineated waters of the U.S. (WOUS) and mapped ADID. Based on this ADID designation, the EA further describes an objective to span both creeks to avoid placement of fill within the jurisdictional WOUS. However, based on further analysis and considering constructability, the required single span bridges would be longer and more expensive than desirable to avoid relatively minimal WOUS impacts. A memorandum was distributed to all attendees which summarized the proposed modifications to the EA and discussed in detail the design changes.

The design modifications to Millburn Creek include modifying the 60 feet long bridge to a three sided structure (open bottom) with a 42-ft span. The structure opening height will be eight feet from the stream bed. At the time of the wetland/waters delineations in August 2010, the creek depth was less than a foot and was approximately four feet wide. During the field surveys this year during drought condition, the crossing was dry as shown in the distributed memorandum.

As a result of this design modification, approximately 210 feet of Millburn Creek will need to be re-aligned or re-channelized within the proposed right-of-way to construct the three sided structure. This results in 0.02 additional acres of WOUS impacts. Due to the conversion from a bridge to a three sided culvert design at Millburn Creek, the roadway drainage from the south can be conveyed over the top of Millburn Creek via storm sewer and released at the main detention basin to the north within property already being acquired from the LCFPD. This eliminates the need for the previously proposed detention basin south of Millburn Creek, which eliminates the need for 0.67 acres of private property acquisition. The open bottom three sided culvert also allows for reinstating a meandering stream alignment as conceptually shown in the distributed memorandum.

The design modifications to the Tributary to Millburn Creek and Back Channel include modifying the 80 feet long bridge to two separate crossings. The main conveyance for the Tributary to Millburn Creek will be through two adjacent closed box culverts (a 10-ft x 6-ft cell for low flows, 4-ft x 6-ft cell for high/flood flows). The box culverts will be embedded a

depth of two feet, so the culverts will have approximately four feet from the stream bed elevation to the top of the culvert. At the time of the wetland/waters delineations in August 2010, the depth of the tributary and back channel was approximately one foot deep and ranged in width from 2 to 3 feet. A separate 4-ft x 6-ft closed box culvert is proposed 35-ft to the north for conveyance of the back channel. During the field surveys this year during drought condition, the crossing was dry as shown in the distributed memorandum.

Approximately 360 feet of the Tributary to Millburn Creek and the Back Channel will have to be re-aligned within the proposed right-of-way to construct the culverts. This results in 0.015 additional acres of WOUS impacts at each location (total 0.03 acres).

The modified crossings meet the hydraulic requirements at both locations and provide buffer areas for terrestrial wildlife passage for small to mid-size animals along the stream corridors. In addition, the modified crossings reduce private property impacts by eliminating the need for a separate detention basin south of Millburn Creek. The overall drainage plan for the Millburn Bypass meets IDOT and Lake County drainage requirements and maximizes the use of property already being acquired for the Millburn Bypass from the LCFPD for detention and water quality BMPs.

With the proposed design modifications, the following revisions to the EA will be required.

- Reduce right-of-way requirements by 0.67 acres resulting from elimination of detention pond south of Millburn Creek crossing
- Update EA text and tables to include the increase in WOUS impacts by 0.05 acres. The WOUS impacts (streams and wetlands) for the entire project from IL132 to IL173 would be increased from 0.61 acres to 0.66 acres.
- Updated EA text in multiple locations to reflect the modified proposed crossing type at both locations.

The IDOT District 1 Environmental Unit indicated that a regional permit will be sought based on these minor impacts. This project will be discussed at the upcoming Quarterly Resources Agency coordination meeting to seek their concurrence with the proposed stream crossings and that this qualifies for a regional permit. IDOT and FHWA concurred with this approach contingent upon the results of the resource agency meeting

Matt Huffman - CBBEL
Marie Glynn – IDOT/CH2M Hill

AGENDA ITEM #2

US Route 45
IL Route 132 to IL Route 173
and Millburn Bypass
P-91-666-09
Lake County

December 5, 2012

This was the 14th presentation of this project. The previous presentation was on October 24, 2012. The purpose of this presentation was to discuss the results from the presentation of the project at the IDOT Quarterly Resource Agency Meeting held on November 13, 2012. A project status update and next steps were also provided.

Meeting minutes of the November 13, 2012 IDOT Quarterly Meeting were distributed to all attendees. The purpose of the presentation was to seek concurrence from the U.S. Army Corps of Engineers (USACE) and U.S. Fish and Wildlife Service (USFWS) for modified crossing designs. Previously the crossing designs were simple span bridges that would entirely avoid impacts to delineated waters of the U.S. at these locations based on prior coordination. Millburn Creek (south crossing) and the Tributary to Millburn Creek and Back Channel (north crossing) within the Millburn Bypass section (Central Section) of the project.

The revised proposed crossing design at Millburn Creek is a three sided 42-foot span structure (open bottom), which provides an 8-foot opening permitting passage of small to medium sized animals. Approximately 201-feet of Millburn Creek would be re-aligned or re-channelized resulting in 0.02 additional acres of WOUS impacts. Roadway drainage from the south will be conveyed over the top of Millburn Creek via a storm sewer and released at the main detention basin within the property already being acquired from the LCFPD. This allows for the elimination of a previously anticipated detention basin and 0.67 acres private property impact that was required with the clear span bridge design.

The revised proposed crossing design at the Tributary to Millburn Creek and Back Channel is a series of three closed box culverts. The main conveyance of the Tributary to Millburn Creek is carried through two adjacent closed box culverts with another closed box culvert 35-feet to the north for the conveyance of the Back Channel. Approximately 360-feet of the Tributary to Millburn Creek and Back Channel would be realigned resulting in 0.015 additional acres of WOUS impacts at each crossing (total 0.03 acres).

The new design of these crossings will increase the WOUS impact by 0.05 acres, which increases the total WOUS/wetland impact for the entire project from IL Route 132 to IL Route 173 from 0.61 acres to 0.66 acres.

IDOT indicated that from the quarterly meeting, USFWS and USACE have no objections to the proposed crossing designs. A USACE Regional Permit will likely be required for the

associated impacts of both crossings. Based on the above, FHWA has no objection with the proposed creek crossing designs.

A project status update was provided to FHWA. The project team is aiming for a February 2012 Public Hearing. Revisions to the Environmental Assessment are ongoing and resubmittal will occur within the next couple weeks. Revisions are also being conducted on the Design Report to reflect the design changes. The COSIM for the project will be updated. WIE's were resubmitted for processing for the additional WOUS impacts. The Location Drainage Study and Hydraulic Reports are being updated and submittal is expected in mid December 2012. The intersection design study comments were addressed and resubmittal is forthcoming; the project team is waiting for response from the Bureau of Traffic on one comment pertaining to a right turn overlap and permitted u-turn movement. All other environmental clearances are in good standing. Coordination will be held with the local agencies to discuss the Location Drainage Study. A separate meeting with Heritage Trails is anticipated in January 2013. There were no objections to plan for a February 2013 Public Hearing.

Matt Huffman - CBBEL

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AGENDA ITEM #2

US Route 45
IL Route 132 to IL Route 173
and Millburn Bypass
P-91-666-09
Lake County

February 6, 2013

This was the 15th presentation of this project. The previous presentation was on December 5, 2012. The purpose of this presentation was to discuss the status of the review of the Environmental Assessment (EA) by IDOT-BDE (BDE) and FHWA, and to discuss the target Public Hearing date.

CBBEL indicated that the latest version of the EA dated January 2013 was revised to address all of the FHWA review comments received in June 2012. Additional revisions have been made to update the MSAT discussion based on updated guidance, and to update the air quality screening to COSIM 4. In addition, the signature page was revised to replace Norm Stoner with J. Michael Bowen (Acting DA). FHWA concurred with these revisions and indicated that they are prepared to sign the EA as soon as BDE concurs.

CBBEL reviewed that additional BDE comments on the EA have been received, which were largely editorial. BDE indicated that the Office of Chief Council (OCC) is also reviewing the EA and that comments/concurrence will be forthcoming. CBBEL will revise the EA based on BDE comments, but hold for re-submittal and signature until OCC comments or concurrence are received.

CBBEL indicated that March 21st has been identified as the target date for the Public Hearing, to be held at the Millburn Middle School in Lindenhurst from 4:30 to 7:30 p.m. The first round of invitation letters to legislative officials is targeted to be mailed on February 21st, with the first round of display ads in the newspapers targeted for February 28th. The EA would need to be posted to the project website two weeks in advance of the Public Hearing, or by March 7th. On this basis, FHWA signature on the EA is desired by February 21st, but required no later than March 6th. FHWA re-iterated they are prepared to sign the EA pending BDE concurrence.

CBBEL reviewed the following additional coordination activities that are anticipated in advance of the Public Hearing:

- Coordination with Lindenhurst and Millburn regarding the Proposed Drainage Plans.
- Media Briefing.
- Community Advisory Group Meeting #6 to provide a Public Hearing preview.

Mike Matkovic – CBBEL
Marie Glynn – IDOT Extension Staff

AGENDA ITEM #7

US Route 45
IL Route 132 to IL Route 173
and Millburn Bypass
P-91-666-09
Lake County

May 15, 2013

This was the 16th presentation of this project. The previous presentation was on February 6, 2013. The purpose of this presentation was to present a summary of the Public Hearing, and provide the status of: the response to Public Hearing comments, de minimis correspondence with Lake County Forest Preserve District (LCFPD) for the Raven Glen holding, Environmental Assessment (EA) Errata, Draft FONSI, and Design Report.

A summary of the Public Hearing was provided. The meeting was held on March 21, 2013 from 4:30 p.m. to 7:30 p.m. at Millburn Middle School in the Village of Lindenhurst to present the proposed improvement of U.S. Route 45 from IL Route 132 to IL Route 173, including a bypass of the Millburn Historic District. Public notices were placed in the February 28, March 4, and March 14, 2013 editions of the Daily Herald newspaper and News Sun newspaper. Letters of invitation were sent to public officials and agencies, representatives of local communities, utilities, and property owners. Approximately 765 letters announcing the Public Hearing were mailed for this project. The hearing was held in an open house format with a continuously running Powerpoint presentation providing in a separate room. The main room of the Public Hearing contained 21 separate exhibits along with detailed plan and profile sheets, proposed cross sections, the proposed drainage plan, right-of-way plans as well as the signed Environmental Assessment. The hearing was attended by 395 people with a total of 170 comments received during the Public Hearing comment period (3/6/13 to 4/8/13). Many of the submitted comments addressed the Millburn Bypass section of the project and were similar to those at the previous public meetings, with residents living west of existing U.S. Route 45 expressing concern with the selected west bypass alternative for reasons including proximity to residences, traffic noise, air quality, accessibility, safety, and property values. Thirty-two comments were received from adjacent residents, organizations, the Village of Old Mill Creek, and other users of U.S. Route 45 expressing support for the selected west bypass alternative and overall project implementation to resolve existing traffic congestion. A project FAQ handout is being prepared to address all questions/comments received, with individual letters being sent to questions/comments that are not addressed by the FAQ. The FAQ will also be posted to the project website. There were no objections to the Public Hearing response approach.

Coordination is ongoing with the LCFPD regarding Section 4(f) consultation for Raven Glen, which is located outside of the bypass area and is immediately adjacent to portions of existing U.S. Route 45 north of Miller Road. The centerline of U.S. Route 45 was shifted in this location to avoid impacts to Ethel's Woods Forest Preserve, which is located north of Miller Road and east of U.S. Route 45. LCFPD used OLT funds to purchase Ethel's Woods forest

preserve. LCFPD has concurred in prior coordination meetings that the impact would not adversely affect the function and use of the Raven Glen Forest Preserve. The Lake County Division of Transportation is the agency leading the Section 4(f) coordination and will be seeking a no impact finding in writing from LCFPD. FHWA indicated that the signed *de minimus* letter should be routed through District 1 to Robin Helmerichs. FHWA will not require this to be presented at a subsequent meeting.

A draft of the EA Errata has been prepared and will be updated to include the Frequently Asked Questions (FAQ) document being prepared in response to comments/questions received resulting from the Public Hearing. Once the Errata is updated FHWA indicated it should be emailed to Robin Helmerichs.

A Draft FONSI has been prepared and will be updated when the *de minimus* concurrence letter is received from LCFPD for Raven Glen. The project team is targeting a July 2013 Design Approval.

Matt Fuller indicated that in order for the FONSI to be signed the project must be in the multiyear TIP. Mike Matkovic responded that the project is currently conformed and is included in the multiyear TIP as project number 10-06-0020, as discussed in the FONSI.

The Design Report is being revised to accommodate some minor design changes and updated with the latest project correspondence. The project team expects to resubmit the Design Report the first week of June for IDOT review.

Matt Huffman – CBBEL
Marie Glynn – IDOT Extension Staff

AGENDA ITEM #5

US Route 45
IL Route 132 to IL Route 173
and Millburn Bypass
P-91-666-09
Lake County

July 10, 2013

This was the 17th presentation of this project. The previous presentation was on May 15, 2013. The purpose of this presentation was to request a *de minimis* finding from FHWA for the use of property from the Raven Glen forest preserve, and to discuss the status of FHWA review with respect to the EA Errata and Finding of No Significant Impact (FONSI), and to discuss whether a “limitation on claims” should be published in the federal register for this project.

Subsequent to the Public Hearing that was held on March 21, 2013, additional coordination occurred with the Lake County Forest Preserve District (LCFPD) regarding the proposed use of property from the Raven Glen Forest Preserve, and the comments received at the Public Hearing. A summary of the Public Hearing and copies of the two comments received concerning forest preserve impacts were provided to LCFPD for their review. Based on this coordination, the LCFPD provided their concurrence in writing on May 24, 2013 that this project will not adversely affect the overall recreational activities, features and attributes of the Raven Glen Forest Preserve and their concurrence with a *de minimis* impact finding. These materials were provided to IDOT and FHWA for their review. On this basis, FHWA granted the *de minimis* impact finding for Raven Glen on this date, July 10, 2013. The EA Errata and FONSI will be revised to include this date and resubmitted to IDOT for forwarding to FHWA.

Discussion occurred about the content of both the EA Errata and the FONSI. Both documents are under review by FHWA. In addition, discussion occurred regarding a draft “Notice of Limitation on Claims” that was prepared by District One and provided to FHWA for review. FHWA will review this draft document and provide comments to District One. The EA Errata must be approved by FHWA, and FHWA must sign the FONSI before the Notice of Limitation on Claims can be published in the federal register.

Other project status items were discussed including the response to Public Hearing comments, and reviews of the Bypass/Grass Lake Road intersection design study (IDS), and the revised Millburn Bypass geometric submittal (i.e.; plan, profile and cross sections). The Public Hearing comments are being reviewed by IDOT. The IDS and geometric submittals have been forwarded to the Geometrics Unit for review.

Mike Matkovic – CBBEL
Marie Glynn – IDOT Extension Staff

AGENDA ITEM #

US Route 45
IL Route 132 to IL Route 173 and Millburn Bypass
P-91-666-09
Lake County

August 14, 2013

This was the 18th presentation of this project. The previous presentation was on July 10, 2013. The purpose was to present design exceptions to the FHWA for their approval. The requested design exceptions, corresponding justifications, and FHWA responses are discussed in detail below.

At the US 45 intersection with Grass Lake Road, the 2040 levels of service for the overall intersection (AM Peak) and the US 45 southbound through lanes (AM and PM Peak) are LOS D. To meet the standard LOS C for the overall intersection, additional through and turn lanes would be required on US 45 and Grass Lake Road. For the southbound peak hour operations, additional lanes would be required along US 45 to provide LOS C. Any additional lanes would result in increases to the right-of-way and environmental impacts. In addition, the US 45/Grass Lake Rd intersection is adjacent to the Lake County Forest Preserve's Millennium Trail and in close proximity to residential areas. Increases in the intersection pavement, will have a direct impact on the pedestrian crossing length for all four legs of the intersection, which is not considered desirable to the local communities. BDE accepted the design exceptions and justification.

At the west project termini along Grass Lake Road, a design exception was requested for the proposed 7.5 percent superelevation rate. The existing superelevation rate in this section of Grass Lake Road is 7.5, and the proposed design would match into the existing horizontal roadway curvature. To meet the Lake County 4.0 percent superelevation rate, the roadway would need to be realigned requiring additional right-of-way, and impacting Lake County Forest Preserve property. BDE accepted the design exception and justification.

Along US 45 (STA 164+50) and Grass Lake Road (STA 304+50, STA 305+50, STA 312+50, and STA 317+50), design exceptions were requested for the ditch fore and backslopes. To provide the BDE standard of 4.0 foreslope and 3.0 backslope, additional right-of-way would be required since the ditch bottom elevations cannot be raised without impacting the ditch profiles or outlet elevations. BDE accepted the design exceptions, but recommended that a reduced 4-ft ditch bottom be considered to flatten the foreslope. In addition, FHWA noted that a few of the foreslopes appeared to be outside of the clearzone area and potentially did not require a design exception. Consultant should review design and eliminate design exceptions for locations outside the clearzone.

On the south leg of the US 45 intersection with Grass Lake Road, the northbound dual left turn will provide a 225 left lane taper length. Due to the proximity of the Haven Lane and Grass Lake Road intersections, the 300ft dual left turn lane taper cannot be provided in the proposed raised median area. To meet the BDE standard (300-ft taper length for dual left turn lanes), the taper would need to be extended to the south, through the Haven Lane intersection to approximately STA 138+86. As a result, the US 45 median width would be reduced to less than 30ft and the full "median shadow" of the proposed dual left turn lanes, would not be provided. BDE accepted the design exception and justification.

Marie Glynn – IDOT Project Manager
Jim Prola – IDOT Geo Unit

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NEPA 404/MERGER MEETING COORDINATION

NEPA/404 MERGER MEETINGS

NEPA #1 - 2/3/2009

NEPA #2 - 9/9/2009

NEPA #3 - 2/18/2010

NEPA #4 - 6/9/2010

NEPA #5 - 9/8/2010

NEPA #6 - 6/28/2011

NEPA #6 FOLLOW UP - 7/11/2011

**NEPA/404 Merger Meeting
February 3, 2009
At IDOT - District Four Offices**

**IDOT - District One, Lake County
US Route 45 - Millburn Bypass
Environmental Assessment
Project Introduction**

This was the 1st presentation of this project. The purpose of this presentation was to provide an initial project introduction and request resource agency concurrence on the overall project development approach.

The Lake County Division of Transportation (LCDOT) is the lead agency for this project. LCDOT selected a consultant engineering team lead by Christopher B. Burke Engineering, Ltd. (CBBEL) to prepare Phase I Engineering and Environmental studies for this project. The project is being coordinated through the Illinois Department of Transportation (IDOT), District One office, based on the involvement with US Route 45 and the anticipated use of SAFETEA-LU federal funding. At the current time, the project is being processed as an Environmental Assessment (EA) and is being coordinated through the NEPA/404 Merger process. The 2nd NEPA/404 Merger Meeting presentation for this project is anticipated for September 2009 to present the purpose and need. Design approval is anticipated for the summer of 2011.

CBBEL began the presentation with a summary of the project history and distributed an informational packet to all meeting attendees. The proposed project includes a US Route 45 bypass in north-central Lake County, near the intersections of Grass Lake Road and Millburn Road. The project's main objective is to alleviate the north-south and east-west traffic burden through the Millburn Historic District (Historic District), a National Register location, to the extent practical and avoid or minimize impacts to the Historic District resulting from project improvements.

In 1995, a Strategic Regional Arterial (SRA) study was completed that evaluated an east and west US Route 45 bypass alternative. Consensus for a west bypass was achieved at that time by all agencies involved, including: IDOT, LCDOT, Forest Preserve District of Lake County (FPDLC), Villages of Lindenhurst and Old Mill Creek, Historic Millburn Community Association (HMCA), and others. IDOT subsequently recorded the west bypass alignment and purchased one parcel of property along the recorded alignment. Given the elapsed time, and since the SRA planning study did not include a NEPA component, the current study is taking a fresh look at the project, including purpose and need and a full range of alternatives. LCDOT is using a Context Sensitive Solutions (CSS) project development approach based on the IDOT CSS procedures. An initial Public Meeting is scheduled for March 3rd. Based on recent discussions between LCDOT and FPDLC, the FPDLC does not object to the project.

Existing US Route 45 is one lane in each direction near Grass Lake Road and Millburn Road. Traffic volumes in this area along US Route 45 have increased from approximately 4,000

vehicles per day (vpd) in the early 1970s to over 16,000 vpd in 2007. It is anticipated that the 2030 traffic projections will require consideration of additional travel lanes along US Route 45 through this area. Based on the existing narrow right-of-way along US Route 45 through the Historic District, it is anticipated that widening existing US Route 45 would directly impact buildings listed on the National Register of Historic Places within the Historic District.

CBBEL summarized the overall project development approach. A project GIS database is being developed for preliminary alternatives analysis. The GIS database is being developed from data available through the Lake County GIS database, from environmental resource agencies (e.g., IDNR, IEPA, etc.), and select field reconnaissance. The project GIS database will be compiled for an area generally bounded by IL Route 173 on the north, IL Route 132 on the south, Interstate 94 (I-94) on the east, and Deep Lake Road on the west. Wetland delineations will be performed for a smaller core study area that is approximately one-half mile east and west of US Route 45 near Grass Lake Road and Millburn Road. Due to existing residential development and various natural resources within the study area, it is anticipated that the preferred alternative(s) will be located within the core study area. There are no other north-south state routes in the vicinity of US Route 45 at Grass Lake Road/Millburn Road that if improved, would alleviate congestion near this intersection. Detailed engineering and environmental studies and reports will be prepared after identification of the preferred alternative(s). The resource agencies concurred with the GIS database approach for initial alternatives development and evaluation.

CBBEL distributed an environmental resources map of the core study area. The resource map depicts some of the data collected to date, including some notable resources near the core study area, such as mapped ADID wetlands. Based on a review of recent aerial photography, it appears as though some development has occurred within the mapped ADID wetland boundaries. Wetland field reconnaissance will be performed for the core study area by the Illinois Natural History Survey. Other notable resources/constraints near the core study area include the Historic District, floodplain/floodway, McDonald Woods Forest Preserve, an Illinois Natural Areas Inventory site, a mapped location of a State-endangered bird, and adjacent residential development.

Agency Comments:

- 1) Add Section 106 (National Historic Preservation Act) Report to the list of permits/approvals (Stevens – IDOT/BDE)
- 2) Add the Chicago Metropolitan Agency for Planning (CMAP) to the stakeholder list (in the PowerPoint) (West – USEPA) – Note that CMAP is listed as a stakeholder in the Stakeholder Involvement Plan
- 3) Contact CMAP regarding available data from their GIS database (West – USEPA)
- 4) Indirect and cumulative impacts will need to be addressed; this topic will be brought up again (West – USEPA).

**IDOT District 1, Lake County
US 45 Millburn Bypass
Environmental Assessment
Information – Project Update**

This was the second presentation of this project. The previous presentation was on February 3, 2009. The purpose of this presentation was to provide a project status update with respect to revised project termini for the Environmental Assessment, and the results of the Community Advisory Group (CAG) meeting #1 including development of the CAG project problem statement. The Lake County Division of Transportation (LCDOT) is the lead agency for this project, with all reviews being coordinated through IDOT and FHWA.

In the interest of time, the FHWA requested that the prepared Powerpoint presentation not be made, but instead a brief review of the main points of the project status update. The project consultant (Christopher B. Burke Engineering, Ltd. - CBBEL) distributed an informational packet to all meeting attendees. The informational packet included the following materials:

- Powerpoint presentation slides
- Logical Termini Determination white paper
- Community Advisory Group #1 summary
- Public Involvement Plan date June 2009 (as presented to CAG)
- Overall Project Limits exhibit

CBBEL summarized the Logical Termini Determination white paper. Based on coordination meetings between LCDOT, IDOT and FHWA subsequent to the February 2009 NEPA/404 presentation, the project limits with respect to the Environmental Assessment have been extended from IL Route 132 on the south to IL Route 173 on the north. These limits were extended to ensure environmental issues are addressed on a broad scale with respect to likely future improvements along US Route 45 within these logical termini. The likely future improvement will be identified by traffic analysis, with needed improvements developed to a conceptual level to identify the roadway footprint for environmental analysis. Detailed engineering will be limited to the original planned construction limits in the vicinity of Grass Lake Road and Millburn Road at US Route 45. The resource agencies concurred with this approach.

CBBEL referred to the Public Involvement Plan (PIP) which is modified from the previous Stakeholder Involvement Plan (SIP). While LCDOT is using CSS project development principles, LCDOT is not following IDOT CSS policy. Therefore, the SIP was renamed to PIP to avoid confusion. There were no comments on the PIP.

CBBEL referred to the Community Advisory Group (CAG) meeting #1 summary. CAG #1 was held on June 16, 2009. 22 members of the CAG were in attendance. The overall agenda for this meeting included a project introduction including discussion of the current EA limits from IL Route 132 to IL Route 173; review and CAG concurrence with the PIP, and a workshop to develop the CAG Project Problem Statement. The consensus CAG Project Problem Statement developed is as follows:

“The transportation problems to be solved by the US 45 at Grass Lake Road/Millburn Road project are present and future congestion, safety and accessibility for all modes of transportation, and also impacts to natural and manmade environments.”

There were not comments on the CAG Project Problem Statement.

CBBEL reviewed the next steps in project development. The overall project schedule is included as a Powerpoint slide with a tabular form included in the PIP. CAG #2 is planned for the 1st week in November with the primary agenda items being review of the draft project Purpose and Need statement, and initiation of alternatives development and evaluation. The Chicago Metropolitan Agency for Planning

(CMAP) has already provided 2030 No-Build traffic projections for this project and will be providing 2030 Build projections by the end of September. The Draft project Purpose and Need statement will be prepared upon receipt of these traffic projections and submitted to LCDOT, IDOT and FHWA to initiate the review process for Concurrence Point #1. The project team is targeting the February 2010 NEPA/404 Merger meeting for concurrence on Purpose and Need. A draft Purpose and Need statement will be shared with the CAG at CAG #2 to solicit their comments. The draft Purpose and Need statement will include the CAG Project Problem Statement.

Agency Comments:

- 1) Will Crawford Road to the east be considered as a potential east bypass alternative from Millburn Road to IL Route 173? (West – USEPA).

Response: Whereas local bypass alternatives are being considered in the vicinity of the Millburn Historic District due to likely impacts associated with capacity improvements, these type of constraints are not known to be present to the north or south and therefore an aggressive realignment of US Route 45 one to two miles to the east along Crawford Road is not warranted or anticipated. In addition, Crawford Avenue is within the Village of Old Mill Creek and is planned for low density residential with Crawford Road serving as a local roadway, not compatible with remarking as US Route 45.

**IDOT District 1, Lake County
US 45 from Illinois Route 132 to Illinois Route 173
Environmental Assessment
Concurrence - Purpose and Need**

This was the 3rd presentation of this project. The previous presentation was on September 9, 2009. The purpose of this presentation was to request resource agency concurrence on the project Purpose and Need and to provide an introduction to the Millburn Bypass alternatives.

The project consultant (Christopher B. Burke Engineering, Ltd. - CBBEL) distributed an informational packet to all meeting attendees at the Matteson office; an identical packet was previously sent to Springfield for distribution and review. The informational packet included the following materials:

- PowerPoint presentation slides
- Purpose and Need – EA Chapter 1
- Full Range of Alternatives Exhibit showing general location of Potential Alternative Groups (north/south: Groups A-C; east/west Groups 1-6) resulting from early stakeholder coordination
- Preliminary Range of Alternatives Exhibits (one sheet for each north/south alternative paired with each of the 6 east/west options)
- Draft Template: Alternatives Evaluation Matrix
- Minutes from the February 3 and September 9, 2009 NEPA/404 Merger Meetings
- Community Advisory Group (CAG) #2 Meeting Summary
- Millburn Bypass Alternatives Development/Evaluation Summary Table

CBBEL reviewed the project limits. As discussed at the September 3, 2009 NEPA/404 Merger meeting, an Environmental Assessment (EA) is being prepared for this project based on the likely future improvement needs along US Route 45 from IL Route 132 to IL Route 173 that will be identified by analysis of projected year 2030 traffic. The identified needed improvements will be developed to a conceptual level to identify the roadway footprint for environmental analysis, and to ensure that environmental issues are addressed on a broad scale with respect to likely future improvements along US Route 45 within these logical project termini. Detailed engineering and a Combined Design Report (CDR) will be prepared for the core project area in the vicinity of Grass Lake Road and Millburn Road at US Route 45, which is funded for construction by the Lake County Department of Transportation (LCDOT).

CBBEL used a PowerPoint presentation to guide the overall project discussion, and proceeded with a presentation of the project Purpose and Need, also referring to the Purpose and Need statement as distributed to all meeting attendees.

The purpose of the project is to provide an improved transportation system to address capacity, mobility, safety, and operational deficiencies along US Route 45 from IL Route 132 to IL Route 173 in Lake County, Illinois. CBBEL reviewed the history of the project and the population and employment growth that has occurred, and the additional growth that is projected by the year 2030. CBBEL also reviewed the projected increase in traffic volumes by the year 2030 for the No-Build alternative. If no improvements are made to US Route 45 (No-Build alternative), traffic volumes are projected to increase from 20-100% by the year 2030, and existing travel performance deficiencies and crash occurrences will worsen. Intersection performance at the five existing signalized intersections within the limits from Illinois Route 132 to Illinois Route 173 will degrade to an unacceptable level of service of "F" under 2030 No Build conditions. A main focus area of the project is to alleviate traffic congestion at the intersections of US Route 45 with Grass Lake Road and Millburn Road within the Millburn Historic District. The location and proximity of these intersections and the narrow existing right-of-way precludes capacity improvements without impacts to the historic district and historic structures.

The draft project Purpose and Need statement was discussed with project stakeholders at the 2nd CAG meeting on November 3, 2009. The CAG concurred with the Draft Purpose and Need statement with only minor editorial comments provided.

After brief discussion, the FHWA polled the resource agencies for concurrence with the project Purpose and Need statement as follows:

- Illinois Department of Natural Resources (IDNR: Hamer) – Concur
- Illinois Historic Preservation Agency (IHPA: Haaker) – Concur
- US Army Corps of Engineers (USACE: Chernich) – Concur
- US Department of Agriculture (Savko) – Concur
- US Environmental Protection Agency (USEPA: West/Westlake) – Concur
- US Fish and Wildlife Service (USFWS: Cirton) – Concur

All resource agencies in attendance concurred with the project Purpose and Need.

The second half of the presentation focused on an introduction to the Millburn Bypass Alternatives. Eighteen initial potential alternatives were developed based on NEPA requirements, project history, and stakeholder input from the initial Public Meeting, including north-south (Group A-West Bypass; Group B-Existing Alignment; Group C-East Bypass) and east-west (1-Existing Grass Lake/Millburn Road; 2-6 Various E-W Connections) alternatives. CBBEL reviewed the conceptual line drawings of the eighteen initial alternatives, as well as the preliminary typical cross-sections of proposed improvements to US Route 45 and the county routes: Grass Lake Road and Millburn Road.

A workshop was held with the project CAG at the November 3, 2009 meeting to discuss the eighteen initial potential alternatives. As a result of input received from the CAG workshop and further discussion with Lake County Division of Transportation (LCDOT) and IDOT, nine alternatives were considered unreasonable and were not carried forward based on not meeting the project purpose and need and/or obvious severe impacts relative to other similar alternatives that would avoid such impacts. CBBEL reviewed the table that summarized the initial alternatives that were discarded and those that were carried forward for development and evaluation. On this basis, the original full range of eighteen potential alternatives has been narrowed to a reasonable range of nine initial bypass alternatives for development and evaluation.

In response to a question concerning the LCFPD opinion regarding the west bypass alternatives and resulting impacts to McDonald Woods Forest Preserve, CBBEL explained that in 1995, a Strategic Regional Arterial (SRA) feasibility study was completed by IDOT that evaluated east and west US Route 45 bypass alternatives. Consensus for a west bypass was achieved at that time by all agencies involved (including: IDOT, LCDOT, Lake County Forest Preserve District (LCFPD), Villages of Lindenhurst and Old Mill Creek, Historic Millburn Community Association (HMCA), and others). Therefore, the LCFPD is not surprised by the Group A west bypass alignments.

On the above basis, the resource agencies in attendance concurred with the screening of the eighteen initial potential alternatives and the project moving forward with the reasonable range of nine alternatives for development and evaluation.

CBBEL presented a draft evaluation matrix that will be used for evaluation of the alternatives moving forward. The evaluation matrix will be used to summarize potential environmental and socio-economic impacts associated with various alternatives for comparative purposes.

It was noted that the State is scheduling archaeological/cultural field work to occur as soon as practicable, but additional coordination is necessary. In order to keep the project moving forward, the agencies concurred that an analysis based on Geographic Information Systems (GIS)/available data remains acceptable while the State performs additional studies of the project corridor (e.g., archaeological/cultural fieldwork and analysis).

Agency Comments:

- 1) Population and employment growth is projected to increase by approximately 30% for Lake County by the year 2030, with higher increases along the US Route 45 corridor. What is driving the population growth up? (West – USEPA).

Response: Much of the land in the communities surrounding the proposed improvements is undeveloped. The Comprehensive Plans for these communities show development in the much of the undeveloped area. For example, the Comprehensive Plan for the Village of Old Mill Creek shows a Village Center with “special retail” development on the east and west sides of US Route 45 within the Historic District, as well as adjacent proposed medium and low density residential development.

- 2) Within the project area there are many engineering challenges, such as potential water resources issues, as well as adjacent forest preserve lands; however, one of the biggest issues may be the Historic District. (West – USEPA)

Response: CBBEL concurred.

- 3) USEPA commended LCDOT and the consultant team for developing and starting with a full range of alternatives. (West – USEPA)

Response: Thank you.

- 4) IHPA also commended LCDOT and the consultant team for their efforts to date. (Haaker – IHPA)

Response: Thank you.

- 5) The Millburn Historic District is one of the older districts in the state and this Historic District may increase in size; there are an additional three properties that have submitted an application for inclusion in the Millburn Historic District. IHPA requested that the photos of the structures on these three properties be forwarded to their office as soon as practicable. (Haaker – IHPA)

Response: IDOT will forward the photos of the three properties to IHPA.

- 6) In the existing condition, what is the width of the US Route 45 right-of-way, especially through the Historic District? (Haaker – IHPA)

Response: In the existing condition, the width of the US Route 45 right-of-way is approximately 80-ft, but this width narrows to as little as approximately 60-ft through the Historic District. There is no median in the existing condition. A 130-ft right-of-way is anticipated for the US Route 45 Bypass in the proposed condition. This includes an 18-22 ft wide barrier curbed median, 5-ft wide sidewalk, and a 10-ft wide bike path.

- 7) IHPA recommended that the historic cemetery reportedly located adjacent to the east side of US Route 45 be investigated as soon as feasible. IHPA stated that typically bodies were not removed from historic cemeteries when headstones were relocated. (Haaker – IHPA)

Response: Coordination regarding the historic cemetery investigation/fieldwork is underway.

NEPA/404 Merger Meeting Summary

June 11, 2010

IDOT District 1, Lake County
US 45 from Illinois Route 132 to Illinois Route 173
Environmental Assessment
Information – Project Status Update

This was the 4th presentation of this project. The previous presentation was on February 18, 2010. The purpose of this presentation was to discuss the results of the bypass alternatives development and evaluation process and the associated stakeholder coordination that has occurred since the previous NEPA/404 Merger meeting. On this basis, the Project Team is recommending that six of the nine bypass alternatives be dismissed from further consideration, with the remaining three alternatives to be further developed and presented at a Public Meeting during the Summer 2010, along with the overall bypass alternatives development and evaluation process to date.

The following information was distributed to the NEPA/404 Merger meeting attendees via e-mail approximately two weeks in advance, with additional copies provided at the meeting to all meeting attendees.

- NEPA/404 Merger meeting Agenda
- The Project Status Summary white paper that was distributed to the Community Advisory Group (CAG) members in advance of the April 27, 2010 CAG meeting (this provides a synopsis of project development activities since Fall 2009, and it also provides a detailed explanation on the development of the nine bypass alternatives and the development and use of the Evaluation Matrix)
- Meeting minutes from the CAG meeting #3 on April 27, 2010
- Project Team recommendations for further screening of alternatives from nine to three
- Previous NEPA/404 Merger meeting minutes from February 18, 2010
- Exhibits showing the nine bypass alternatives developed for comparative analysis and for discussion with the CAG
- The Evaluation Matrix which summarizes the results of the comparative analysis of the bypass alternatives

The project consultant (Christopher B. Burke Engineering, Ltd. – CBBEL) used a PowerPoint presentation to guide the overall project discussion. The project limits were re-stated. As mentioned at the previous NEPA/404 Merger meeting, an Environmental Assessment (EA) is being prepared for this project based on the likely future improvement needs along US Route 45 from IL Route 132 to IL Route 173. The intersections of US Route 45 at Grass Lake Road and Millburn Road lie within the Millburn Historic District, a National Register Historic Place. The location and proximity of these intersections and the narrow existing right-of-way precludes capacity improvements without impacts to the historic district and historic structures.

As discussed at the February 2010 NEPA/404 Merger meeting, eighteen initial potential bypass alternatives were identified based on NEPA requirements, project history, and stakeholder input from the initial Public Meeting, including north-south and east-west alternatives. Nine bypass

alternatives were dismissed due to unacceptable impacts and/or not meeting the project purpose and need. On this basis, the resource agencies in attendance concurred with the project moving forward with the reasonable range of nine bypass alternatives for development and evaluation, including Alternates A1, A2, A4, B1, B2, B4, C1, C2, and C4.

The “A” alternatives represent a US Route 45 west bypass, which uses the previously recorded IDOT alignment. The “B” alternatives represent an add lanes project on the existing US Route 45 alignment, and the “C” alternatives represent a US Route 45 east bypass. Each US Route 45 alignment is associated with 1 of 3 east-west improvement options. The “1” option maintains existing alignments of Grass Lake Road and Millburn Road. The “2” option realigns Grass Lake Road and Millburn Road to the north. The “4” option realigns Grass Lake Road to the south to meet Millburn Road. Building displacements that would result with the construction of each alternative are depicted on the conceptual drawings. All of the “B” alternatives result in the displacement of several historic structures.

CBBEL referred the meeting attendees to the Project Status Summary which provides a complete overview of the bypass alternatives development and evaluation process that has occurred for this project to date. The nine bypass alternatives were developed based on project design criteria assembled and reviewed by Lake County Division of Transportation (LCDOT) and IDOT to ensure each alternative is viable with respect to roadway design at this stage of development. As shown on the typical cross-sections distributed at the February 2010 NEPA/404 Merger meeting, a 130’ right-of-way (ROW) width is anticipated for the US Route 45 Bypass in the proposed condition, with an 80’ ROW width for Grass Lake Road and Millburn Road in the proposed condition. All nine bypass alternatives were developed with respect to proposed alignment and horizontal geometrics, and reviewed by LCDOT and IDOT for design acceptance and stakeholder coordination moving forward.

Next, discussion focused on the bypass alternatives evaluation and results. Matrix content, relative comparison of alternatives, and presentation were summarized. The matrix evaluation criteria are separated into four main categories: Transportation Performance, Environmental Resource Impacts, Socio-Economic Impacts, and Construction Cost. For the majority of the criteria, the results were quantity based, when direct measurable performance or impacts could be developed. For some of the criteria, the results were quality based, with the Project Team developing these results based on the best available information at this stage of overall project development. A color grading system was used to provide a visual representation as to which bypass alternatives perform relatively strong or relatively weak when compared to the other alternatives, within each criterion. Weighting of evaluation criteria was not used.

At this point in the evaluation process, the impact evaluation is based on the width of the ROW footprint per the typical cross-sections. Potential impacts are based on the best available information, including the results of field studies completed for this project (e.g., INHS field delineated wetlands) supplemented with available GIS information. Environmental surveys, such as cultural resources, are on-going and results will be evaluated as information becomes available.

A results summary for the four main evaluation criteria follows:

Transportation Performance: Based on Synchro/Simtraffic analysis of the core study area for each alternative and comparison of selected Measures of Effectiveness. Alternates A4 and B4 were strongest in comparison. Alternates B1 and C1 were weakest in comparison.

Environmental Resource Impacts: The B alternatives, as well as A2 and C2, were weakest in comparison predominantly due to historic district impacts, including historic buildings.

Socio-Economic Impacts: The B alternatives were clearly weakest in comparison, primarily due to resulting displacements.

Construction Cost: Alternates A2, B2, and C2 were weakest in comparison. Alternates A1, B1, B4, and C1 were strongest in comparison.

CBBEL provided a summary of the 3rd meeting of the project CAG on April 27, 2010. A PowerPoint presentation was used to update the CAG members on the project developments since the 2nd CAG meeting, which was also described in the Project Status Summary paper. A detailed explanation of how the nine bypass alternatives were developed and evaluated was given, as well as an explanation for the color coding system used with the evaluation matrix.

The CAG members were then placed in one of three breakout groups (Group 1, 2, or 3) to discuss the results of the bypass alternatives development and evaluation process, and to formulate their opinions on whether each alternative compares relatively strong or relatively weak to the other alternatives (and why), and whether the alternatives should be considered for more detailed development or dismissed (and why).

CBBEL referred the meeting attendees to the Alternatives Screening Recommendations paper that was distributed to meeting attendees and summarizes the results from the CAG meeting. Based on the CAG input received, there was general consensus that the “B” alternatives should not be considered any further due to the resulting displacements of historic structures within the Millburn Historic District. There was also general consensus for dropping the “2” options due to higher costs resulting from the greater length of roadway construction, as well as due to the property impacts/acquisition required within the Millburn Historic District boundaries both east and west of existing US Route 45. There appeared to be general consensus for four alternatives: A1, A4, C1, and C4. Group 1 supported A1, A2, C2, and C4. Group 2 supported A4 and C4. Group 3 supported Alt A1, A4, and C4.

Subsequent to the CAG #3 meeting, the Project Team (LCDOT, IDOT and the project consultants) met to discuss the overall bypass alternatives evaluation results and the recommendations moving forward. There was consensus within the Project Team that alternate C1 also be dismissed from further consideration based on the comparatively weak transportation performance. On this basis, LCDOT and IDOT/District One are recommending that alternatives A1, A4, and C4 be carried forward for further development and evaluation, and that the other six alternatives be dismissed from further consideration.

It was noted that the “A” alternatives cross through forest preserve property. The Consultant Team and LCDOT have met with the Lake County Forest Preserve District (LCFPD) to discuss this project. Overall LCFPD does not object to the “A” alternatives. LCFPD does have a

concern with the fragmentation of a northeast portion of their property (at McDonald Woods) that would be isolated following construction of the “A” alternatives. Additional coordination with LCFPD would occur if an “A” alternative is selected as the proposed action.

Discussion of the Project Team’s recommendations occurred. Concurrence with this recommendation was not received from all of the resource agencies as discussed below under Agency Comments.

Discussion then segued to project updates and next steps, including the following:

Millburn Burial Site: Based on information received from the state, there is a burial site located adjacent to US Route 45 (east of the intersection with Independence Boulevard). Alternate C4 was revised to avoid the burial site. The revised alternate is Alternate C4.4, which replaces Alternate C4. An exhibit depicting Alternate C4.4 was distributed.

Millburn Congressional Church: Based on coordination with the CAG, the Project Team was informed that the property owned by the Millburn Congressional Church was larger than originally thought. The “4” options cut across the revised church property limits. The Project Team does not anticipate this to be a Section 4(f) issue. The Millburn Congressional Church is aware of the proposed project. The Project Team will arrange a meeting to discuss potential impacts with the Millburn Congressional Church.

Status of Cultural Resource Review: The Project Team is still waiting for Cultural Resources Review to be completed. It is anticipated that the review will be completed by Fall 2010.

Public Meeting: A Public Meeting has been tentatively scheduled for the end of July 2010. Concurrence was requested on the Project Team’s recommendation to dismiss six of the nine alternatives from further consideration, with the remaining three alternatives and overall project development results to be presented at the Public Meeting.

Concept Geometry Development: Concept geometry for the remaining portions of the EA project limits will be completed and submitted to LCDOT and IDOT for review.

September 2010/February 2011 NEPA/404 Merger meetings: Seek concurrence on Concurrence Point 2: Alternatives to be Carried Forward.

Agency Comments:

- 1) Could this meeting serve as Concurrence Point 2: Alternatives to be Carried Forward? (Westlake – USEPA)

Response: The Project Team would like to use the Public Meeting to gain wider public input on the alternatives before requesting concurrence on alternatives carried forward in the Environmental Assessment. Matt Fuller (FHWA) also stated that the informational packet for this meeting was not submitted early enough to allow the full 30-day review period (Note: The informational packet was submitted within an acceptable time [2-3 weeks] to allow review for a status update – as is acceptable).

- 2) Please elaborate why the “2” options should be dropped from further consideration. (West – USEPA)

Response: At the April 27, 2010 CAG meeting, there was general support for dropping the “2” options. This was primarily due to higher cost resulting from the greater length of roadway construction, as well as due to the property impacts/acquisition required within the Millburn Historic District boundaries both east and west of US Route 45.

- 3) USFWS did not recall receiving the informational packet. Therefore, the information was not previously reviewed. USFWS cannot provide comment at this time. USFWS will provide comment before the September NEPA/404 Merger meeting. (Cirton – USFWS)
- 4) What is the quality of the triangular-shaped wetland located west of US Route 45 and south of Independence Boulevard? (West – USEPA)

Response: Based on vegetative quality (INHS determined C-value and FQI), all potentially impacted wetlands are low to fair quality.

- 5) Where is the delineation of “waters of the U.S.” (waters)? Please provide additional information with respect to waters. For example, where are the proposed waters crossings and what is the acreage of waters impact. Please add acreage of potential waters impact to the evaluation matrix (potential wetland impacts are included). Have all wetland areas been identified? Please provide a copy of the delineation report to the USACE and USFWS. USACE cannot provide comment at this time without reviewing this information. (Chernich – USACE)

Response: INHS completed a wetland delineation report - it includes all identified wetland areas based on INHS field visit. The wetland delineation report will be forwarded to the USACE and USFWS. Based on GIS data, waters are identified on the Environmental Resources Inventory Map (which was available for review as a display board at the meeting). Potential waters impacts can be added to the evaluation matrix.

- 6) It was noted that the Cultural Resources Review is not yet complete. Has a “C” alternative that is located east of the Millburn Burial Site been considered? (West – USEPA)

Response: Alternate C.4.2 located east of the Millburn Burial Site was presented. This alternative was developed and considered by the Project Team, but discarded because of the higher cost (more pavement), additional property acquisition required to construct, and more intrusive on the adjacent Tempel Farms property, leaving larger divided portions of Tempel Farms property east and west of US Route 45, which is alleviated by alternate C.4.4. Alternatives C.4.2 and C.4.4 are similar with respect to transportation performance.

- 7) Stormwater management will need to be considered, including the implementation of water quality and quantity Best Management Practices (BMPs). It is anticipated that vegetated ditches will not be sufficient on their own. (West – USEPA)

Response: Noted. Water quality and quantity BMPs will be considered in preliminary design.

**IDOT District 1, Lake County
US 45 from Illinois Route 132 to Illinois Route 173
Environmental Assessment
Information – Project Status Update**

This was the 5th presentation of this project. The previous presentation was on June 11, 2010. The goal of this presentation was to (1) summarize the coordination meeting with the Illinois Historic Preservation Agency (IHPA) on July 19, 2010; (2) provide a project status update based on the results of the Community Advisory Group (CAG) meeting #4 on August 19, 2010 and the Public Meeting #2 on September 2, 2010; and (3) provide a status update with respect to the “waters” delineation and on-going archaeological surveys for the entire project corridor by IDOT. Resource agency concurrence to proceed with the three finalist alternatives to a public meeting was obtained prior to Public Meeting #2.

All materials used to arrive at the three finalist bypass alternatives were previously distributed for the June 11, 2010 NEPA/404 Merger meeting. At the September NEPA/404 Merger meeting presentation, the following information was distributed to the attendees:

- NEPA/404 Merger meeting Agenda
- Meeting minutes from the IHPA coordination meeting on July 19, 2010
- Meeting minutes from CAG meeting #4 on August 19, 2010
- DRAFT Summary from Public Meeting #2 on September 2, 2010 (including questionnaire and summary of comments)
- Exhibits showing the three finalist bypass alternatives (Alternates A-1, A-4, and C-4) as presented at Public Meeting #2
- Updated Environmental Resources Exhibit, including the Illinois Natural History Survey (INHS) “waters” delineation and labeled stream names
- Updated Finalist Impact Evaluation Matrix, which summarizes the results of the comparative analysis of the 3 remaining bypass alternatives

The project consultant (Christopher B. Burke Engineering, Ltd. – CBBEL) guided the overall discussion, which began with a summary of the IHPA coordination meeting that took place on July 19, 2010 in Springfield, Illinois. Meeting minutes were provided to NEPA/404 Merger meeting attendees. At that meeting, IHPA concurred with carrying the three finalist alternatives (Alternates A-1, A-4, and C-4.4) forward for further development, evaluation, and presentation at the September Public Meeting. Note that Alternate C-4.4 (hereinafter known as Alternate C-4) was designed to avoid the Millburn burial site. The project consultant noted that the burial site was not shown on the exhibits at the Public Meeting (refer to the exhibit(s) presented at the June NEPA/404 Merger meeting for the location of the burial site). Alternate C-4 (east bypass alternative) bisects open space within the National Register Historic District. At the IHPA coordination meeting, IHPA stated that this is not a concern to them even if this alternative were to emerge as the preferred alternative.

As part of the Cultural Resources Review for this project, the Druce-Hoffman property is being evaluated. This property is located immediately west of the existing Millburn Road and US Route 45 intersection. A residence on this property is located within the footprint of the “4” options (i.e., Alternate A-4 and C-4) and would be displaced by either option. The residence is located southeast (and outside) of the existing National Register Historic District. Based on the meeting with IHPA on July 19, 2010, IHPA did not feel that this residence was an eligible historic building; however, the property is currently under review as a potentially historic homestead. In addition, Mr. Druce-Hoffman (a member of the CAG) has contracted with an independent consultant and is proceeding with the nomination of his property in the National Register of Historic Places. Cultural Resources Review, including archaeological resources for the entire project corridor, is on-going.

Next, the project consultant summarized CAG meeting #4 and the Public Meeting that took place on August 19, 2010 and September 2, 2010, respectively. The purpose of the CAG meeting was to brief the CAG members on the project status, the three finalist alternatives, and the upcoming Public Meeting - where the three finalist alternatives

would be presented. Meeting minutes were provided to NEPA/404 Merger meeting attendees. The discussion then segued to the Public Meeting. Over 300 people attended the Public Meeting, which lasted over three hours. At the time of the NEPA/404 Merger meeting, over 120 comments had been received by the Project Team. However, the public comment period was still open. Draft summaries of the Public Meeting and comments received to date were provided to NEPA/404 Merger meeting attendees. The Project Team intends to meet with the Lake County Division of Transportation (LCDOT) and IDOT in the near future to review the comments and to identify the Millburn Bypass alternative(s) to be carried forward in the Environmental Assessment (EA) (i.e., No Build, Build Alternative(s), and a Preliminary Preferred Alternative).

The project consultant stressed the importance of receiving the results of the Cultural Resources Review, as it pertains to “Alternatives to be Carried Forward”. The Project Team is targeting the February NEPA/404 Merger meeting to present “Alternatives to be Carried Forward”. Chapter 3 of the EA is currently being written and will be submitted to FHWA for review in advance of the meeting.

The goal of the Project Team is to request concurrence of a “Preferred Alternative” at the June 2011 NEPA/404 Merger meeting, hold a Public Hearing during the Summer of 2011, and receive Design Approval at the end of 2011.

Agency Comments:

- 1) Do all three finalist alternatives provide sufficient travel performance? (Westlake – USEPA)

Response: Yes, all three finalist alternatives provide sufficient travel performance. However, when compared to each other, Alternate A-4 is superior (followed by Alternate C-4). Alternate A-4 would bring the bypass the closest to the majority of the existing residences (i.e., motorist origins/destinations) in the vicinity of the project and corrects the current Grass Lake Road and Millburn Road offset.

- 2) Is the east bypass within the corporate boundaries of Old Mill Creek? (Savko – Department of Agriculture)

Response: All three finalist alternatives are located (at least partially) within the corporate boundaries of Old Mill Creek.

- 3) Why was Alternate C-1 dropped from further consideration and has the owner of the Millburn Tree Farm been involved in the community outreach for the project? (West – USEPA)

Response: Alternate C-1 was dismissed due to poor travel performance when compared to the other alternatives and its associated cost. The main travel performance issue with C-1 is that the heavier local traffic from the west along Grass Lake Road would still need to traverse through the Historic District to access the East Bypass associated with this alternate. The alternative screening process, including Alternate C-1, was covered at Public Meeting #2.

Yes, the owner of the Millburn Tree Farm is a member of the CAG.

- 4) If the Druce-Hoffman property is determined to be historic, would this finding dismiss Alternates A-4 and C-4? (West – USEPA)

Response: It is unclear at this time how a “finding of historic significance” would affect the project. The Project Team will know more after receiving the results of the Cultural Resources Review.

Based on coordination with IHPA completed to date, it doesn't appear as if avoidance of the Druce-Hoffman property will be the primary objective. The Project Team understands that the residence on the property is a 20th century structure that has had many additions/modifications since initial construction. The brick outhouse on the property appears to be the oldest structure on site.

- 5) Why are there two options for Haven Lane (i.e., cul-de-sac versus maintaining Haven Lane as a through street) under the A Alternatives? (West – USEPA)

Response: From a transportation performance perspective, there is not much of a difference...a stop sign is

proposed with both options. The cul-de-sac option was originally platted with the subdivision.

- 6) It appears that a creek crossing is proposed at McDonald Woods Forest Preserve? What type of crossing is proposed – bridge or culvert? Will the crossing accommodate wildlife movement/corridors? (West – USEPA)

Response: Most likely the crossing will consist of a culvert(s) or a conspan. The size and type of structure will depend on the results of the drainage study, which has not been completed yet. The crossing will accommodate wildlife movement, as necessary. Additional coordination with the Lake County Forest Preserve District (LCFPD) will be completed for the A Alternatives, if carried forward. There is also the possibility of a ped/bike underpass at relocated US Route 45 and Millburn Creek.

The Project Team also noted that INHS completed a waters delineation of the streams that are located within the footprint of the remaining three finalist alternatives. Potential stream impacts have been quantified and added to the Finalist Impact Evaluation Matrix.

- 7) Has the Project Team discussed a preferred alternative with LCFPD? (Cirton – USFWS)

Response: This project has been coordinated with the LCFPD. The LCFPD has known about a potential west Millburn Bypass since the mid-1990s. The Strategic Regional Arterial (SRA) study from the mid-1990s recommended a west bypass; an east bypass was considered as part of the SRA study. The LCFPD may prefer an east bypass, but they have also considered the potential of a west bypass in future plans. There are some benefits that could be realized by LCFPD associated with a potential west bypass, such as ped/bike accommodations at the relocated US Route 45. Potential ped/bike facilities could be consistent with future LCFPD regional trail plans and promote connectivity between preserves.

Based on the potential impact and coordination with the LCFPD, the Project Team anticipates requesting a Section 4(f) de minimis finding for this project.

- 8) Are there any Section 4(f) impacts associated with an east bypass? (Zyznieuski – IDOT/BDE)

Response: There are no Section 4(f) impacts anticipated within the limits of the east bypass only. However, the project limits extend north to IL Route 173. North of the bypass portion of the project corridor and south of IL Route 173, two forest preserves (Raven Glen and Ethel's Woods) are located immediately adjacent to US Route 45. Due to the proximity of the forest preserves to existing US Route 45, any widening of US Route 45 would result in a forest preserve impact in this location. The Project Team understands that OSLAD/OLT funds have been used in the acquisition and/or development at portions of these preserves – specifically at the north half of Raven Glen (west of US Route 45) and the portion of Ethel's Woods adjacent to the east side of US Route 45. It is anticipated that through geometric roadway design alternatives, impacts to the OSLAD/OLT lands can be avoided, but acquisition of LCFPD property to the north is unavoidable due to the narrow existing right-of-way along US Route 45 in this area. This project has been coordinated with the LCFPD.

- 9) Do the projected traffic volumes for this project take into account the proposed IL Route 53 north extension? It is worth consideration. (West – USEPA)

Response: The projected 2030 traffic volumes were prepared by the Chicago Metropolitan Agency for Planning (CMAP). The Project Team understands that CMAP did take the proposed IL Route 53 north extension into account for the traffic projections. Regardless, 2040 traffic projections will be available in the near future and will be used for this project. The project team will confirm with CMAP whether the IL Route 53 extension will be included in the 2040 projections.

**IDOT District 1, Lake County
US 45 from Illinois Route 132 to Illinois Route 173 including Millburn Bypass
Environmental Assessment
Concurrence – Alternatives to Carry Forward
Concurrence – Preferred Alternative**

This was the 6th presentation of this project. The previous presentation was on September 9, 2010. The goal of this presentation was to request Concurrence Point 2 (Bypass Alternatives Carried Forward) and Concurrence Point 3 (Preferred Bypass Alternative).

An advance materials packet was distributed to the Resource Agencies for review in advance of this meeting, with an additional copy provided to all attendees of this meeting. The advance materials packet included the following information:

Advance Materials Packet

- NEPA/404 Merger meeting Agenda
- NEPA/404 Merger Meeting Summary - June 11, 2010
- NEPA/404 Merger Meeting Summary - September 9, 2010
- Meeting minutes from IHPA coordination meeting on July 19, 2010
- FHWA meeting minutes - March 16, 2011
- Public Meeting #2 Questionnaire Response Summary (September 2, 2010)
- Lake County Forest Preserve District McDonald Woods *de minimis* concurrence letter (April 4, 2011)
- IHPA Druce-Hoffman NRHP eligibility determination letter (May 24, 2011)
- Millburn Bypass - Finalist Bypass Alternatives Comparison Positive/Negative white paper
- Traffic Measures of Effectiveness (MOE) spreadsheet
- Finalist Bypass Alternatives color exhibits (A1, A4, and C4)
- Finalist Bypass Alternatives Impact Evaluation Matrix

The following additional materials were provided to all meeting attendees:

- Power point presentation slides
- Section 4(f) *De Minimis* Impact Documentation package (McDonald Woods)
- Lake County Forest Preserve District Preliminary Trail Alignment - Route 45 Bike and Pedestrian Trail Exhibit (March 1, 2011)

Concurrence Point 2 (Bypass Alternatives Carried Forward) Presentation:

The project consultant (Christopher B. Burke Engineering, Ltd. - CBBEL) made a formal presentation guided by PowerPoint seeking concurrence on the Bypass Alternatives Carried Forward. A summary of the projects 4th NEPA/404 meeting presentation on June 11, 2010 and 5th NEPA/404 meeting presentation on September 9, 2010 was made. As part of these meetings and follow-up coordination, the Resource Agencies had concurred with the three Finalist Bypass Alternatives, although Concurrence Point 3 was not requested at that time due to ongoing cultural resources review, which is now completed. On this basis, Concurrence Point 2 (Bypass Alternatives Carried Forward) was requested.

Agency Questions/Comments:

- 1) Norm West of US EPA asked about the status of the Druce-Hoffman property with respect to eligibility for the National Register of Historic Places (NRHP)?

Response: The project team indicated that in a letter dated May 24, 2011, IHPA concluded that neither the site nor any individual structure on the property is eligible for National Register of Historic Places. Subsequent to IHPA's determination IDOT issued Cultural Clearance for the project.

Agency Poll on Concurrence Point 2 (Bypass Alternatives Carried Forward):

The FHWA polled the resource agencies for concurrence with the project Bypass Alternatives Carried Forward as follow:

- Illinois Department of Natural Resources (IDNR: Hamer) - Concur
- US Army Corps of Engineers (USACE: Chernich and Hall) - Concur
- US Environmental Protection Agency (USEPA: West and Westlake) - Concur
- US Fish and Wildlife Service (USFWS: Cirton) - Not Present
- Illinois Historic Preservation Agency (IHPA: Haaker) - Not Present

All Resource Agencies in attendance concurred with the project Bypass Alternatives Carried Forward. Agencies not present will be contacted by FHWA for their formal vote.

Concurrence Point 3 (Preferred Bypass Alternative) Presentation:

The project consultant (Christopher B. Burke Engineering, Ltd. - CBBEL) made a formal presentation guided by PowerPoint seeking concurrence on the Preferred Bypass Alternative. The presentation was broken up into two portions, (1) project activities since the 4th NEPA/404 presentation in September 2010 and (2) other factors in determining the Preferred Bypass Alternative.

Since September, there has been ongoing coordination between the Illinois Historic Preservation Agency (IHPA) and the FHWA concerning the eligibility of the Druce-Hoffman property for inclusion on the NRHP. In a letter dated May 24, 2011, the IHPA concluded that the Druce-Hoffman property as a complex or any individual structure is not eligible for the NRHP based on lack of factual evidence provided by the owner and/or the separate documentation developed by IDOT. The Druce-Hoffman property is impacted by Bypass Alternatives A4 and C4, which both re-align Grass Lake Road to meet Millburn Road. Based on the determination by IHPA Alternatives A4 and C4 remain viable bypass alternatives for consideration.

LCFPD has a representative on the project Community Advisory Group (CAG) and there has also been two separate meetings with LCFPD to gather their input on the project, including a separate meeting to discuss the three Finalist Bypass Alternatives. Bypass Alternatives A1 and A4 include a west bypass of US Route 45 around the Millburn Historic District. The southern portion of the west bypass would require 3.13 acres of right-of-way to be acquired from the McDonald Woods Forest Preserve, a Lake County Forest Preserve District holding. McDonald Woods Forest Preserve is a total of 298 acres which contains a loop path around a ravine and wetlands, paved and gravel trails (Millennium Trail) and other recreational activities with access off of Grass Lake Road. A West Bypass alternative would also result in a 7.13 acre remnant parcel east of the proposed improvement which LCFPD indicated they may prefer also be purchased as a part of a West Bypass alternative due to disconnection with the remainder of McDonald Woods. Portions of this remnant site appear to be usable for compensatory storage and/or stormwater detention. The wetlands in this area would not be filled. Further coordination with LCFPD will occur if a West Bypass Alternative advances to determine the appropriate use of this remnant site. As part of the most recent coordination with LCFPD they provided their Preliminary Trail Alignment Route 45 Bike and Pedestrian Trail plan. As represented on this exhibit, LCFPD indicated that a West Bypass, which will accommodate a multi-use trail within the west portion of the right-of-way for the entire project limits, is compatible with their future trail plans, providing bikepath connections between McDonald Woods and other LCFPD holdings to the north and south. In a letter dated March 18, 2011 and signed by LCFPD on April 4, 2011, LCFPD concurred that a "West Bypass will not adversely affect the overall recreation activities, features, and attributes of McDonald Woods." On this basis, and based on the Section 4(f) *De Minimis* Impact Documentation package prepared and submitted, the FHWA issued a *de minimis* impact finding at the FHWA coordination meeting on June 8th.

An update of the environmental resource clearances was provided. Biological and Cultural Resource Clearances have been received for the entire US Route 45 project limits, including the Bypass study area as follows:

- Biological resource clearance - January 8, 2010
- Archeological resource clearance - April 25, 2011
- Cultural resource clearance - May 24, 2011

The next portion of the presentation included highlights of the primary factors considered in a joint

determination by LCDOT and IDOT that Alternative A4 (West Bypass with realigned Grass Lake Road) is the preferred bypass alternative. These factors included public involvement, transportation performance, Strategic Regional Arterial (SRA) roadway design considerations, and environmental considerations. The project team indicated that additional factors are presented in the Finalist Bypass Alternatives Comparison Positive/Negative white paper which was provided to meeting attendees.

The second Public Meeting for the project was held on September 2, 2010. A total of four Community Advisory Group (CAG) meetings were held, with the last one covering the finalist alternatives. With input from the CAG the initial range of 18 bypass alternatives was narrowed down to the three Finalist Bypass Alternatives, which includes two West Bypass alternatives (A1 and A4) and one east bypass alternative (C4). The Village of Lindenhurst favors the east bypass alternative (C4) and the Village of Old Mill Creek favors the west bypass alternatives (A1 and A4). A project questionnaire was provided to Public Meeting attendees with 201 questionnaires received. Highlights of the questionnaire responses includes the following:

- The number one expressed concern was transportation performance.
- A majority of the attendees agree that a bypass is needed.
- A majority of the attendees favor the Grass Lake Road re-alignment.
- A majority of the attendees reside to the west of US Route 45 and favored an east bypass.

Regarding transportation performance, Alternative A4 is the best transportation performing alternative. The west bypass (Alternatives A1 and A4) is most compatible with the area travel demand identified in the purpose and need, to/from the northwest and southeast. The Measures of Effectiveness (MOE) spreadsheet was referenced in the advance materials packet; Alternative A4 has the lower overall network travel times, travel delay, and main intersection performance compared to the other finalist alternatives.

Although each of the three Finalist Bypass Alternatives meets the IDOT SRA roadway design criteria, the west bypass has more desirable geometry than the east alternative. The east bypass (C4) alignment was modified to avoid the identified Historic Millburn Burial Site with continuously rotating reverse curves, with full superelevation, which is less desirable than the west bypass alignments. The proximity of the main east bypass intersection (East Bypass and Millburn Road) to existing US Route 45 is shorter than desirable which will require less than desirable geometry to provide eastbound and westbound left turn lanes at these intersections. Based on the 2040 traffic projections for the three Finalist Bypass Alternatives as provided by the Chicago Metropolitan Agency for Planning (CMAP), Alternative C4 would result in 22 percent and 44 percent higher traffic volumes along Millburn Road to the east than Alternatives A4 and A1 respectively.

Regarding environmental considerations, Alternative A1 displaces two residential properties and alternatives A4 and C4 displace three residential properties. Alternative A4 has no wetland impacts, compared with Alternative A1 and C4 with 0.02 and 0.04 acres of wetland impacts respectively. Each of the three Finalist Bypass Alternatives avoids ADID wetlands and/or waters impacts. The delineated waters will be bridged with a three sided culvert or simple span bridge. Alternative A1 and A4 have two crossings and C4 has one crossing, but has a wider riparian corridor. Alternative C4 bisects the Millburn Historic District and disconnects the most significant historical structure (Strang House) from the rest of the 17 historic structures within the historic district. Alternatives A1 and A4 avoid any property acquisition from the Millburn Historic District. Alternative C4 impacts 11.49 acres of prime farm land where Alternative A1 and A4 impact 1.92 acres. Wildlife considerations compared against the west and east bypass alternatives; the west bypass and McDonald Woods is adjacent to existing development whereas the east bypass would be in close proximity to the North Mill Creek Wooded Riparian Corridor, which is largely existing open space. A highway traffic noise study has been initiated and will be finalized when a preferred alternative is selected.

Based on the above described further project development activities, and the other factors as described, the LCDOT and IDOT have jointly identified West Bypass Alternative A4 as the Preferred Bypass Alternative. At the June 8th FHWA coordination meeting, FHWA concurred with presenting Alternative A4 as the preferred bypass alternative at a NEPA/404 merger meeting.

Agency Comments:

- 1) Kathy Chernich of USACE asked if the LCFPD would also relinquish the remnant parcel of McDonald Woods Forest Preserve for west bypass alternatives. Would the use of that parcel could possibly be for compensatory storage? Would the wetland complex contained within this remnant parcel be compromised?

Response: From coordination meetings with the Forest Preserve District they indicated they would have no use for this property and it would likely be purchased as a part of this project which is reflected in the LCFPD *de minimis* impact finding. A portion of this site does contain a wetland complex that is not anticipated to be impacted in any way if this property is purchased by LCDOT. Any compensatory storage or stormwater detention provided on this site would be located within the open space within the remnant parcel.

- 2) Norm West of USEPA asked if the *de minimis* finding was appropriate if there is an impact to the McDonald Woods Forest Preserve?

Response: The project team indicated that the *de minimis* impact finding is part of the Section 4(f) coordination for the project. A *de minimis* impact finding does not mean no impact, but a minor and insignificant impact. LCFPD, as the agency of jurisdiction, has found that the use of the property associated with a West Bypass would not affect the overall recreation activities, features, and attributes of the property. LCFPD further indicated that a west bypass is compatible with bike path connections to other LCFPD holdings to the north and south. The FHWA agreed with this finding and issued the *de minimis* finding for the impact to their property. During open discussion on the *de minimis* finding it was mentioned that all of the 27 comments in the *de minimis* finding package referenced some concern of impacts to the Forest Preserve District. It was clarified that the 27 comments are the only comments from the 201 comments received from the second Public Meeting for the project that mentioned anything about the McDonald Woods Forest Preserve, positive or negative.

- 3) Soren Hall of USACE asked if the area west of Alternative C4 alignment could be used for BMPs?

Response: Yes it could.

- 4) Soren Hall of USACE asked if the Preliminary Trail alignment, as shown on the LCFPD District exhibit, could still be possible if there was not a west bypass there.

Response: Yes, but LCFPD would need to purchase land on their own for the path, which would be a considerable disadvantage.

- 5) Soren Hall of USACE indicated that USACE is not comfortable with the West Bypass since the public comments push for the east bypass.

Response: The project team indicated that the public comments are not the only factor in determining the west bypass as the preferred alternative. The areas to the west of US Route 45 are developed with residential subdivisions (Lindenhurst), whereas east of US Route 45 there is predominantly prime farmland and few residences (Old Mill Creek). Therefore there is an over representation of people favoring the east bypass as there are not nearly an equal amount of people living east of US Route 45.

- 6) Soren Hall of USACE indicated that there is some concern over the crossing of the ADID streams. As mentioned during the presentation, the ADID streams are approximately 4 feet wide and three sided culverts are proposed to span these streams without impacts. It is felt that a three sided box culvert may be too narrow and a span should be considered.

Response: The project team indicated that this will be evaluated in more detailed. The intent is to not impact the ADID streams and thus a larger three sided culvert, or short span bridge would be

considered.

- 7) Norm West of USEPA indicated that a three sided box culvert may not be conducive to wildlife crossings. Wildlife does not like to use culverts and this would apply to either an east or west bypass alternative.

Response: The project team indicated that coordination with LCFPD will occur to best handle the wild-life concerns in the area. A clear span or con-span bridge will be considered as a possible mitigation strategy for wild-life movements in the area.

- 8) Kathy Chernich of USACE indicated that if the ADID wetland in the remnant parcel is relinquished by LCFPD and used for compensatory storage or stormwater detention that would be a major impact.

Response: The project team indicated that the wetland in the remnant parcel would not be impacted. The only portion of this parcel that would be considered for compensatory storage or stormwater detention use is the non-wetland area in the north portion of this parcel.

Agency Poll on Preferred Alternative (Concurrence Point #3):

The FHWA polled the resource agencies for concurrence with the project Alternatives Carried Forward as follow:

- Illinois Department of Natural Resources (IDNR: Hamer) - Concur
- US Army Corps of Engineers (USACE: Chernich and Hall) - Does not Concur
- US Environmental Protection Agency (USEPA: West and Westlake) - Concur
- US Fish and Wildlife Service (USFWS: Cirton) - Not Present
- Illinois Historic Preservation Agency (IHPA: Haaker) - Not Present

USACE further explained that their concern with Alternative A4 as the preferred alternative is based on this alternative crossing two ADID streams, bringing the roadway closer to residential properties (noise), and reductions in transportation delay is not significant as compared to the other alternatives. USACE indicated they wanted to discuss with USFWS. USACE would also like more information on the proximity of the west bypass with the Heritage Trails subdivision. The project team indicated that the west bypass is approximately 70 feet away from the east property line of the Heritage Trails Subdivision to the face of curb of the proposed west bypass. There is a 30 foot buffer between the east Heritage Trail property line and the proposed roadway right of way, which is a 135 feet in width. The ultimate project would likely purchase the 30 foot strip of property for possible landscape berm or noise mitigation (if warranted under new FHWA criteria).

Agencies not present will be contacted by FHWA and subsequent presentations may be made at individual meetings. USACE indicated that USFWS is at their office two times a week and a possible meeting could be set up with both agencies to further discuss the project. LCDOT expressed concern and frustration that not all of the Resource Agencies have a representative at the NEPA/404 merger meetings as is expected, thus requiring follow-up coordination which adversely affects the Federal project development process. This has occurred multiple times during the course of the study, resulting in project delays.

The meeting concluded at approximately 10:30 a.m.

US Route 45/Millburn Bypass
IL Route 132 to IL Route 173
Section No. 05-00262-02-RP
Lake County Division of Transportation

**7/11/2011 USFWS
Meeting Minutes**

DATE: August 17, 2011

TO: Attendees
CBBEL Project File (08-0677)

FROM: Pete Knysz – CBBEL

MEETING DATE: July 11, 2011
TIME: 11:00 AM

SUBJECT: Coordination Meeting

LOCATION: Illinois Department of Transportation
District One
201 West Center Court
Schaumburg, IL 60196

ATTENDEES: Shawn Cirton – USFWS
Matt Fuller – FHWA (by phone)
Chuck Gleason – LCDOT
Marie Glynn – IDOT Extension Staff
Soren Hall – USACE (by phone)
Austin Hoekstra – FHWA (by phone)
Pete Knysz – CBBEL
Mike Matkovic – CBBEL
Carla Mykytiuk – IDOT Extension Staff
Vanessa Ruiz – IDOT, District One
Paula Trigg – LCDOT

On July 11, 2011, representatives from the Illinois Department of Transportation (IDOT), the Lake County Division of Transportation (LCDOT), and Christopher B. Burke Engineering, Ltd. (CBBEL) met with the U.S. Fish and Wildlife Service (USFWS) for a US Route 45/Millburn Bypass coordination meeting. The Federal Highway Administration (FHWA) and U.S. Army Corps of Engineers (USACE) participated via teleconference. This meeting was scheduled because USFWS was unable to attend the June 28, 2011 NEPA/404 Merger meeting. The purpose of this meeting was to present the Preferred Bypass Alternative to USFWS and discuss previously expressed concerns of USFWS.

An advance materials packet was distributed to USFWS and USACE for review prior to this meeting. The advance materials packet included the following information:

- NEPA/404 Merger meeting agenda and PowerPoint presentation
- NEPA/404 Merger meeting summary - June 11, 2010



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- NEPA/404 Merger meeting summary - September 9, 2010
- Meeting minutes from IHPA coordination meeting on July 19, 2010
- FHWA meeting minutes - March 16, 2011
- Public Meeting #2 Questionnaire Response Summary (September 2, 2010)
- Lake County Forest Preserve District McDonald Woods *de minimis* concurrence letter (April 4, 2011)
- IHPA Druce-Hoffman NRHP eligibility determination letter (May 24, 2011)
- Millburn Bypass - Finalist Bypass Alternatives Comparison Positive/Negative white paper
- Traffic Measures of Effectiveness (MOE) spreadsheet
- Finalist Bypass Alternatives color exhibits (A1, A4, and C4)
- Aerial of Alternative A4 concept near Heritage Trails subdivision
- Finalist Bypass Alternatives Impact Evaluation Matrix
- Excerpts from the 1995 IDOT Strategic Regional Arterial (SRA) feasibility study
- Letters from Tim Smith (President of Old Mill Creek) and Larry Leffingwell (Tempel Farms)
- Final Alternatives Comparison (Pros/Cons)

Mike Matkovic (CBBEL) started the meeting by summarizing the project history (including the 1995 SRA study) and the coordination efforts that lead to the Project Study Group's (PSG – LCDOT and IDOT, in coordination with FHWA) selection of West Bypass Alternative A4 as the Preferred Bypass Alternative. This project has been presented at six NEPA/404 Merger meetings, four Community Advisory Group (CAG) meetings, two public meetings, and various independent agency meetings (a fifth CAG meeting was held on July 26, 2011). With input from the CAG, the initial range of 18 bypass alternatives was narrowed down to the three Finalist Bypass Alternatives, which include two West Bypass alternatives (A1 and A4) and one East Bypass alternative (C4). The Village of Lindenhurst favors the East Bypass alternative (C4) and the Village of Old Mill Creek favors the West Bypass alternatives (A1 and A4).

Regarding transportation performance, Alternative A4 is the best transportation performing alternative. The West Bypass (Alternatives A1 and A4) is most compatible with the area travel demand identified in the purpose and need, to/from the northwest and southeast. Alternative A4 has the lower overall network travel times, travel delay, and the best main intersection performance compared to the other finalist alternatives.

Although each of the three Finalist Bypass Alternatives meets the IDOT SRA roadway design criteria, the West Bypass has more desirable geometry than the east alternative. The East Bypass (C4) alignment was modified to avoid the identified Historic Millburn Burial Site with continuously rotating reverse curves, with full superelevation, which is less desirable than the West Bypass alignments. The proximity of the main East Bypass intersection (East Bypass and Millburn Road) to existing US Route 45 is shorter than desirable, which will require less than desirable



geometry to provide overlapping eastbound and westbound left turn lanes at these intersections.

The Cultural/Historic resources review has been on-going since the second Public Meeting (September 2, 2010) and was recently completed in May 2011. The results of this review showed that the realignment of Grass Lake Road does not traverse any sensitive historic properties, which meant that Alternatives A4 and C4 remained viable alternatives for consideration. Alternative C4 is the only alternative requiring acquisition of Millburn Historic District property (not including buildings) and would separate the building of highest importance to the Historic District (Strang House) from the remainder of the historic district buildings, which is less desirable.

Archaeological, Biological, and Cultural Resource Clearances have been received for the entire US Route 45 project limits, including the Bypass study area.

The Lake County Forest Preserve District (LCFPD) has a representative on the project CAG and there have also been two separate meetings with LCFPD to gather their input on the project, including a separate meeting to discuss the three Finalist Bypass Alternatives. Bypass Alternatives A1 and A4 include a West Bypass of US Route 45 around the Millburn Historic District. The southern portion of the West Bypass would require approximately 3.1 acres of right-of-way to be acquired from the McDonald Woods Forest Preserve, a LCFPD holding. McDonald Woods Forest Preserve is a total of 298 acres. A West Bypass alternative would result in a 7.1 acre remnant site east of the proposed improvement. LCFPD indicated that they may prefer for this remnant site to be purchased as a part of a West Bypass alternative due to disconnection with the remainder of McDonald Woods. Portions of this remnant site could potentially be used for stormwater management. The wetlands identified in this area are not anticipated to be filled as part of this project. If a West Bypass Alternative advances, further coordination with LCFPD will occur to determine the appropriate use of this remnant site.

LCFPD provided the project team with their Preliminary Trail Alignment Route 45 Bike and Pedestrian Trail plan. As represented on this exhibit, a West Bypass (which will accommodate a multi-use trail within the west portion of the right-of-way for the entire project limits) is compatible with their future trail plans, providing connections between McDonald Woods and other LCFPD holdings to the north and south. In a letter dated March 18, 2011 and signed by LCFPD on April 4, 2011, LCFPD provided their *de minimis* impact concurrence, indicating that a "West Bypass will not adversely affect the overall recreation activities, features, and attributes of McDonald Woods." On this basis, and based on the Section 4(f) *De Minimis* Impact Documentation package prepared and submitted, FHWA granted a *de minimis* impact finding at the FHWA coordination meeting on June 8, 2011.



Shawn Cirton (USFWS) stated that he had concerns regarding the potential impacts to McDonald Woods – most notably regarding grassland birds. Shawn said that he was informed that LCFPD staff also had concerns. Shawn said that he received a list of birds that have been observed at McDonald Woods from LCFPD, which included grassland birds. According to Shawn, grassland birds are among our nation's fastest declining species. Based on the list, Shawn pointed out four species of concern:

- bobolink
- eastern meadowlark
- field sparrow
- savannah sparrow

Post Meeting Note: At the request of LCDOT, Tom Hahn (Executive Director of the LCFPD) checked with LCFPD staff. Per Tom, there must have been a miscommunication between USFWS and LCFPD staff. Tom indicated that the area of the McDonald Woods Preserve that would be affected by the West Bypass traverses a very low quality portion of the Preserve. Tom reiterated that the LCFPD has no concerns with the West Bypass and they had known about the Bypass for a long time. The LCFPD had provided Shawn with a copy of a bird list for the entire McDonald Woods Preserve, but the LCFPD has no concerns in the area of the West Bypass. Tom further stated that he does not see a need to further discuss minimization or enhancement measures since the LCFPD is not concerned with the affect of the West Bypass on the function and use of McDonald Woods as stated in their de minimis concurrence letter.

Pete Knysz (CBBEL) distributed aerial and ground-level photographs showing the land cover in and near the West Bypass corridor at McDonald Woods. The West Bypass alignment crosses through a wooded riparian corridor, the edge of a fragmented grassland, and a successional field (with scattered woody vegetation). Pete noted that the "grassland" areas near the West Bypass corridor are relatively small in size (under ±28 acres) and include actively used multi-use paths and mowed trails. The preserve is surrounded by development, including roads and residences. Much of the West Bypass corridor at McDonald Woods does not currently meet the definition of a true "grassland" due to the presence of woody and other non-grassland plant species.

The bird list provided to USFWS pertains to the entire preserve, which is 298 acres in size. Pete noted that the majority of the birds on the 2009 LCFPD bird list are woodland or wetland species. Pete stated that the bird species which use the habitat near the West Bypass corridor are most likely species found in successional areas, generally tolerant of development/human disturbance, and/or adapted to "edge effect." The USFWS bird species of concern may have been observed elsewhere at McDonald Woods. Shawn said that a bird survey would help. Pete stated that managing large tracts of grassland habitat (preferably 250 acres or larger) is the best strategy to benefit the greatest number of grassland bird species (accommodating area-sensitive species, as well as others). Examples include Midewin National Tallgrass Prairie and Nachusa Grasslands; the grassland/successional fields at McDonald Woods are fragmented and are much smaller. Controlling woody



vegetation is also an important management strategy. The encroachment/establishment of woody vegetation can negatively affect grassland birds.

Shawn noted that USFWS may also have concerns regarding potential impacts of traffic noise on migratory birds at McDonald Woods. A highway traffic noise study will be completed for this project.

Mike Matkovic stated that the project team can work with the LCFPD to minimize potential project impact to birds, including consideration of habitat enhancement.

Mike noted that an Individual Section 404 Clean Water Act permit may not be necessary for this project (i.e., the project appears to qualify for the Regional Permit Program). In response to a question by Matt Fuller (FHWA), Shawn noted that the USFWS provides comment regarding birds under the Migratory Bird Treaty Act. The USFWS will comment on the Environmental Assessment (EA) that is being prepared for the project.

Soren Hall (USACE) stated that the USACE will take the USFWS concerns into consideration as well as the public comments received for this project. The project team acknowledged that a greater number of individuals living west of US Route 45 attended the Public Meeting and commented on their preference for an East Bypass. The project team also noted that while not captured in the Public Meeting comments, the Village of Old Mill Creek, major land owners to the east, and the Historic Millburn Community Association (HMCA) have stated their preference for a West Bypass, which is also part of the project documentation.



IDOT

GEOMETRIC APPROVAL
HYDRAULIC APPROVAL
RIGHT-OF-WAY REQUIREMENTS TRANSMITTED TO LAND ACQUISITION
RIGHT-OF-WAY COST
CONFIRMATION OF CONSTRUCTION COST ESTIMATE
LIGHTING INVENTORY
MEETING MINUTES – 02/28/2014



STEP/JRS
DUE → 4/16/19

To:	GSU/Salley
Bureau:	Programming
Attn:	26 th SUBMITTAL

From:	CSU/Smith/Cary D. Lewis
Bureau:	Programming
	US 45: Milburn Bypass to IL 173
Subject:	Geometric Submittal

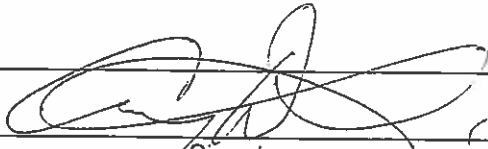
Date:	3/5/19 ✓
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Message

Attached is the geometric re-submittal, marked up plans, and a disposition of comments for the above subject improvement for your review, comments, and approval. If you have any questions, please contact me at X4724.

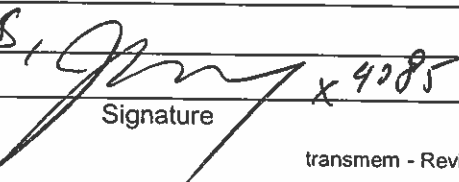

Signature

Copies to			
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Response 5/15/19

CARY - THIS PROJECT'S GEOMETRY, AS WELL AS ITS ZDS ARE APPROVED.

cc: NS, WW (SL BOT)
DEL BOE)

THANKS, 
Signature x 4085



To:	Steve Schilke
Attn:	Brenda Alicea / Corey Smith
Unit:	Consultant Studies Unit
Phone:	(847) 705-4724
Date:	May 15, 2019

From:	Jason Salley
Unit:	Geometric Studies Unit
Phone:	(847) 705-4085
Subject:	US 45, Millburn Bypass to IL 173 P-91-388-10 Geometric & IDS Approval

Please check appropriate box below:

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| <input type="checkbox"/> Take Necessary Action | <input type="checkbox"/> For Your Information | <input type="checkbox"/> Reply |
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My signature | <input type="checkbox"/> Route |
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Message

Corey,
The Design Exceptions for this project were approved by IDOT BDE on May 14, 2019. The remaining Design Elements for this project meet current BDE Standards.

A PDF copy of the project's Intersection Design Study (IDS) has been received by the Geometric Studies Unit and has been placed onto the District's H Drive for future reference.

Therefore, I approve this project's geometry as well as its IDS.

This project's BDE 2602 and 3100 Forms will be forwarded to IDOT BDE for their records.

Please contact me if you have any questions or comments.

Thanks,

Jason Salley, P.E.
Signature

Copies to
Response

File	BDE	BOT	
------	-----	-----	--

Signature



To:	Steve Schilke
Bureau:	Programming - Project Studies
Attn:	Brenda Alicia – Cary Lewis

From:	Perry Masouridis
Bureau:	Programming – Hydraulics Section
	Ahmad Rashidianfar
Subject:	Location Drainage Study
	US-45, From Millburn Bypass to IL-173

Date:	June 28, 2019
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Please check appropriate box below:

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Message

Route: **US Route 45 (US-45)**
 Limits: **Millburn Bypass to IL-173**
 Municipality: **Villages of Lindenhurst, Old Mill Creek, Antioch, & Unincorporated Area**
 County: **Lake County**
 Job No.: **P-91-388-10**

Attached for your use are two copies of the Location Drainage Study (LDS), prepared as part of the Phase-I Preliminary Engineering for the subject project. The LDS was prepared for Hydraulics Section by Christopher B. Burke, Ltd. Please incorporate this LDS into the Project Report.


The scope of work for this improvement project includes widening from two lanes to four lanes with a raised median through the project limits. Also, dedicated right and left turn lanes are proposed at several intersections within the project limits. In accordance with the Bureau of Design and Environment Manual, the type of work for this improvement project is categorized as Reconstruction (Non-Freeway).

The proposed drainage improvements include replacement of the existing open drainage system with new curb and gutter for pavement runoff collection along with proposed a storm sewer system for conveyance to the respective outlets. Also, nine existing crossroad culverts are to be replaced or extended and seven new storm water detention basins are proposed within the project limits. Additional Right-Of-Way (ROW) is required for storm water detention and other drainage related purposes.

Permits from the Illinois Department of Natural Resources - Office of Water Resources (IDNR-OWR) are required for this improvement project. An Individual Permit is required for work in the Tributary to Hastings Creek (water crossing #18). Also, a Floodway Permit is required for work in the designated floodway of Hastings Creek (water crossing #16).

Based on the recommended improvements, drainage exceptions are not required at this time. If the type and/or scope of work changes during the PS&E phase, the appropriate drainage design exception approval, if any, will be processed through the Hydraulics Section by the Bureau of Design. Also, the appropriate erosion control measures should be specified during Phase-II Design.

If you have questions or need additional information, please contact Ahmad Rashidianfar, In-House Drainage Studies Engineer, at (847) 705-4720.

 6/29/19
Perry Masouridis, P.E. Hydraulics Section Chief

cc: _____ Ken Eng (Bureau of Design) 2 Copies of LDS
 _____ Paul Gregoire (Bureau of Construction) 2 Copies of LDS

Response

Signature

S:\WP\HYD\consultant\Lbh\LDS\US 45 - 173 to 132\Millburn bypass to IL 173 - north\distribution letter.docx



To:	Omolara Johnson
Bureau:	Land Acquisition
Attn:	Miguel Coreano

From:	CSU/Schilke
Bureau:	Programming
	Project and Environmental Studies
Subject:	Submittal of ROW Requirements
	US 45: IL 132 to IL 173

Date:	June 12, 2018
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Please check appropriate box below:

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Message

Route: US Route 45
 Location: IL 132 to IL 73 (Except Milburn Bypass)
 Municipality: Various
 County: Lake
 Job No.: P-91-388-10

We are submitting the attached preliminary right-of-way (ROW) requirements for the referenced project as depicted on the attached CD and plan sheets. The proposed scope of work for this project is reconstruction of US 45 to provide two lanes in each direction with a raised curb median, adding left and right turn lanes, drainage and intersection improvements, and bicyclist and pedestrian accommodations. This ROW is needed for the improvement of US 45 to meet current and future traffic demands. The ROW requirements were provided via email on June 5, 2018.

If you have any questions, please contact Corey J. Smith, Project Manager, at X4103.

Steve E. Schilke

UNIT HEAD, P.E.

Copies to

File	Consultant	
------	------------	--

Response

Signature



To:	Acting Bureau Chief - Issam Rayyan
Bureau:	Programming
Attn:	Cary Lewis

From:	Michael Cullian/Michael Harris
Bureau:	Land Acquisition
Subject:	Cost Estimate #: 1CS0435
	US 45 ~ Milburn Bypass to IL 173 P-91-388-10

Date:	8/3/18
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Please check appropriate box below:

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my signature | <input type="checkbox"/> Route |
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Message		
Total Parcels		(41)
Total Fee Takings	(38)	24.519 Acres 1,068,039 sq. ft.
Temporary Easements	(23)	1.009 Acres 43,944 sq. ft.
Permanent Easements	(0)	0.0 Acres 0 sq. ft.
TOTAL ESTIMATED ACQUISITION COST: \$2,500,000 ROUNDED		

Michael Harris

Signature

Copies to	M. Cullian	D. Howorth	
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Response

Signature

From: Lewis, Cary D
To: [Phil Santos](#)
Subject: FW: US 45: Milburn Bypass to IL 173 Construction Cost Estimate
Date: Thursday, July 11, 2019 10:11:36 AM

FYI

From: Ansay, Mark A.
Sent: Friday, April 19, 2019 2:16 PM
To: Lewis, Cary D <Cary.Lewis@illinois.gov>
Cc: Smith, Corey J. <Corey.Smith@Illinois.gov>; Henderson, Mark R. <Mark.Henderson@illinois.gov>
Subject: US 45: Milburn Bypass to IL 173

Estimating has no further comments for the US 45: Milburn Bypass to IL 173 estimate.

Thanks.

Mark Ansay, PE
Estimating Engineer
Illinois Department of Transportation
Bureau of Design
201 West Center Court
Schaumburg IL 60196-1096
Tel.: 847-705-4267
Email: Mark.Ansay@Illinois.gov

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MEMORANDUM

To: IDOT Attn: Marie Glynn, P.E.

From: Mike Matkovic, P.E. By: Matt Huffman, P.E.

Date: June 29, 2012

SUBJECT: U.S. Route 45 Existing Lighting Inventory

A site visit was conducted on June 25, 2012 to inventory existing lighting along U.S. Route 45 and IL Route 173 within the limits of the U.S. Route 45 - Millburn Bypass Phase I Study. In total there are 15 independent lighting locations along the corridor as shown on Exhibit 1, all at minor intersection locations with U.S. Route 45 or IL Route 173. There are nine decorative lights and six cobra-head lights (separate pole or attached to power pole). A photo log was prepared to document the general location at the intersection and lighting type.

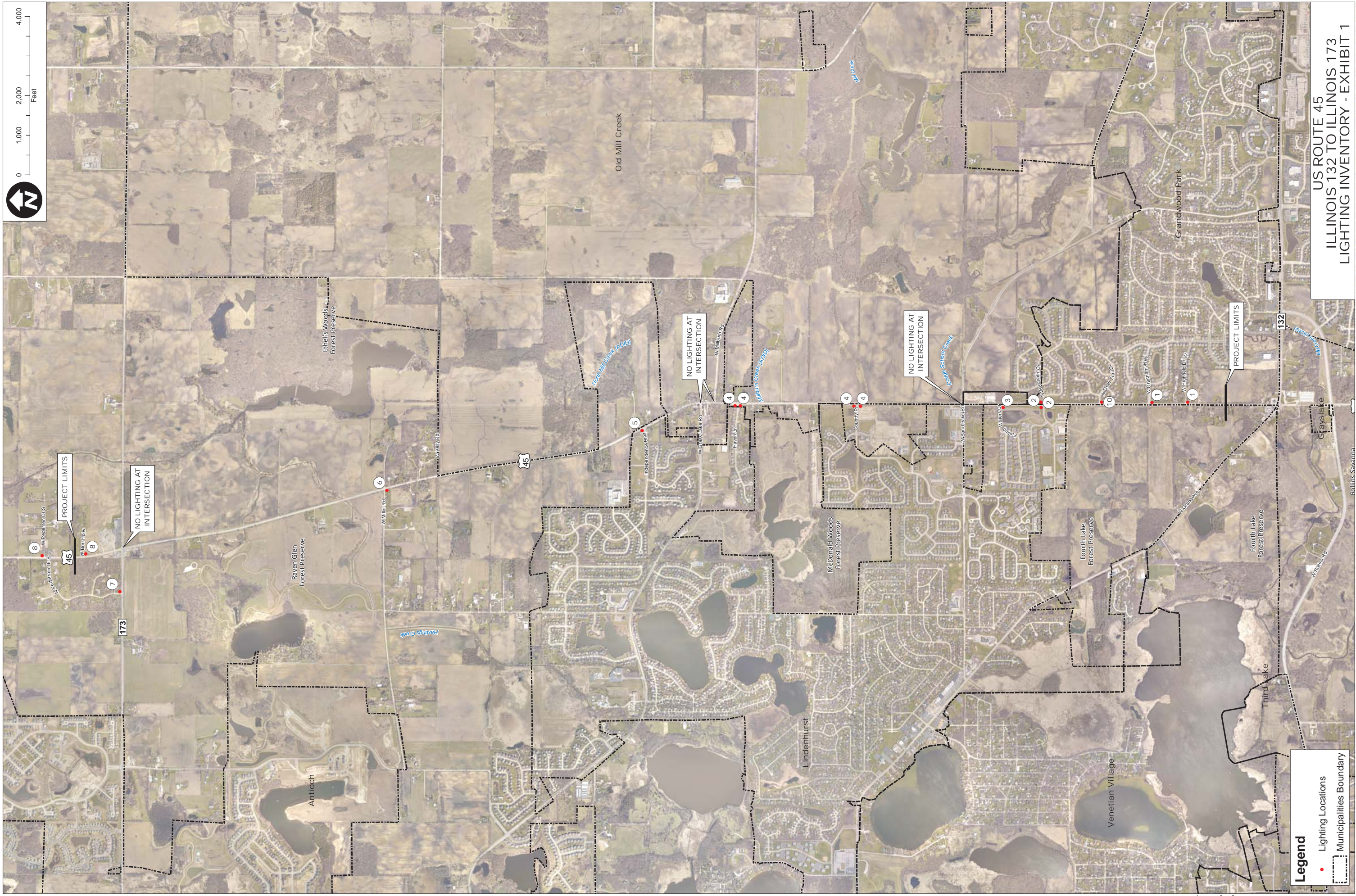
There is no existing lighting at the signalized intersections of Sand Lake Road, Millburn Road, Grass Lake Road, and IL Route 173 with U.S. Route 45.

MJH
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9575 W Higgins Road, Suite 600 Rosemont, Illinois 60018-4920 Tel (847) 823-0500 Fax (847) 823-0520



Legend

- Lighting Locations
- - - Municipalities Boundary

US ROUTE 45
ILLINOIS 132 TO ILLINOIS 173
LIGHTING INVENTORY - EXHIBIT 1

U.S. Route 45 – PHOTO LOG

IL Route 132 to IL Route 173
(PICTURES TAKEN 6/25/2012)



PICTURE 1 – Looking west on Deer Trail Drive towards U.S. Route 45; Decorative lighting. (Typical for Highfield Drive, Chatham Way and Deer Trail Drive)



PICTURE 2 – Looking east on Falling Waters Boulevard towards U.S. Route 45; Short cobra-head (close) and decorative (far).



PICTURE 3 – Looking east on Falling Waters Drive towards U.S. Route 45; Decorative lighting.



PICTURE 4 – Looking east on Country Place towards U.S. Route 45; Decorative lighting. 0

U.S. Route 45 – PHOTO LOG

IL Route 132 to IL Route 173
(PICTURES TAKEN 6/25/2012)



PICTURE 5 – Looking east on Independence Boulevard towards U.S. Route 45; Cobra-head on separate pole.



PICTURE 6 – Looking east on Miller Road towards U.S. Route 45; Cobra-head on power pole.



PICTURE 7 – Looking south on North Pedersen Drive towards IL Route 173; Cobra head on separate pole.



PICTURE 8 - Looking west on West Pedersen Drive towards U.S. Route 45; Cobra head on separate pole. (Typical for Burr hollow Drive)

U.S. Route 45
IL Route 132 to IL Route 173
Section No. 05-00262-02-RP
Illinois Department of Transportation

DATE: February 28, 2014

TO: Attendees
CBBEL Project File (10-0063)

FROM: Matt Huffman, P.E. - CBBEL

MEETING DATE: February 28, 2014
TIME: 10:30 A.M.

SUBJECT: U.S. 45 Phase I & IL Route 173 Phase I Project Coordination

LOCATION: Illinois Department of Transportation
District One
201 West Center Court
Schaumburg, IL 60196

ATTENDEES: Steve Schilke - IDOT Bureau of Programming
Cary Lewis - IDOT Bureau of Programming
Marie Glynn - IDOT Bureau of Programming CSU
Jim Prola - IDOT Bureau of Programming GSU
Cory Jucius - IDOT Bureau of Traffic
Pat Davidson - AES
Marty Worman - CBBEL
Matt Huffman - CBBEL

On February 28, 2014, a coordination meeting was held for the U.S. Route 45 and IL 173 projects, both currently in Phase I. The U.S. Route 45 project limits are from IL Route 132 on the south to IL Route 173 on the north. The IL Route 173 project limits are from IL Route 59 on the west to U.S. Route 41 on the east. The U.S. Route 45 project has a FONSI for the Environmental Assessment with the Combined Design Report in progress. The IL Route 173 study is in the alternatives carrier forward stage of the Phase I process. The purpose of this meeting is to ensure there is consistency along IL Route 173 with what both projects are proposing at the U.S. Route 45 intersection.

Cary Lewis started with explaining the various sections of the project corridor. The first section from IL Route 59 to Deep Lake Road has a design speed of 55 mph with a typical section of four 11-foot lanes, shoulders, and a 16-foot grass median with cable barrier. Continuing east of Deep Lake Road the median narrows to 6-feet through Redwing Slough. East of Redwing Slough to Savage Road the proposed roadway widens to a 50-foot rural cross section. At the U.S. Route 45 intersection M-6.24 curb and gutter is introduced at the 30-foot median and B-6.24 at the back of



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U.S. Route 45
IL Route 132 to IL Route 173
Section No. 05-00262-02-RP
Illinois Department of Transportation

shoulder and right turn lanes. East of U.S. Route 45 the typical section widens to a 50-foot median to Hunt Club Road.

More detailed discussion occurred regarding the design of IL Route 173 at U.S. Route 45. Discussion occurred regarding the type of mountable curb for the median at the intersection. It was agreed on that M-6.24 curb and gutter will be used for the median. A roll plot of the proposed improvement to through the IL Route 173 intersection was displayed. This plan was reviewed by IDOT District 1 GSU prior to proceeding to the Public Hearing for the project. IDOT GSU indicated that a design exception will likely need to be submitted for the M-6.24 curb and gutter based on a 55 mph design speed. It was agreed by all attendees that the proposed design along IL Route 173 for the U.S. Route 45 project was acceptable.

It was also agreed on that the design speed should not be dropped to 45 mph at the U.S. Route 45 intersection with 55 mph segments west and east.

The proposed non-motorized facilities along the IL Route 173 corridor is a 14-foot multi-use path that can accommodate equestrian usage along the south side of IL Route 173. This was coordinated with LCFPD through the IL Route 173 stakeholder coordination. For the U.S. Route 45 project, there will be at-grade crossings of all four legs at the U.S. Route 45 and IL Route 173 intersection. The non-motorized facilities proposed for the U.S. Route 45 project along IL Route 173 consist of a 10-foot bike path along the north side and 5-foot sidewalk along the south side. It was agreed that the proposed locations of the sidewalk and bike path for the U.S. Route 45 project would not be modified with their Phase I Study, as the Environmental Assessment obtained the FONSI in September 2013 for that improvement footprint. The incorporation of the 14-foot multiuse path for the IL Route 173 project may require additional right-of-way near the U.S. Route 45 intersection and would need to be documented accordingly in the IL Route 173 Environmental Assessment and Combined Design Report.

The meeting concluded at 11:15 A.M.

These notes represent the preparer's understanding of the items discussed and are not a verbatim account of the discussion. They are intended to generally document the discussions held; if any portion of these Minutes is found incomplete or inaccurate, please notify the preparer in writing within five business days from the receipt of the Minutes.

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9575 W Higgins Road, Suite 600 Rosemont, Illinois 60018-4920 Tel (847) 823-0500 Fax (847) 823-0520

LCDOT

MEETING MINUTES - 7/11/2013

MEETING MINUTES – 10/30/2014

U.S. Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

Section No. 05-00262-02-RP

P-91-666-09

Illinois Department of Transportation

**Drainage Coordination
Meeting Summary**

MEETING DATE: July 11, 2013

MEETING TIME: 1:00 p.m.

SUBJECT: Drainage Coordination Meeting

LOCATION: Lake County Division of Transportation
600 W. Winchester, Libertyville, IL

ATTENDEES: Mike Zemaitis - LCDOT
Darrell Kuntz - LCDOT
Chuck Gleason - LCDOT
Kevin Kerrigan - LCDOT
Marie Glynn – IDOT
Lynn Hobbs – IDOT
Ilene Dailey - CBBEL
Matt Huffman – CBBEL

The purpose of this meeting is to discuss the proposed drainage plan for the proposed improvement to U.S. Route 45 from Country Place on the south to north of Independence Boulevard (i.e. Millburn Bypass) as well as the section of U.S. Route 45 near Sand Lake Road with Lake County Division of Transportation (LCDOT). Funding has been established to move the Millburn Bypass forward to Phase II Engineering, land acquisition, and construction. The south section (IL Route 132 to the Bypass) and north section (Bypass to IL Route 173) are only funded through Phase I Engineering. Marie Glynn is the IDOT Phase I project manager for the U.S. Route 45 Bypass and U.S. Route 45 south and north sections. Kim Harvey will be the IDOT Phase II project manager for the U.S. Route 45 Bypass project.

A general overview of the design for the Millburn Bypass was provided: U.S. Route 45 will be two lanes in each direction, with a 22 foot grassed median, barrier curb and gutter, with space for a bike path on the west side and space for a sidewalk on the east side. The proposed improvement on Grass Lake Road is one eastbound lane and two westbound lanes with left and right turn lanes at intersections, barrier curb and gutter, with space for bike path and sidewalk. There will be one signalized intersection at the U.S. Route 45 Bypass and re-aligned Grass Lake Road; the existing signals will be removed.

The general drainage design consists of capturing all roadway drainage in a storm sewer system along U.S. Route 45 and Grass Lake Road, which is a design feature of using barrier curb and gutter. A series of three detention basins are located at the south, middle, and north ends of the U.S. Route 45 Bypass. The proposed storm sewer systems drain to the proposed detention basins. The detention basins are designed to



U.S. Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

Section No. 05-00262-02-RP

P-91-666-09

Illinois Department of Transportation

**Drainage Coordination
Meeting Summary**

contain the 100 year, 24 hour critical storm duration from U.S. Route 45 and Grass Lake Road and release the runoff at a prescribed rate set by the Lake County Stormwater Management Commission (LCSMC), subject to IDOT minimum restrictor sizes. The detention basins also act as Best Management Practice (BMP) design features, which help to naturally filter roadway storm water prior to being released to the natural drainage path. The grading of the detention basins will be further refined in Phase II Engineering. Drainage ditches will be located on the outside of the bike path and sidewalk where the existing ground drains towards the roadway. Cross road culverts will be provided separately from the proposed storm sewers to maintain existing off site drainage patterns. LCDOT (Kuntz) indicated that the County allows the sidewalk/bike path to drain over the curb so that ditches can be eliminated under certain circumstances, which should be considered for Grass Lake Road. This also allows for snow melt to be contained within the storm sewer system and infiltrated through the detention basins prior to being released to the natural course of drainage. IDOT (Hobbs) stated this is not IDOT's policy for State Routes and the cross slope adjacent to the curb and gutter should drain away. However, for County or local roads different designs can be incorporated. A special design consideration will be incorporated in the Design Report for accommodating runoff volume reduction (RVR) requirements. LCDOT (Kuntz) also stated that it is preferred if the bike path and sidewalk is at the right-of-way to allow for maximum separation.

The south detention basin at Country Place receives the runoff from U.S. Route 45, south of the intersection of the U.S. Route 45 Bypass and existing U.S. Route 45. The south detention basin was moved further south to allow for a future east leg of the Country Place and U.S. Route 45 intersection.

The middle detention basin is located east of the U.S. Route 45 bypass on the to be acquired Lake County Forest Preserve District (LCFPD) property. This basin receives roadway storm runoff from Grass Lake Road and the U.S. Route 45 Bypass south of Independence Boulevard. Roadway runoff north of the Tributary to Millburn Creek (Tributary) was able to be piped under the Tributary with a 42 inch pipe to utilize to the to be acquired property and eliminate the need for an additional detention basin at the Grass Lake Road intersection. South of Millburn Creek, roadway storm runoff is piped over Millburn Creek and above the three sided structure carrying U.S. Route 45, which limits the need for an additional detention basin south of Millburn Creek. The intent to maintain existing drainage patterns along Grass Lake Road west of U.S. Route 45 was discussed.

The north detention basin is located on existing Route 45 right-of-way and a remnant parcel that is being purchased. This detention basin receives storm runoff from U.S. Route 45 Bypass north of Independence Boulevard. The existing drainage system along Independence Boulevard is intended to remain intact with some minor relocations. LCDOT (Kuntz) asked why Independence Boulevard does not drain to the north



U.S. Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

Section No. 05-00262-02-RP

P-91-666-09

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**Drainage Coordination
Meeting Summary**

detention basin. CBBEL (Huffman) stated that it is the design intent to keep the local system separate from the IDOT drainage system.

Other topics were discussed outside of the proposed drainage design of the U.S. Route 45 Millburn Bypass, including access to Grass Lake Road and conceptual drainage design near the Sand Lake Road and U.S. Route 45 intersection. Lake County (Gleason) stated they would like the Phase I plans to remove any new access point to Grass Lake Road that do not currently exist. IDOT (Glynn) stated the plans would be changed. The conceptual drainage design near the Sand Lake Road and U.S. Route 45 intersection was discussed. Currently Dodge School Creek is adjacent to Sand Lake Road along the north side within the existing LCDOT right-of-way. Due to limiting property acquisition from future known development to the north, Dodge School Creek is proposed to be realigned within future proposed LCDOT right-of-way. A portion of Sand Lake Road will not follow the typical drainage design of being contained and being routed to a detention basin. Due to existing wetlands on the south and the relocation of Dodge School Creek, space for detention is limited and oversized ditches are being considered that could contain BMP features. LCDOT (Kuntz) stated that the County has asked future developments to oversize their ponds to accommodate roadway related storage and the private development will also assume maintenance responsibility of the detention facility.

The meeting concluded at approximately 2:15 p.m.

Meeting summary prepared by:

Matt Huffman

Christopher B. Burke Engineering, Ltd.





Attendance Roster

Bureau: Programming Section: Hydraulics

Project/Topic: US Route 45 – Milburn Bypass Drainage Coordinating Meeting - Lake County Forest Preserve District

Date: 7/11/2013

Time: 1:00 p.m.

Location: Lake County Forest Preserve District

	Attendees	Representing	Phone Number	Email Address
1.	Lynn Hobbs	IDOT-Hydraulics	(847) 705-4782	Lynn.hobbs@illinois.gov
2.	Irene Pailey	CBSEL	847-823-0500	ipailey@cbcel.com
3.	Marie Glynn	IDOT Extension Staff	847.705-4013	marie.glynn@illinois.gov
4.	CHARLIE GLEASON	LC DOT	847-377-7447	CGLEASON@LAKECOUNTYIL.GOV
5.	Kevin Kerrigan	LC DOT	847 978-9792	KKerrigan@lakecountyil.gov
6.	MIKE ZEMAITIS	LC DOT	847 377 7463	MZEMAITIS@ " "
7.	DARRELL KUNTZ	LC DOT	847-377-7459	DKUNTZ@ " "
8.	MATT HOFFMAN	CBSEL	847-823-0500	M.HOFFMAN@CBSEL.COM
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U.S. Route 45

IL Route 132 to IL Route 173

Section No. 05-00262-02-RP

P-91-666-09

Illinois Department of Transportation

**Drainage Coordination
Meeting Summary**

MEETING DATE: October 30, 2014

MEETING TIME: 1:00 p.m.

SUBJECT: Drainage Coordination Meeting

LOCATION: Lake County Division of Transportation
600 W. Winchester Road, Libertyville, IL

ATTENDEES: Bob Gardiner – Lake County SMC
Glenn Westman – Lake County SMC
Emily Karry – LCDOT
Chuck Gleason - LCDOT
Randy Seebach - Lake County Forest Preserve District
John Nelson - Lake County Forest Preserve District
Marie Glynn – IDOT
Lynn Hobbs – IDOT
Ilene Dailey - CBBEL
Matt Huffman – CBBEL

The purpose of this meeting was to discuss the proposed drainage plan for the U.S. Route 45 project from IL 132 to IL 173 Phase I Study, excluding the Millburn Bypass which was completed in 2013. A public hearing was held in March 2013 for the entire EA project limits from IL 132 to IL 173 which showed preliminary geometrics, detention facilities, and environmental footprint. An Environmental Assessment was prepared for the project and received a Finding of No Significant Impact (FONSI) in September 2013. The sections of U.S. Route 45 from 1000 ft north of IL 132 to Country Place (South Section), and 600 feet north of Independence Boulevard to 1,500 feet north of IL Route 173 (North Section) are currently in the process of completing Phase I Engineering and the subject of discussion for the meeting. The South and North Sections are currently funded only for Phase I Engineering. The Millburn Bypass is currently in Phase II Engineering and is programmed for construction.

A general overview of the design for the U.S. Route 45 project was provided. U.S. Route 45 will be two lanes in each direction, with a 22 foot grassed median, barrier curb and gutter, closed drainage system, space for a ten foot hot mix asphalt bike path on the west side, and space for a five foot sidewalk on the east side. The conceptual drainage design consists of storm sewer systems which typically drain all roadway pavement to detention facilities prior to release to the natural course of drainage. Any offsite tributary areas draining towards the roadway are controlled via ditches and conveyed via roadway cross culverts to maintain existing drainage patterns. The detention basins are designed per IDOT standards and typically provide the volume required to detain the 100-year critical storm duration runoff for added impervious area and release it at the 10-year



U.S. Route 45

IL Route 132 to IL Route 173

Section No. 05-00262-02-RP

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**Drainage Coordination
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existing rate. Per IDOT policy, detention facilities for roadway purposes must be independent from other adjacent detention facilities; no sharing of detention is permitted. The detention basins also act as Best Management Practice (BMP) design features, which help to naturally filter roadway storm water prior to being released to the natural drainage path. All basins are planned to detain approximately 6 inches of water below the outlet elevation to promote growth of various vegetation and wetland characteristics. The preliminary detention design shown in the Phase I plans assume standard side slopes (3:1) and shapes. Refinements to the basin including overall shape, variable side slopes, bottom elevations, are performed as part of Phase II engineering. These items will be noted in the Combined Design Report narrative under the Special Design and Construction Considerations section.

Lake County Stormwater Management Commission (LCSMC) asked if there would be any treatments for impacts to ADID wetlands. Mitigation of wetlands would occur according to the proper mitigation ratio depending on jurisdiction of the wetland. Lake County Forest Preserve District (LCFPD) and LCSMC confirmed that they would prefer varying sideslopes and vegetated wetland bottom detention basins. LCSMC recommended that the distance between the inlet and outlet of each detention basin be maximized so water had the maximum amount of time to infiltrate. If placing the inlet and outlet at opposite ends of the detention basin is not possible it was recommended that the topography of the bottom of the basin be such that water would flow indirectly to the outlet. LCSMC asked about how field tiles would be treated; CBBEL (Dailey) stated that field tiles will be handled in accordance with IDOT guidance and observation structures would be placed at the right-of-way to connect the filed tiles appropriately. LCSMC indicated they would provide the drain tile survey to the project team for the Village Green Development.

It was confirmed that Lake County Division of Transportation (LCDOT), LCFPD, and LCSMC are not aware of any pavement flooding conditions within the South or North Sections.

A presentation of the proposed drainage design was made starting at the southern limit and progressing north. An exhibit was distributed, which shows the existing drainage crossing locations and culvert sizes. LCDOT has jurisdiction of Sand Lake Road and Stearns School Road. LCFPD has two holdings along the North Section, Raven Glen and Ethel's Woods Forest Preserves, and has other holdings west along Stearns School Road. LCSMC has no technical jurisdiction in this project because it is an IDOT project, however, their input and recommendations are considered during project development.

The South Section extends from 1,000 feet north of the IL Route 132 intersection to Country Place. The IL 132 intersection was evaluated as part of a separate IDOT project to widen U.S. Route 45 south to IL Route 176. Near Country Place, this project would connect into the Millburn Bypass which is currently funded for construction. A short



U.S. Route 45

IL Route 132 to IL Route 173

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segment of the Millburn Bypass project would be modified to tie to the proposed four lane section (instead of existing two lanes). Improvements to Sand Lake Road and Stearns School Road are included with this project resulting from the intersection improvement at U.S. Route 45.

The drainage design for the southern section does not involve any flood plains or floodways. Subsequently no hydraulic reports were required for any of the drainage crossings per IDOT standards. There are eight existing cross road culverts and six proposed detention facilities. All existing culverts are being removed and replaced, with exception of the culvert of Dodge School Creek under Stearns School Road and the culvert at Station 104+80, which are extended. All detention basins are located in open space and there are no impacts to existing structures.

Dodge School Creek crosses under U.S. Route 45 south of Falling Waters (Sta. 69+00) and the Tributary to Dodge School Creek crosses U.S. Route 45 just north of Sand Lake Road (Sta. 83+50). Dodge School Creek crosses Stearns School Road (Sta. 6+50) and converges with the Tributary, and then flows east to North Mill Creek. The Tributary to Dodge School Creek currently flows through a roadside ditch, which is re-located with the improvement adjacent to the proposed bike path. Sand Lake Road and Stearns School Road, both LCDOT jurisdiction facilities, drain from west to east and have proposed storm sewer systems to collect pavement drainage. A small portion of Stearns School Road does not drain to a detention facility and releases to a vegetated ditch for water quality benefit prior to discharging to Dodge School Creek. The proposed detention basins upstream of Stearns School Road are sized to provide the IDOT required volume for the roadway improvements.

The North Section was presented, starting from the south, which is the location of the north limit of the Millburn Bypass improvement approximately 600 feet north of Independence Boulevard, to north of IL Route 173, which includes the intersection. Improvements to Miller Road are included with this project resulting from the intersection improvement at U.S. Route 45. IDOT currently has an ongoing Phase I Study of IL Route 173 from IL Route 59 to U.S. Route 41. Coordination has occurred regarding the improvements of this project at the intersection of U.S. Route 45 with IL Route 173. A portion of the Millburn Bypass project will need to be widened to accommodate the proposed typical section.

The drainage design for the northern section involves two major waterways, Hastings Creek and Tributary to Hastings Creek. Hastings Creek involves floodway and floodplain, while the Tributary to Hastings Creek only involves floodplain. LCSMC asked if there would be floodway and floodplain storage provided. Regulatory floodway and floodplain compensatory storage will be provided in accordance with IDOT requirements. The project team will look into the provision of 'floodplain' storage for local waterways that drain over 100 acres. Pavement flooding was reported at Tributary to Hastings Creek



U.S. Route 45

IL Route 132 to IL Route 173

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**Drainage Coordination
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and the proposed profile of the roadway was raised to meet IDOT's freeboard requirements. Hydraulic Reports were prepared for both waterways. There are seven roadway culverts and seven proposed detention facilities. All existing culverts are proposed to be removed and replaced. It was noted that the proposed right-of-way will be modified on the plans displayed where previously proposed detention facilities were located. LCSMC asked about avoidance of wetland and floodplain impacts. CBBEL (Huffman) explained that the widening locations are varied up to 15 feet within the corridor to minimize impacts.

A pedestrian underpass is shown on the plans north of Miller Road connecting Ravens Glen and Ethel's Woods Forest Preserves. Preliminary culvert design and anticipated path connection alignment is shown. The LCFPD indicated that they may pursue this project ahead of the implementation of the North Section improvement. The underpass costs would be 100 percent LCFPD, but conceptual design will be included in the Phase I Engineering plans to demonstrate compatibility with the U.S. Route 45 improvement. LCFPD also stated they have a proposed parking facility off of the east leg of Miller Road. LCFPD also stated they preferred 45 degree angle wing walls for the proposed culvert.

No specific comments were provided on the proposed drainage design during the meeting. In general LCSMC indicated that they support the conceptual design of detaining and infiltrating water prior to discharge. Half size sets of the proposed drainage plans were left with the agencies and PDFs of the plans will be emailed to meeting attendees for comment subsequent to the meeting. It was stated that IDOT is aiming for Design Approval of the South Section by the end of this year and the North Section early in 2015, so comments are requested within three weeks.

Additional, non-drainage topics were also discussed. As previously relayed, IDOT requires local agencies whose jurisdiction is adjacent to the roadway to cost participate (80/20) and maintain any pedestrian or multi-use facilities that they agree to have constructed in their jurisdiction. If they choose to not cost participate, a shelf will be provided, and the municipality would be responsible for 100 percent of the cost and maintenance of these facilities if implemented in the future. Along US 45, a multi-use trail is proposed along the west side, and a sidewalk on the east. The local communities would continue to be responsible for maintaining the multi-use trail within their jurisdiction, and not LCFPD. All other locations would require cost participation from local municipalities or townships. LCFPD and LCDOT will be receiving a Letter of Intent to communicate the location and cost share of the pedestrian and bicycle facilities. In some instances a local agency may opt not to cost participate, but another local agency could step in and fulfill the local cost obligations for construction of the sidewalk or bike path with the project.



U.S. Route 45

IL Route 132 to IL Route 173

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P-91-666-09

Illinois Department of Transportation

**Drainage Coordination
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LCFPD has their planned Millennium Trail along the west side of the Millburn Bypass connecting to McDonald Woods Forest Preserve on the south and running north to Raven Glenn Forest Preserve in the location of the underpass north of Miller Road. LCFPD asked if a pedestrian crossing could be located across Cross Creek Road along the north side of Sand Lake Road; CBBEL will incorporate this into the design. LCFPD also expressed interest in the proposed path along the north leg of Stearns School Road and desired to extend the path further east. The LCDOT 2040 Non-Motorized Plan does not indicate a LCDOT regional path along Sand Lake Road or Stearns School Road, however, LCDOT would allow another agency to own and maintain a non-motorized facility in the LCDOT right-of-way in this area.

Lake County Division of Transportation asked if they would have the opportunity to comment on the geometric design prior to Phase I being completed. IDOT (Glynn) stated that CBBEL will send over the latest South Section design plans which recently received comments on its second submittal. There were questions regarding the proposed retaining wall at the northwest quadrant of the intersection of Sand Lake Road and U.S. Route 45. IDOT (Glynn) indicated that the cost and maintenance of the wall would likely be IDOT's responsibility since only a small portion wraps around on the Sand Lake Road right-of-way.

The meeting concluded at approximately 3:00 p.m.

Meeting summary prepared by:

Matt Huffman - Christopher B. Burke Engineering, Ltd.





Attendance Roster

Bureau: Programming Section: Hydraulics
 Project/Topic: US Route 45 – IL 132 to IL 173 (Excluding Millburn Bypass) Drainage Coordinating Meeting
Lake County Forest Preserve District, Lake County SMC, Lake County DOT
 Date: October 30, 2014
 Time: 1:00 p.m.
 Location: Lake County Division of Transportation

	Attendees	Representing	Phone Number	Email Address
1.	JOHN NELSON	LCFPD	847-968-3407	jnelson@LCFPD.ORG.
2.	RANDY SEEBACH	LCFPD	847-968-3262	rseebach@LCFPD.org
3.	Bob Gardiner	LC SMC	847-377-7704	rgardiner@lakecounty.il.gov
4.	Glen Westman	LC SMC	847-377-7708	gwestman@lakecounty.il.gov
5.	MARIE GLYNN	IDOT Program CH2M Hill	847-705-4073	marie.glynn@illinois.gov
6.	Lynn Hobbs	IDOT Hydraulics	847 705-4783	lynn.hobbs@illinois.gov
7.	Ilene Dailly	CBBEL	847-823-0500	idailey@cbbel.com
8.	MATT HUFFMAN	CBBEL	847-823-0500	M.HUFFMAN@CBBEL.COM
9.	EMILY KARRY	LC DOT	847.377.7400	ekarry@lakecounty.il.gov
10.	CHUCK GLEASON	LC DOT	847-377-7447	CGLEASON@LAKECOUNTYIL.GOV
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USACE

MEETING MINUTES - 7/29/2010
MEETING MINUTES - 11/13/2012

**USACE Quarterly Coordination Meeting
June 29, 2010
IDOT District One**

**US Route 45; IL Route 132 to IL Route 173
Agenda Item 1 (Miscellaneous)**

The purpose of this presentation was to receive clarification from the USACE on items identified at the June NEPA/404 Merger meeting as discussed herein.

In 2008, the Lake County Division of Transportation (LCDOT) initiated a Phase I Engineering study for a US Route 45 bypass of the Millburn Historic District. The limits of their study extend from approximately Sand Lake Road to Independence Boulevard, a distance of approximately 1.5 miles. During the first few months of the Millburn Bypass Study, it was determined by FHWA that the logical project termini would need to be extended south to IL 132 and north to IL 173. The environmental survey limits were extended to cover the larger study area at that time and LCDOT agreed to prepare an EA for the larger limits.

Subsequently, IDOT has initiated a Phase I Engineering Study that will incorporate a preferred Millburn Bypass alternative into the larger project limits from IL 132 to IL 173, a distance of approximately 6.2 miles. The same consultant has been selected to perform this work. Notice to Proceed for the IDOT project is anticipated in Summer 2010.

At the June 11, 2010 NEPA/404 Merger meeting, the project team discussed the process of reducing the Millburn Bypass alternatives from nine to three. One of the items used for the analysis was an Evaluation Matrix that provided comparative results between the nine bypass alternatives. At the NEPA meeting, USACE, Kathy Chernich noticed that the Waters of the U.S. were not included in the evaluation matrix and requested this information be added. Specifically, she asked “where are the proposed waters crossings” and “what is the acreage of waters impact”. The project team could identify the crossing locations, but were unable to answer specific questions about acreage because not *all* waters (e.g. streams) were delineated and this information was not included in the evaluation matrix . In addition, USACE requested that the names of the crossing locations be added to the exhibits; the project team agreed to add this information to future exhibits.

Following the June 11 meeting, there were several sidebar discussions between BDE and USACE about what data was needed to identify the Waters of the U.S., but nothing was finalized. IDOT Project Manager, Marie Glynn and INHS, Allen Plocher attended the USACE Quarterly Meeting to get a final resolution on whether the Waters of the U.S. needed to be delineated; if so, to what extent; and to establish who would perform the field work.

It was decided that the waters would need to be surveyed for the three remaining Millburn Bypass alternatives (A1, A4, and C4.4) within the proposed right-of-way bands plus a distance of 100 ft either side of the proposed right-of-way. Outside the core Millburn Bypass Study area, from IL 132 to IL 173 the Waters of the U.S. would also need to be delineated due to several potential slight realignments of US 45 including near Hastings Creek to avoid LAWCON property. Outside the core study area, the Waters of the U.S. will be delineated

for a distance of 100 ft either side of existing US 45 right-of-way except adjacent to Temple Farms property since access has been denied by the property owner. The approximate limits of the Waters of the U.S. within Temple Farms should be estimated based on visual inspection from the existing US 45 right-of-way. IDOT will provide exhibits to INHS showing location of Millburn Bypass remaining alternatives in PDF format.

It was determined that INHS would perform the surveys on behalf of IDOT.

At the June 11 meeting, the Project Team recommended reducing the core Millburn Bypass alternatives from nine to three. The other six alternatives were previously dismissed from further consideration by the project's Community Advisory Group (CAG), IDOT, LCDOT, and FHWA due to operational, environmental, and historic property impacts. At the NEPA/404 Merger Meeting, USACE was tentative about agreeing that the project team advance to a Public Meeting without the waters issue being addressed. Ms. Chernich clarified that she merely wanted the waters impacts to be provided for the three remaining alternatives. Any summary table for these alternatives should identify impacts to the Waters of the U.S. In addition, exhibits should include names of creeks, streams, lakes, etc. USACE explained that they need this information to be prepared to respond to public comments or questions as they arise.

The group had a non-project specific discussion about whether INHS should be delineating the Waters of the U.S. as part of their wetland delineation field work. Since this information is eventually needed, USACE, Soren Hall offered that it would be helpful if INHS could delineate the location of the waters at the same time, instead of a two-step process as typically done. INHS noted that it would not be practical to survey the Waters of the U.S. for projects with extensive survey limits since often times the waters are avoided and this information is not needed. IDOT, Vanessa Ruiz proposed that for roadway projects that will generally be on the same alignment, it could be done for a distance of 100 ft outside the existing right-of-way without significant additional work and could possibly eliminate the two-step process. For projects which the potential impact to waters can be identified early in the process (before environmental surveys are conducted), IDOT can request this information be obtained by INHS. This approach seemed to generally be agreed upon by all.

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AGENDA ITEM # 7
US Route 45
IL Route 132 to IL Route 173 including Millburn Bypass
P-91-388-10
Illinois Department of Transportation
November 13, 2012

This was the 1st presentation of this project at a Quarterly Meeting. The purpose of this presentation was to provide a brief overview of the project status, specifically the central section, i.e., the Millburn Bypass.

The Phase I Study is nearing completion. The Public Hearing for the Phase I Study from IL 132 to IL 173 including the Millburn Bypass is tentatively scheduled for February 2013, following FHWA and District final review of the Environmental Assessment. Funding is available for final design and construction for a U.S. 45 west bypass of the Millburn Historic District from approximately Country Place to Independence Blvd. The Millburn Bypass will require a Regional Permit for the 0.05 acre impact to the Waters of the U.S. (WOUS) discussed herein. IDOT will be the lead agency for Phase II and III.

No funding has been identified by either IDOT or Lake County for the final design/construction of the south and north sections of the project from IL 173 to Country Place and Independence Blvd to IL 132.

Existing Conditions

West of US 45, there are two locations that the re-aligned US 45 west bypass would cross the Waters of the U.S. (WOUS). The two WOUS, named Millburn Creek and Tributary to Millburn Creek, join west of existing US 45. The combined flow passes under existing US 45 through a 9' x 5' Reinforced Concrete Box Culvert (RCBC); there are no known drainage or flooding issues at this location.

The south crossing, Millburn Creek, is considered perennial. In Aug 2012 under normal conditions, Millburn Creek was measured at less than 1-ft deep and 4-ft wide. The northern crossing, Tributary to Millburn Creek and its associated back channel, consists of a small creek measured under normal conditions as 1-ft deep and less than 3-ft wide and a back channel measured as less than 1-ft deep and 2- ft wide. The Tributary to Millburn Creek is NOT considered perennial. In Sept 2012, all crossings were dry as shown in the handout provided at the meeting. Both Millburn Creek and the Tributary to Millburn Creek were mapped as ADID sites, but are not considered wetlands. As reference, the wetlands upstream and downstream of these crossings have FQIs less than 20 and C-Values less than 3.5.

Millburn Creek (south crossing)

A three sided structure (open bottom) is proposed at Millburn Creek. The structure would have a 42-ft span and 8 ft opening from the stream bed permitting passage of small to medium sized animals. Approximately 210-ft of Millburn Creek would be re-aligned or re-channelized resulting in 0.02 additional acres of WOUS impact. The 42-ft span would provide adequate width to reinstate a meandering stream underneath the structure. Roadway drainage from the south will be conveyed over the top of Millburn Creek via a storm sewer and released at the main detention basin within property already being acquired from the LCFPD.

The three sided structure alternative provides several advantages over a clear span, bridge alternative. First, it allows water to be conveyed across creek, eliminating a detention basin south of Millburn Creek that would require acquisition of 0.67 acres of private property. Second, it simplifies construction of the crossing by

eliminating a temporary modular steel bridge that would need to be dropped into place from the south bank in order to avoid impacts to the WOUS and LCFPD.

Tributary to Millburn Creek and Back Channel (north crossings)

Box culverts are proposed for the Tributary to Millburn Creek and associated back channel. The main conveyance would be through two adjacent closed box culverts (10-ft x 6-ft cell for low flows; 4-ft x 6-ft cell for high/flood flows). The box culverts would be embedded 2-ft with a 4-ft opening from the stream bed elevation to the top of the culvert for passage of small to medium sized animals. Conveyance of the back channel located 35-ft to the north would be through a 4-ft x 6-ft closed box culvert that would be embedded 2-ft. Approximately 360-ft of the Tributary to Millburn Creek and the associated back channel would be re-aligned resulting in 0.015 additional acres of WOUS impacts at each crossing (total 0.03 acres).

A 48" storm sewer is also proposed to be jacked underneath the tributary and back channel, conveying water from the north to the main detention basin to be constructed on the remnant property being acquired from the LCFPD.

Summary

Both crossings meet IDOT and Lake County drainage requirements and maximize the use of property already being acquired for the Millburn Bypass from the LCFPD for detention and water quality BMPs. The proposed waterway crossings exceed the hydraulic requirements at both locations as well as provide buffer areas for passage of terrestrial wildlife. The WOUS impacts (streams and wetlands) for the entire project from IL132 to IL173 would be 0.66 acres. If there was no impact to the WOUS at these two locations, the total impact would be reduced by 0.05 acres to 0.61 acres. It is anticipated that a regional permit will be necessary for the 0.05 acres of impact within the Millburn Bypass area.

Agency Questions and Comments:

- USACE: Is the Millburn Bypass are the only portion of the project they (Lake County) wants to move forward on?
- IDOT Response: Yes, there is funding in place for the Millburn Bypass, but not the other sections to the south or north.
- USACE: Has Millburn Creek been delineated?
- IDOT Response: Yes
- USFWS: What was Millburn Creek found to be high habitat value for?
- IDOT Response: For T & E although none were found during field surveys.
- USFWS: The ADID sites were mapped in the early 90's and there has been a lot of changes/development in this area since that time. Stated that he recently performed a field visit and found the grassland bird habitat had been completely degraded. Only one ground nesting, grassland bird was seen during the field check.
- USACE: For the Tributary to Millburn Creek, will the 48" sewer also divert tributary waters away from the creek?
- IDOT Response: Yes, some of the runoff from the subdivision will be diverted into the culvert and away from the creek. All of this water ends up in the main detention basin which is ultimately outlet downstream into Millburn Creek (west of existing US 45).
- USACE: For the Tributary to Millburn Creek, is the grading all coming down into the culvert (northern box culverts)? The contour lines appear to be grading all in one direction.

IDOT Response: There is a saddle in between the two culverts that is being eliminated.

USACE: Recalled that impacts for west and east bypass alternatives were comparably low. Previously he preferred the east bypass due to the proximity of the residences to west bypass alignment. However, from a resource perspective, there is relatively no difference between the west and east bypass alternatives.

IDOT Response: Through the Millburn Bypass, the original east bypass alternative was re-aligned to avoid a burial ground located north of Millburn Road. The re-design resulted in a less desirable US 45 alignment and intersection geometry at US 45/Millburn Rd. In addition, the east bypass alternative severs the historic district as well as runs parallel to the north-south riparian corridor.

USACE: Do you have a breakdown of WOUS impacts between the proposed culverts and the bridge alternatives for the Millburn Bypass?

IDOT Response: Yes, the culvert option impacts 0.05 acres of WOUS. The bridge option does not impact the WOUS if a temporary portable structure is constructed at Millburn Creek to transport construction equipment materials. The bridge option also requires an additional 0.67 acres of property impacts to construct the detention basin south of Millburn Creek.

USACE: Noted that the originally proposed long span bridges would not be typically proposed by IDOT under these circumstances.

USACE: Were property owners aware of the ROW reservation for the bypass?

IDOT Response: Original property owners in Heritage and Forest Trail Subdivisions were made aware of the US 45 west bypass alignment. State right-of-way was delineated on the developer's plans that were viewed by residences prior to purchase. However, it is unknown if subsequent owners were notified by real estate agents/selling property owners about protected right-of-way. Fire hydrants and utilities were also placed in the proposed right-of-way.

USFWS: Noted that he saw signs of utilities through this right-of-way when he was in the field.

USACE: Do you have a cost breakdown between the bridge and culvert options?

IDOT Response: The difference in structure cost between culvert and bridge options is approximately \$3 Million. This does not include additional costs associated with the temporary bridge at Millburn Creek or the additional right-of-way for the detention basin.

USACE – Soren Hall (SH)

USFWS – Sean Cirton (SC)

IDOT – John Baczek (JB), Rick Wojcik (RW), Vanessa Ruiz (VR), Steve Rauch (SR), Marie Glynn (MG)

ENVIRONMENTAL SIGNOFFS

CULTURAL RESOURCES CLEARANCE – 1/14/2013

NO ARCHAEOLOGICAL PROPERTIES AFFECTED CONCURRENCE –
4/20/2011

BIOLOGICAL RESOURCES CLEARANCE – 1/8/2010

WETLAND IMPACT EVALUATION FORM AND IN-BASIN BANKING
FOR MITIGATION CONCURRENCE – 3/2/2012

PESA REVIEW COVER MEMO – 7/14/2010

PESA VALIDATION - 8/30/2013

PESA REVIEW COVER MEMO – 1/15/2018

COSIM 3.0 PRE-SCREEN MODELING RESULTS – 10/13/2011



Illinois Department of Transportation

Memorandum

To: John A. Fortmann Attn: Sam M. Mead
From: John D. Baranzelli By: Brad H. Koldehoff
Subject: Conditional No Adverse Effect - Cultural Resources
Date: January 14, 2013

**Lake County
FAP 344, US 45
Milburn Bypass
IDOT Sequence #15162, 15162A**

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, the Illinois State Historic Preservation Officer (SHPO) concurs with IDOT's determination that the above referenced project will not cause an Adverse Effect to Historic Properties provided that IDOT submits preliminary and final plans for SHPO comment and approval (see attached).

Impacts to archaeological and architectural properties within the preferred alignment (A4) have been avoided: the Milburn Historic District, the old Milburn Cemetery site (11L857), and the D. B. Taylor site (11L870). The Druce Hoffman Farmstead will likely be impacted, but it was evaluated for listing on the National Register of Historic Places and was determined ineligible by the SHPO (see attached).

This project is cleared for Design Approval provided that preliminary and final plans are submitted to the Cultural Resources Unit for SHPO comment and approval.

A handwritten signature in black ink, appearing to read "Brad Koldehoff".

Brad H. Koldehoff, RPA
Cultural Resources Unit
Bureau of Design and Environment



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

RECEIVED
JAN - 9 2013
005012609
Preservation Services

January 9, 2013

Lake County
FAP 344, US 45
Milburn Bypass
IDOT Sequence #15162, 15162A
ISAS/ITARP #09093, 09179

Federal - Section 106 Project

CONDITIONAL NO ADVERSE EFFECT

Ms. Anne Haaker
Deputy State Historic Preservation Officer
Illinois Historic Preservation Agency
Springfield, Illinois 62701

Dear Ms. Haaker:

In coordination with your office, impacts to archaeological and architectural properties have been avoided for the above referenced project. The attached documentation illustrates that the preferred alignment (A4) avoids impacts to the Milburn Historic District, old Milburn Cemetery site (11L857), and the D. B. Taylor site (11L870). The Druce Hoffman Farmstead was evaluated for listing on the National Register of Historic Places and was determined ineligible by your office (see attached).

In accordance with the established procedure for coordination of proposed IDOT projects, we request the concurrence of the State Historic Preservation Officer in our determination that no historic properties subject to protection under Section 106 of the National Historic Preservation Act of 1966, as amended, will be adversely affected by the proposed project, provided that IDOT submits preliminary and final plans to your office for comment and approval.

Very truly yours,

Brad H. Koldehoff, RPA
Cultural Resources Unit
Bureau of Design and Environment

CONCUR

By:
Deputy State Historic Preservation Officer

Date: 1/14/13



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

April 20, 2011

Lake County
FAP 344, US 45
Milburn Bypass
Project: P-91-666-09

IDOT Seq# 15162, 15162A
ITARP#09093, 09179

NO ARCHAEOLOGICAL PROPERTIES AFFECTED

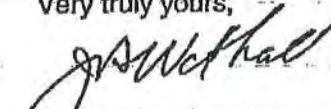
Ms. Anne Haaker
Deputy State Historic Preservation Officer
Illinois Historic Preservation Agency
Springfield, Illinois 62701


Dear Ms. Haaker:

Enclosed are two copies of Archaeological Report and Phase I documentation completed by University of Illinois personnel concerning historical and archaeological properties and sites potentially to be impacted by the 310 acre project referenced above. Fourteen archaeological sites, 11-L-863-871, L-820-822, and L-786 were recorded in the project area. All of these sites represent surface scatters of prehistoric lithics and 19th-20th century historic debris. Only site L-870 is of historical interest since it was associated with D. B. Taylor, an early Milburn citizen. Construction plans have been altered to avoid this site as well as any potential impacts to archaeological properties within the Milburn Historic District and the Milburn Cemetery.

In accordance with the established procedure for coordination of Illinois Department of Transportation projects, we request the concurrence of the State Historic Preservation Officer in our determination that no historic properties subject to protection under Section 106 of the National Historic Preservation Act of 1966, as amended, will be affected by this proposed project.

Very truly yours,


John A. Walthall, PhD
Cultural Resources Unit

CONCUR
By: 
Deputy State Historic Preservation Officer
Date: 4/20/11



Illinois Historic
Preservation Agency

FAX (217) 782-8161

1 Old State Capitol Plaza • Springfield, Illinois 62701-1512 • www.illinois-history.gov

Lake County

Millburn and Old Mill Creek

U.S. 45 Millburn Bypass Environmental Assessment

U.S. Route 45 from IL Route 132 to IL Route 173

FHWA-HPER-IL, IDOT-P-91-666-09

IHPA Log #005012609

May 24, 2011

Matt Fuller

U.S. Department of Transportation

Federal Highway Administration

3250 Executive Park Dr.

Springfield, IL 62703

Dear Mr. Fuller:

We have received a draft National Register of Historic Places (NRHP) nomination for the Druce Hoffman Farmstead in Millburn which is within the area of project effect for the Millburn Bypass project.

The owner purported that the complex is eligible for the NRHP as a good representative example of a late 19th-early 20th century farmstead in Lake County. We originally sent the owner a letter stating that, based on this assertion that the property appeared to be a good candidate for NRHP listing. However, these claims were not factually supported in the nomination presented.

On our first site inspection we thought that at least the barn was eligible as a representative example of a mid-19th century barn. That was not supported in either the documentation prepared by the Illinois Department of Transportation nor by NRHP nomination.

It is now our opinion, in accordance with section 106 of the National Historic Preservation Act of 1966, as amended, that neither the site as a complex or any individual structure is eligible for the NRHP.

We look forward to consulting with you on other aspects of the project.

Sincerely,

Anne E. Haaker

Deputy State Historic

Preservation Officer

c: John Walthall, Illinois Department of Transportation

100

Attention: Central Office BD&E
Environment Section
Room 330

Environmental Survey Request Addendum

A. Project Information Bio Cultural Wetlands Special Waste

Submittal Date: 08/04/2009 Sequence No: 15162 A
 District: 1 Requesting Agency: DOH Project No:
 Contract #: Job No.: P- 91-666-09
 Counties: Lake
 Route: FAP 344 Marked: US 45
 Street: US 45 Section: 05-00262-02-RP
 Municipality(ies): Lindenhurst, Old Mill Creek, Unincorp. Lake Project Length: 8.8514 km 5.5 miles
 From To (At): IL 173 to IL 132
 Quadrangle: Antioch, Wadsworth Township-Range-Section: 4N-10E-S36;46N-10E-S25;46N-11W-S31;46N-11E-S30;45N-10E-S1;45N-11E-S6
 Anticipated Design Approval: 07/31/2011

B. Reason for Submittal (Check all that apply)

Acquisition of additional ROW or easement Addendum: _____ acres Total Project: _____ acres
 In-Stream Work Stream Name: Millburn Creek, Ha
 Other: Wetland delineations needed. See add'l info
 Field Sign Off (Bio & Cultural Only)

C. Addendum Description: The project's logical termini were extended north to IL 173 and south to IL 132. Addendum needed to add the additional area.

D. Tree Removal?: Yes Number?: _____ ha _____ acres

Wetland delineation performed by: BDE End. Species Consultation performed by: BDE

E. Contact Person: John Baczek Local Contact Person: _____
 Telephone #: (847) 705-4104 ext. Telephone #: _____
 Env. Contact: Sam Mead E-Mail: _____
 Telephone #: 8477054101 Title/Company: _____

Update Entire Project
 Addendum Only

Field Sign Off (Bio & Cultural Only) Received in CO

BIOLOGICAL RESOURCES
 NO SURVEY OR FURTHER COORDINATION REQUIRED
 1-8-2010
Thomas C Brooks
 SIGNED (SIB) DATE

Sequence No: 15162 A

Memo Date: 08/04/2009 Memo By: _____

Memo: Addendum A Township-Range-Section: 46N-10E-S13, 46N-10E-S24, 46N-10E-S25, 46N-11E-S18, 46N-11E-S18, 46N-11E-S19, 48N-11E-S31, 45N-10E-S1, 45N-10E-S12, 45N-10E-S13, 45N-11E-S6, 45N-11E-S6, 45N-11E-S7, 45N, 11E-S18.



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

January 8, 2010

Mr. Patrick Malone
Illinois Department of Natural Resources
Division of Resource Review and Coordination
One Natural Resources Way
Springfield, Illinois 62702-1271

RE: FAP 344 (U.S. 45) and Addendum A
Job No. P-91-666-09 (Seq. 15162 and 15162A)
@ Grass Lake/Millburn Rd. and from IL 173 to IL 132
Municipalities of Lindenhurst, Old Mill Creek, and Unincorporated Lake
County
Lake County

Dear Mr. Malone:

The purpose of this letter is to transmit wetland and botanical survey results for the project above to IDNR, USFWS, and USACOE. An electronic version of these documents and GPSed wetland boundaries was placed in the IDOT Sharepoint site; this letter serves to notify District 1.

Because coordination with the resource agencies is ongoing with this project via the NEPA/404 merger process, a more thorough review of the resources present will occur when impacts are known. IDNR concurrence with respect to state listed species was received for the original project via EcoCAT dated March 9, 2009, and for Addendum A dated August 20, 2009.

Wetland delineations were performed in the original and Addendum A project areas by the Illinois Natural History Survey in 2009, with results received December 31, 2009. Results are attached. The following Wetland Sites satisfied the method criteria according to the 1987 Corps of Engineers Wetlands Delineation Manual: Sites 1-5, 8-10, 13-15, 26-29, 34, 37, 38, 43, 45, 50, and 52. The following jurisdictional Wetland Sites are Lake County ADID wetlands: Sites 13, 14, 28, 29, 34, 37, and 52. Wetland Site 4 has an FQI of 20 or more and thus requires 5.5:1.0 mitigation ratio if impacted. Wetland Site 37 is a Natural Areas Inventory Site and thus requires 5.5:1.0 mitigation ratio if impacted. The following Wetland Sites were determined to be isolated wetlands as determined by the INHS: Sites 6, 7, 11, 16-18, 21, 23-25, 31-33, 40-42, 46-49, and 54. The following sites are not wetlands: Sites 12, 19, 20, 22, 30, 35, 36, 39, 44, 51, and 53.

This office requests submittal of a Wetland Impact Evaluation form from District 1 when wetland impacts are known. Our response will be coordinated with you in accordance with the IDOT Wetlands Action Plan.


The Illinois Natural History Survey conducted botanical surveys to determine presence or absence of the Eastern prairie fringed orchid (*Platanthera*

Mr. Patrick Malone
January 8, 2010
Page 2 of 2

leucophaea) per request of the USFWS letter dated March 6, 2009. Surveys were conducted June 29, July 1 and July 8, 2009 in the project area using the 2009 USFWS Chicago office guidelines for evaluating *P. leucophaea* habitat in northeastern Illinois. No orchids were found. The highest FQI was 20.1 with natives only (17 with adventives) and the highest mean C was 3.4. Three potential habitat sites were thoroughly surveyed (wet meadow/sedge meadow, marsh/wet meadow, and shrubland/old field). Each site contained several Eastern prairie fringed orchid associates. However, the wet meadow/sedge meadow was considered at best only marginally suitable habitat from the standpoint of associates because of the dominance of the weedy exotic *Phalaris arundinacea*. The other two sites were not considered suitable habitat since the associates were weedy and the habitat too degraded. Based on these analyses, this office has concluded that the Eastern prairie fringed orchid is not present in the project area, and thus the project will have no effect on this species.

If there are any questions regarding this letter, please contact Susan Dees at 217/785-0150.

Sincerely,


(SED)

Thomas C. Brooks
Natural Resources Unit Chief

Cc: Diane M. O'Keefe ATTN: Peter E. Harmet
Steve Hamer (IDNR)
Janice Engle ATTN: Cathy Pollack (USFWS)
Kathy Chernich (USACOE)



Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
<http://dnr.state.il.us>

Pat Quinn, Governor
Marc Miller, Director

August 20, 2009

Susan Dees
Illinois Department of Transportation-BDE
2300 South Dirksen Parkway
Room 330
Springfield, IL 62764

Re: US 45 Milburn Bypass Add. A, P-91-666-09, 05-00262-02-RP, N end
Project Number(s): 1001730 [15162A]
County: Lake

Dear Applicant:

This letter is in reference to the project you recently submitted for consultation. The natural resource review provided by EcoCAT identified protected resources that may be in the vicinity of the proposed action. The Department has evaluated this information and concluded that adverse effects are unlikely. Therefore, consultation under 17 Ill. Adm. Code Part 1075 is terminated.

This consultation is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, you must comply with the applicable statutes and regulations. Also, note that termination does not imply IDNR's authorization or endorsement of the proposed action.

Please contact me if you have questions regarding this review.

Steve Hamer
Division of Ecosystems and Environment
217-785-5500



Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
<http://dnr.state.il.us>

Pat Quinn, Governor
Marc Miller, Director

August 20, 2009

Susan Dees
Illinois Department of Transportation-BDE
2300 South Dirksen Parkway
Room 330
Springfield, IL 62764

Re: US 45 Milburn Bypass Add. A, P-91-666-09, 05-00262-02-RP, S end
Project Number(s): 1001731 [15162A]
County: Lake

Dear Applicant:

This letter is in reference to the project you recently submitted for consultation. The natural resource review provided by EcoCAT identified protected resources that may be in the vicinity of the proposed action. The Department has evaluated this information and concluded that adverse effects are unlikely. Therefore, consultation under 17 Ill. Adm. Code Part 1075 is terminated.

This consultation is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

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Please contact me if you have questions regarding this review.

Steve Hamer
Division of Ecosystems and Environment
217-785-5500

Applicant: Illinois Department of Transportation-BDE
Contact: Susan Dees
Address: 2300 South Dirksen Parkway
Springfield, IL 62764

IDNR Project #: 1001730
Alternate #: 15162A
Date: 08/20/2009

Project: US 45 Milburn Bypass Add. A, P-91-666-09, 05-00262-02-RP, N end
Address: n/a, Milburn area

Description: Add. A to extend logical terminal N to IL 172 & S to IL 132. Unknown additional ROW, instream work, unknown tree removal. WIRT: buffers only of numerous hits in Redwing Slough/Deer Lk LWR/INAI and Fourth Lk-Rollins Rd Savanna INAI/NP. This is for N end; separate submittal for S end.

Natural Resource Review Results

Consultation for Endangered Species Protection and Natural Areas Preservation (Part 1075)

The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

Antioch Bog INAI Site
Redwing Slough INAI Site
Redwing Slough/Deer Lake Land And Water Reserve
Black Tern (*Chlidonias niger*)
Common Moorhen (*Gallinula chloropus*)
Iowa Darter (*Etheostoma exile*)
King Rail (*Rallus elegans*)
Least Bittern (*Ixobrychus exilis*)
Sandhill Crane (*Grus canadensis*)
Yellow-Headed Blackbird (*Xanthocephalus xanthocephalus*)

An IDNR staff member will evaluate this information and contact you within 30 days to request additional information or to terminate consultation if adverse effects are unlikely.

Location

The applicant is responsible for the accuracy of the location submitted for the project.

County: Lake

Township, Range, Section:

46N, 10E, 13 46N, 10E, 24
46N, 10E, 25



IL Department of Natural Resources Contact

Steve Hamer
217-785-5500
Division of Ecosystems & Environment

Local or State Government Jurisdiction

IL Department of Transportation
Susan Dees
2300 South Dirksen Parkway
Room 330
Springfield, Illinois 62764

Disclaimer

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

Terms of Use

By using this website, you acknowledge that you have read and agree to these terms. These terms may be revised by IDNR as necessary. If you continue to use the EcoCAT application after we post changes to these terms, it will mean that you accept such changes. If at any time you do not accept the Terms of Use, you may not continue to use the website.

1. The IDNR EcoCAT website was developed so that units of local government, state agencies and the public could request information or begin natural resource consultations on-line for the Illinois Endangered Species Protection Act, Illinois Natural Areas Preservation Act, and Illinois Interagency Wetland Policy Act. EcoCAT uses databases, Geographic Information System mapping, and a set of programmed decision rules to determine if proposed actions are in the vicinity of protected natural resources. By indicating your agreement to the Terms of Use for this application, you warrant that you will not use this web site for any other purpose.
2. Unauthorized attempts to upload, download, or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act.
3. IDNR reserves the right to enhance, modify, alter, or suspend the website at any time without notice, or to terminate or restrict access.

Security

EcoCAT operates on a state of Illinois computer system. We may use software to monitor traffic and to identify unauthorized attempts to upload, download, or change information, to cause harm or otherwise to damage this site. Unauthorized attempts to upload, download, or change information on this server is strictly prohibited by law. Unauthorized use, tampering with or modification of this system, including supporting hardware or software, may subject the violator to criminal and civil penalties. In the event of unauthorized intrusion, all relevant information regarding possible violation of law may be provided to law enforcement officials.

Privacy

EcoCAT generates a public record subject to disclosure under the Freedom of Information Act. Otherwise, IDNR uses the information submitted to EcoCAT solely for internal tracking purposes.

Applicant: Illinois Department of Transportation-BDE
Contact: Susan Dees
Address: 2300 South Dirksen Parkway
Springfield, IL 62764

IDNR Project #: 1001731
Alternate #: 15162A
Date: 08/20/2009

Project: US 45 Milburn Bypass Add. A, P-91-666-09, 05-00262-02-RP, S end
Address: n/a, Milburn area

Description: Add. A to extend logical termini N to IL 172 and S to IL 132. Unknown additional ROW, instream work, unknown tree removal. WIRT: buffers only of numerous hits in Redwing Slough/Deer Lk LWR/I:NAI and Fourth Lk-Rollins Rd Savanna INAI/NP. This is for S end; separate submittal for N end.

Natural Resource Review Results

Consultation for Endangered Species Protection and Natural Areas Preservation (Part 1075)

The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

- Fourth Lake - Rollins Road Savanna INAI Site
- Mcdonald Woods Marsh INAI Site
- Fourth Lake Fen Nature Preserve
- Forster'S Tern (*Sterna forsteri*)
- Sandhill Crane (*Grus canadensis*)
- Wilson'S Phalarope (*Phalaropus tricolor*)
- Yellow-Headed Blackbird (*Xanthocephalus xanthocephalus*)

An IDNR staff member will evaluate this information and contact you within 30 days to request additional information or to terminate consultation if adverse effects are unlikely.

Location

The applicant is responsible for the accuracy of the location submitted for the project.

County: Lake

Township, Range, Section:

45N, 10E, 1	45N, 10E, 12
45N, 10E, 13	45N, 11E, 6
45N, 11E, 7	45N, 11E, 18



IL Department of Natural Resources Contact
Steve Hamer
217-785-5500
Division of Ecosystems & Environment

Local or State Government Jurisdiction
IL Department of Transportation
Susan Dees
2300 South Dirksen Parkway
Room 330
Springfield, Illinois 62764

Disclaimer

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

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Wetland Impact Review Tool Report: Report of Possible Resource Conflicts.

**Resource in
 Vicinity of Project
 Polygon**

- Threatened and Endangered Species
- National Wetlands Inventory (NWI)

**Resource within
 Buffer**

- Natural Area Inventory
- Nature Preserve/LWR

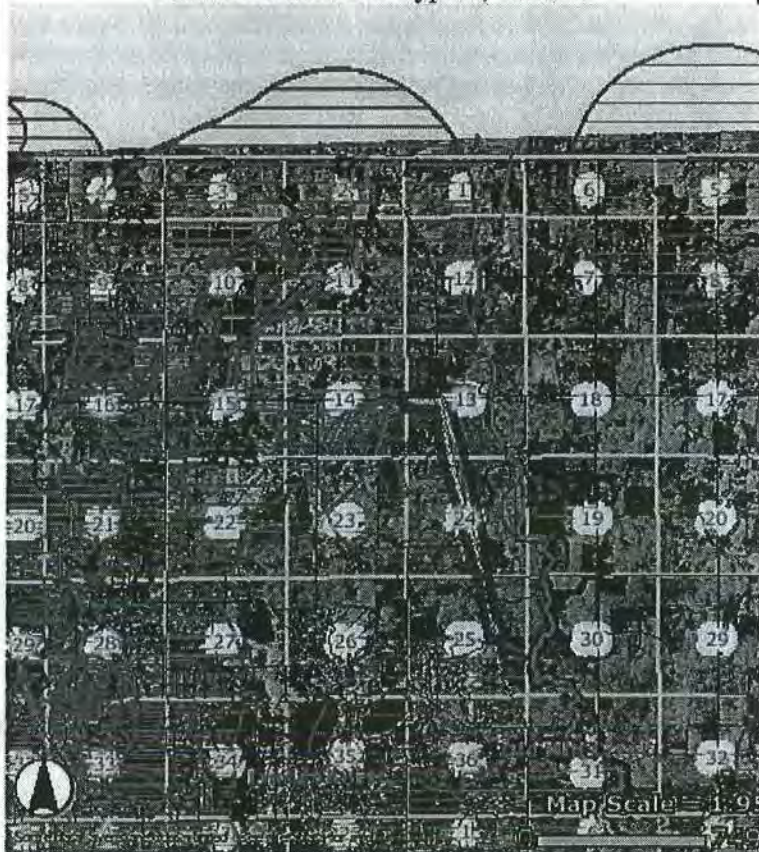
**No Resource
 Found**

- Class 3 Ground Water
- ADID Wetlands

County: LAKE. Section
 (PLSS): 346N10E13.

**Area: 0.362 square
 miles = 233.568 acres**

Parcel ID: Milburn Bypass, 15162A



Wetland Impact Review Tool Report: Report of Possible Resource Conflicts.

Resource in Vicinity of Project Polygon

- Threatened and Endangered Species
- National Wetlands Inventory (NWI)
- ADID Wetlands

Resource within Buffer

- Natural Area Inventory
- Nature Preserve/LWR

No Resource Found

- Class 3 Ground Water

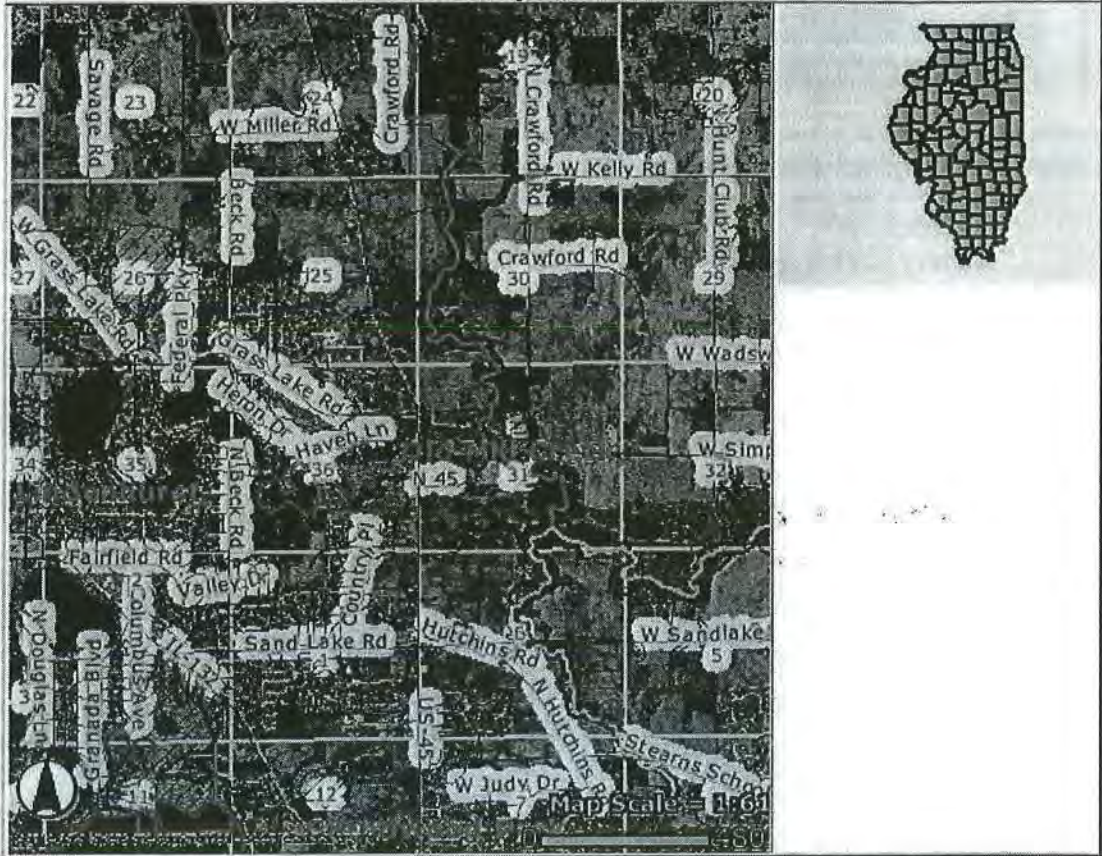
County: LAKE. Section (PLSS): 345N10E12.

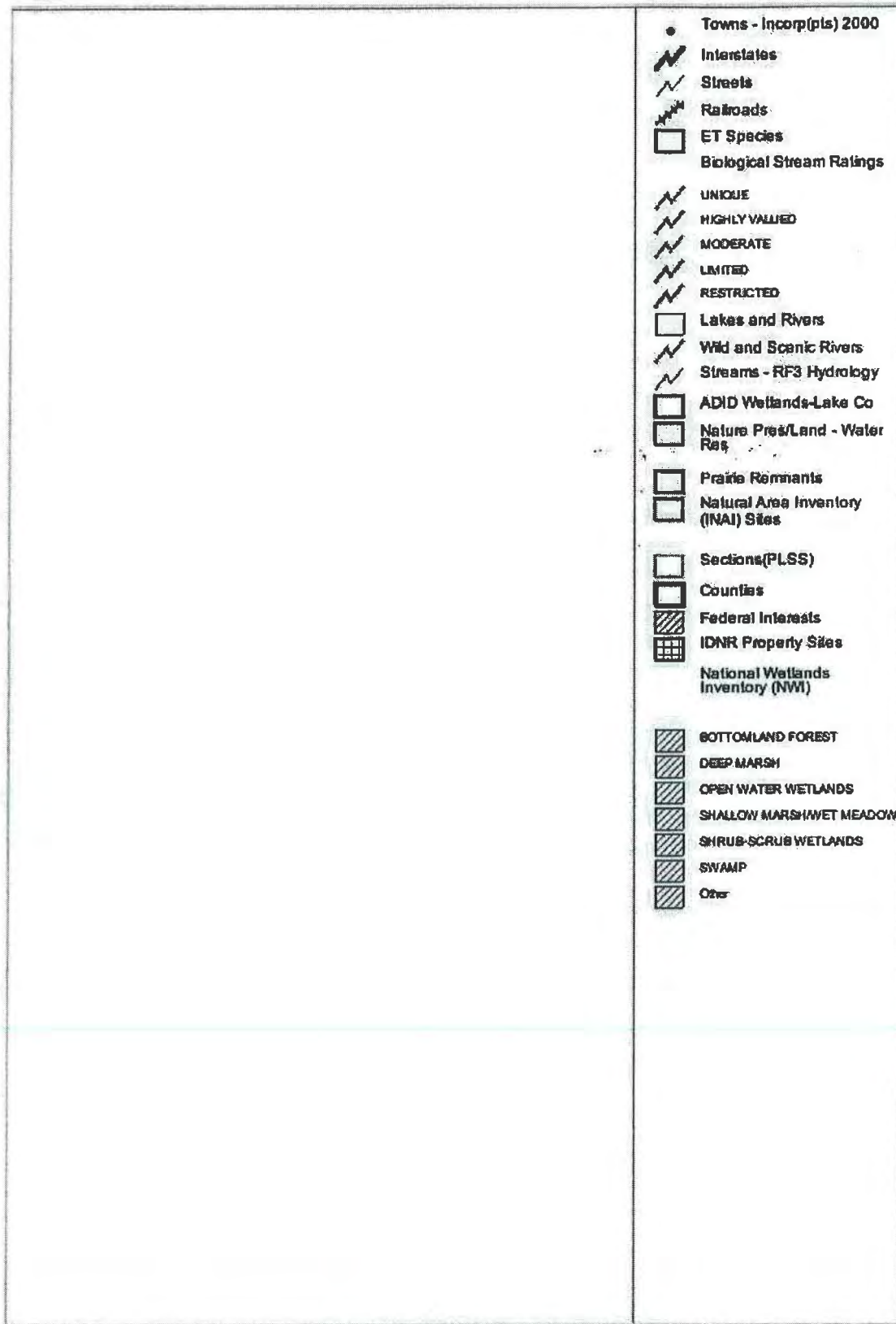
Area: 0.196 square miles = 126.722 acres

Parcel ID: Milburn Bypass S, 15162A



Wetland Impact Review Tool







Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
<http://dnr.state.il.us>

Pat Quinn, Governor
Marc Miller, Acting Director

March 09, 2009

Peter Knysz
Christopher B. Burke Engineering, Ltd.
9575 W. Higgins Road, Suite 600
Rosemont, IL 60018

Re: US Route 45/Millburn Bypass
Project Number(s): 0905633 [08-0677]
County: Lake

Dear Applicant:

This letter is in reference to the project you recently submitted for consultation. The natural resource review provided by EcoCAT identified protected resources that may be in the vicinity of the proposed action. The Department has evaluated this information and concluded that adverse effects are unlikely. Therefore, consultation under 17 Ill. Adm. Code Part 1075 is terminated.

This consultation is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, you must comply with the applicable statutes and regulations. Also, note that termination does not imply IDNR's authorization or endorsement of the proposed action.

Please contact me if you have questions regarding this review.

Steve Harner
Division of Ecosystems and Environment
217-785-5500



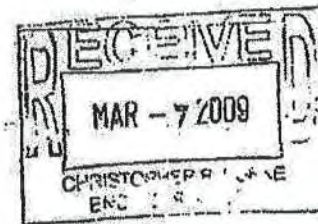
United States Department of the Interior

FISH AND WILDLIFE SERVICE
Chicago Ecological Services Field Office
1250 South Grove Avenue, Suite 103
Barrington, Illinois 60010
Phone: (847) 381-2253 Fax: (847) 381-2285

IN REPLY REFER TO:
FWS/AES-CIFO/9-FA-0212 / SL-0197

March 6, 2009

Mr. Peter M. Knysz
Christopher B. Burke Engineering, Ltd.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018



Dear Mr. Knysz:

This responds to your letter dated February 10, 2009 requesting information on endangered or threatened species for the proposed U.S. Route 45 – Millburn Bypass project (CBBEL Project No. 08-0677) located in Lake County, Illinois as depicted on the maps you enclosed.

At this time there are no known locations of federal listed species within the proposed project corridor, however the possibility exists that the federal threatened eastern prairie fringed orchid (*Platanthera leucophaea*) could be present in moderate to high quality wetland areas within the project corridor. Possible habitat of the eastern prairie white fringed orchid includes mesic prairie, sedge meadows, marsh edges and bogs. Soils of these habitats include glacial soils, lake plain deposits, muck, and peat. We request that a search for these types of habitat be conducted. If any of these habitat remnants are found within any of the project areas, we request that searches for this species be conducted.

We have noticed that in northeastern Illinois orchid populations bloom sporadically rather than all plants blooming at the same time. Because of this pattern, and small population numbers, it is possible to conduct an orchid search and not detect orchids even when they are present.

If potential habitat is observed and a field search should be conducted, we recommend conducting the field search during the bloom date of the orchid; June 28 through July 11, with searches conducted a minimum of three non-consecutive days within this time period. Using this approach, we could be more confident of negative survey results.

You have indicated that you will be updating preliminary field reconnaissance during the growing season using the methodology established by the U.S. Army Corps of Engineers including the generation of a wetland plant list and a floristic quality assessment. We request that you send us results of this exercise which would provide us with more detailed information

Mr. Peter M. Knysz

2

regarding wetlands within the proposed project area. At that time we may be able to provide a more accurate determination on whether the proposed project may affect listed species.

We recommend working early on project plans to assure that potential orchid habitat would not be affected. We look forward to working with you and the Army Corps of Engineers in determining whether your final project plans would affect any federal listed species.

These comments only address federally listed species. Please contact the Illinois Department of Natural Resources for information on State-listed species. Also, we may have the opportunity to review the project for a broader range of fish and wildlife impacts if it requires a Section 404 permit. We are willing to work with you in advance of formal submittal if it would help streamline the approval process.

If you have any questions, please contact Ms. Cathy Pollack at 847/381-2253 ext. 20, or Ms. Karla Kramer at 847/381-2253 ext. 12.

Sincerely,

Karla Kramer

John D. Rogner
Field Supervisor

Acting



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

February 28, 2012

Mr. Patrick Malone
Illinois Department of Natural Resources
Division of Resource Review and Coordination
One Natural Resources Way
Springfield, Illinois 62702-1271

CONCUR

By: *[Signature]*
Division of Impact Analysis

IDOC *[Signature]*

3-2-12

RE: FAP 344 (U.S. 45) Milburn Bypass and Addendum A
Job No. P-91-666-09 (Seq. 15162 and 15162A)
Sec. 05-00262-02-RP
@ Grass Lake Road
Municipalities of Lindenhurst, Old Mill Creek, Milburn, Unincorporated Lake County
Lake County

Dear Mr. Malone:

The purpose of this letter is to coordinate wetland impacts for the above project. Because the project occurs on new alignment, it is being processed as a Standard Review Action in accordance with the IDOT Wetlands Action Plan, and thus coordinated with your office. Wetland delineations were transmitted to your office previously via letter dated January 8, 2010. For ease of your review, they are attached.

The Wetland Impact Evaluation form (WIE) was received this date and is acceptable after questions were answered. The WIE and WIE plan sheets are attached. Impacts to 5 wetlands (Sites 2, 3, 8, 45, and 46) and 7 Waters of the U.S. (4S, 7S, 7AS, 8S, 13S, 16S, and 18S) (WOUS) total 0.61 acres, with 0.38 acres of impacts to wetlands and 0.23 acres of impacts to WOUS. Wetland Site 46 is considered isolated by Illinois Natural History Survey. Mitigation is proposed to occur at an in-basin bank; this office concurs. Thus, the mitigation ratio shall be 2:1 for wetlands and 1.5:1.0 for WOUS, with mitigation acreage totaling 1.1 acres. Mitigation acreage for wetlands is 0.76 acres and for WOUS is 0.345 acres. Please note that the WOUS impacts are discussed for your information only since they are not addressed in the IDOT Wetlands Action Plan.

We request your concurrence on the WIE form and the proposal of in-basin banking for mitigation. Once your concurrence is received, this project shall be cleared for letting regarding wetlands. If there are questions, please call Susan Hargrove at 217/785-0150.

Sincerely,

Barbara Stevens

Barbara Stevens (504)
Environment Section Chief

Cc: Diane M. O'Keefe

Attachments



Illinois Department of Transportation

201 West Center Court
Schaumburg, IL 60196-1096

Informal Transmittal

To:	John Baczek
Bureau:	Programming
Attn:	

From:	Sam Mead
Bureau:	Programming
	Environmental Studies Unit
Subject:	US 45 from N. of IL-173 to S. of IL-132
	Special Waste

Date:	07/23/2010
-------	------------

Please check appropriate box below:

- | | | |
|--|--|---------------------------------|
| <input type="checkbox"/> Take Necessary Action | <input checked="" type="checkbox"/> For Your Information | <input type="checkbox"/> Reply |
| <input type="checkbox"/> For Your Comments | <input type="checkbox"/> See Me About the Attached | <input type="checkbox"/> Return |
| <input type="checkbox"/> Per Your Request | <input type="checkbox"/> Draft (Letter)(Memo) For My signature | <input type="checkbox"/> Route |
| <input type="checkbox"/> For Your Approval | | <input type="checkbox"/> File |

Message

Attached is a copy of the PESA for the above-mentioned project. The PESA Review cover memo, dated **July 14, 2010**, states that there are Recognized Environmental Conditions (REC's) along the project route and that further studies may be required if the project will require land acquisition or linear excavation from or adjacent to a property with RECs. Special Waste studies are now complete for Phase I and the project is clear for Design Approval.

A Special Design/Construction Consideration shall be added to the Project Report that states:

"A Preliminary Environmental Site Assessment (PESA) has been completed for this project. It is the responsibility of Phase II to determine if any of the sites with Recognized Environmental Conditions (REC's) or ROW adjacent to the site with RECs will be impacted with the proposed work and/or if any ROW will be required at any of the REC locations. Any acquisition shall be discussed with the Bureau of Land Acquisition prior to responding to the PESA to request further studies"

If you have any questions, please call me at extension 4101.


Signature

Copies to	PESA File	Judy Cortese – Land Acq.	
-----------	-----------	--------------------------	--

Response

Signature



Illinois Department of Transportation
 BUREAU OF PROGRAMMING
Memorandum
RECEIVED

SMM

JUL 16 2010

To: Diane O'Keefe
 From: Scott E. Stitt
 Subject: PESA Review
 Date: July 14, 2010

Attn: Pete Harmet
 By: Barbara H. Stevens
Barbara H. Stevens

DISTRICT #1

Refer to: US Route 45 (FAP 344)
 Job No. P-91-666-09
 From N. of IL 173 to S. of IL 132
 Lake County
 IGS # 1888/A

Seq. # 15162/15162A

Attached is a copy of the Preliminary Environmental Site Assessment (PESA) conducted by the Illinois State Geological Survey (IGS) for the subject project as described in your Special Waste Survey Request.

The attached PESA report identifies sites along the project route that were determined to contain recognized environmental conditions (RECs). See Table 1 in the PESA report for a list of sites with RECs. It is the opinion of this office, in consultation with the Chief Counsel's Office, that a preliminary site investigation (PSI) is required if any site identified in Table 1 of the PESA report involves new right-of-way or easement, railroad right-of-way other than single rail rural with no maintenance facilities, or building demolition/modification. A PSI is also required to be conducted on any site identified in Table 1 of the PESA report that involves linear excavation or subsurface utility relocation or on existing right-of-way adjacent to a site identified in Table 1 of the PESA report.

If the district determines that they can avoid all the sites that contain RECs, then a PSI is not required for the project and the project will be in compliance with Departmental Policy D&E-11. If the district determines that the project will involve a site that contains RECs, then a PSI is required and the statewide consultant should be requested to perform the PSI. Please notify this office of any actions you may decide to take concerning these sites (avoidance or further investigation). The PESA Response form can be found on PMA.

The District's Bureau of Land Acquisition (DBLA) should determine if any new right-of-way or easement will involve any site identified in Table 1 or any site located adjacent to a site listed in Table 4 of the PESA report. On those sites identified, DBLA shall coordinate the acquisition with this office, Central Bureau of Land Acquisition, and the Chief Counsel's Office to determine if an "All Appropriate Inquiries" (AAI) is required for additional liability protection under CERCLA.

Other findings and recommendations of the report should be carefully considered. If you have any questions regarding this report or the tasking of the statewide consultant, please contact Debra Mehra at 217/785-6068 or Steven Gobelman at 217/785-4246.

Attachments

cc: Office of Chief Counsel – Rm. 313
 District Bureau of Land Acquisition

Central Bureau of Land Acquisition
 District Utility Coordinator

IDOT Sequence #: 15162 and 15162A
IDOT Job #: P91-666-09

ISGS: 1888/A

PRELIMINARY ENVIRONMENTAL SITE ASSESSMENT

FINAL REPORT

DATE: July 9, 2010
IDOT DESIGN DATE: July 31, 2011
PRELIMINARY REPORT DATE: July 15, 2010
DATE REQUEST RECEIVED: May 7, 2009 (1888)
September 4, 2009 (1888A)

LOCATION: FAP 344 (US 45) from north of IL 173 to south of IL 132, Antioch, Grayslake, Lindenhurst, Old Mill Creek, Third Lake, and unincorporated areas, Lake County; Antioch and Wadsworth quadrangles (USGS 7.5-minute topographic maps), T45N, R10E, Sections 1, 12, and 13; T45N, R11E, Sections 6, 7, and 18; T46N, R10E, Sections 13, 14, 24, 25, and 36; T46N, R11E, Sections 30 and 31.





Illinois Department of Transportation

201 West Center Court
Schaumburg, IL 60196-1096

Informal Transmittal

To:	John Baczek
Bureau:	Programming
Attn:	Marie Glynn

From:	Sam Mead
Bureau:	Programming
Subject:	US 45; IL 173 to IL 132
	Special Waste Validation

Date:	08/30/2013
-------	------------

Please check appropriate box below:

- | | | |
|--|---|---------------------------------|
| <input type="checkbox"/> Take Necessary Action | <input checked="" type="checkbox"/> For Your Information | <input type="checkbox"/> Reply |
| <input type="checkbox"/> For Your Comments | <input type="checkbox"/> See Me About the Attached | <input type="checkbox"/> Return |
| <input checked="" type="checkbox"/> Per Your Request | <input type="checkbox"/> Draft (Letter)(Memo) For
My signature | <input type="checkbox"/> Route |
| <input type="checkbox"/> For Your Approval | | <input type="checkbox"/> File |

Message

This memo is a validation of the Special Waste studies for the above project per BDE 28-02. This project initially received a PESA dated July 14, 2010. This validation has been reviewed by the project engineering staff and it has been determined that no new sites are present. The project has been reviewed and it has been determined that no major land use changes have occurred, there is no record of any CERCLIS or RCRA sites in the vicinity of the project limits, and no new UST or LUST sites have been discovered.

There will be no additional environment affected. The scope of work has not changed from the initial submittal.

The above conclusion was determined with coordination between the District One Bureau of Programming/Project Studies and the Environmental Studies, Special Waste Unit.

If you have any questions, please contact Sam Mead at 847/705-4101.

Signature

Copies to

PESA File

Response

Signature

IDOT Sequence #: 15162A
IDOT Job #: P91-666-09

ISGS: 1888V2
IDOT District #: 1

PRELIMINARY ENVIRONMENTAL SITE ASSESSMENT

FINAL REPORT

DATE: December 21, 2017

IDOT DESIGN DATE: July 31, 2011

SURVEY TARGET DATE: December 31, 2017

DATE REQUEST RECEIVED: May 30, 2017

LOCATION: FAP 344 (US 45), IL 173 to IL 132, Grayslake, Lindenhurst, Old Mill Creek, Third Lake, and unincorporated Antioch, Avon, Lake Villa, and Warren Townships, Lake County; Antioch and Wadsworth quadrangles (USGS 7.5-minute topographic maps), T45N, R10E, Sections 1, 12, and 13; T45N, R11E, Sections 6, 7, and 18; T46N, R10E, Sections 13, 14, 24, 25, and 36; T46N, R11E, Section 31.



COSIM 3.0 PRE-SCREEN MODELING RESULTS

10-13-11

09:11 AM

US-45; IL-132 to IL-173 - 2040 Traffic



Performed by:	Wm Barbel
Intersection Location:	Lake County
Intersection Name:	US-45 at Sand Lake Road/Stearns School Road
Highest Approach Volume:	1460 vph
Closest Receptor:	37 feet

Pass

Intersection PASSES Pre-Screen. COSIM analysis not required.
Highest approach volume for the design year on any leg of the intersection
is below Pre-Screen Cutoff ADT for the closest receptor distance.

Please include the following statement in the project report or NEPA document:

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

APPENDIX C

PROJECT COORDINATION

CHICAGO METROPOLITAN AGENCY FOR PLANNING
PACE

VILLAGE OF LINDENHURST

VILLAGE OF OLD MILL CREEK

WARREN TOWNSHIP AND LAKE VILLA TOWNSHIP

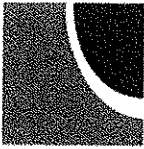
LAKE COUNTY FOREST PRESERVE DISTRICT

VILLAGE OF LINDENHURST PARK DISTRICT

LAKE COUNTY STORMWATER MANAGEMENT COMMISSION
UTILITIES

CHICAGO METROPOLITAN AGENCY FOR PLANNING

2040 ADT PROJECTIONS – 11/30/2010



Chicago Metropolitan
Agency for Planning

233 South Wacker Drive
Suite 800
Chicago, Illinois 60606

312 454 0400
www.cmap.illinois.gov

November 30, 2010

Mr. Martin G. Buehler, P.E.
Director of Transportation / County Engineer
Lake County Division of Transportation
600 W. Winchester Road
Libertyville IL 60048



Subject: US 45 from IL 173 to IL 132

Lake County DOT

Dear Mr. Buehler:

In response to a request made on your behalf and dated November 3, 2010, we have developed year 2040 average daily traffic (ADT) projections for the subject location. These are depicted on an attached table and also 4 attached diagrams.

Please be aware that the Illinois Department of Transportation has prepared Strategic Regional Arterial (SRA) reports for: US 45, IL 173, and IL 132. SRA Reports include right-of-way, geometric, access and transit recommendations. The executive summaries can be found at www.cmap.illinois.gov/sra/ with other information about the SRA system.

Traffic projections are developed using existing ADT data provided in the request letter and the results from the most recent (October 2010) CMAP RTP/TIP Travel Demand Analysis. The regional travel model uses CMAP 2040 socioeconomic projections and assumes the implementation of the 2040 Regional Transportation Plan for the Northeastern Illinois area.

If you have any questions, please call Jose Rodriguez at (312) 386-8806.

Sincerely,

Donald P. Kopec
Deputy Director for Planning and Programming

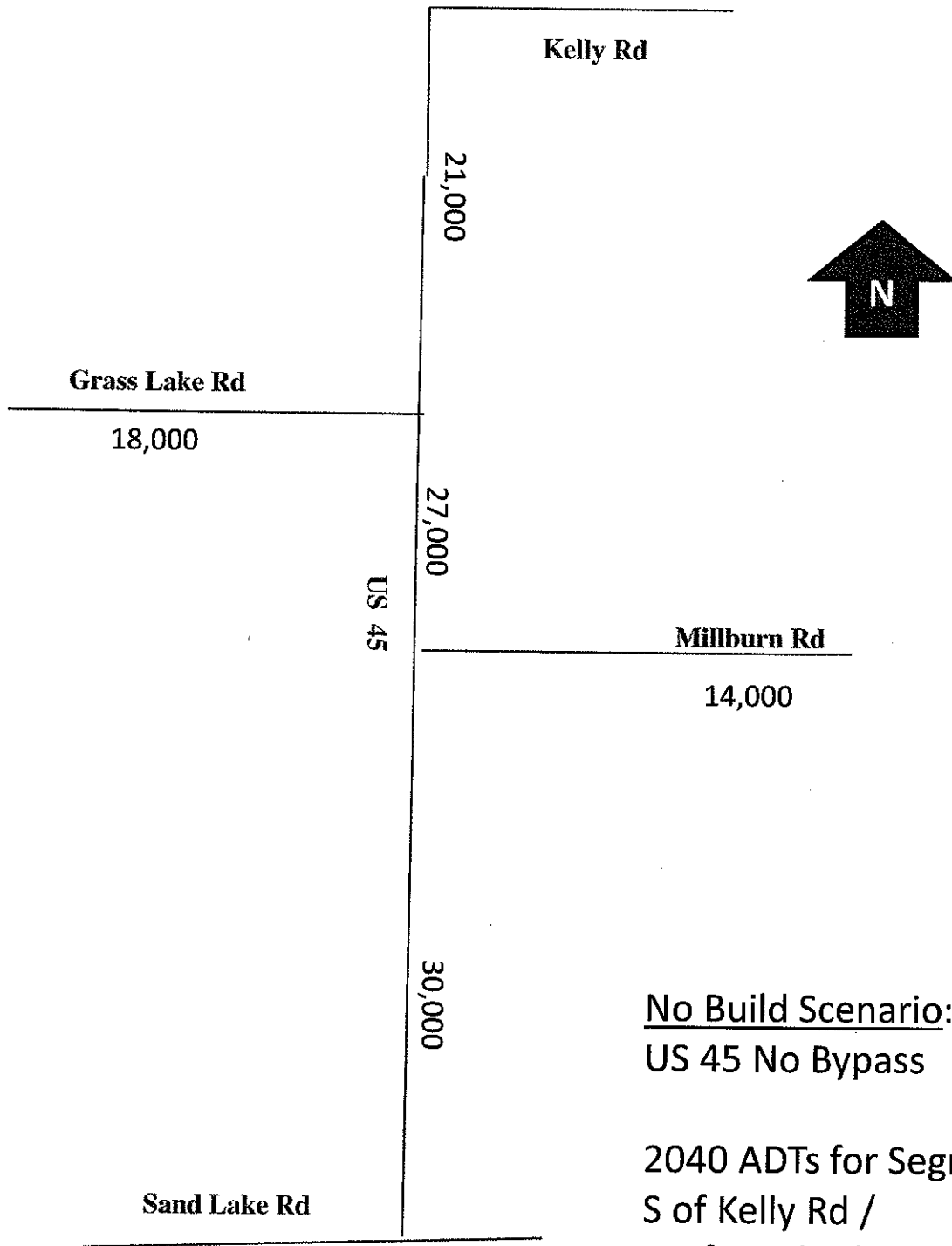
cc: Gleason (LCDOT)
M:\proj\lceb\forecasts\2010 Response\la-23-10.docx

US 45 from IL 173 to IL 132
November 19, 2010

2040 Projections: No-Build plus Build Scenarios A1, A4, C4

Segment	2009	2040 NO BUILD	2040 BUILD SCENARIOS		
			A1	A4	C4
US 45 N of IL 173	6,200	14,000	14,000	14,000	13,000
IL 173 W of US 45	16,300	23,000	23,000	23,000	24,000
IL 173 E of US 45	15,400	21,000	21,000	21,000	21,000
US 45 bw IL 173 and Miller Rd	8,900	19,000	23,000	23,000	22,000
Miller Rd west of US 45	700	3,000	5,000	5,000	5,000
US 45 bw Miller Rd and Kelly Rd	9,300	21,000	23,000	23,000	22,000
<i>For US 45, Grass Lake Rd, Millburn Rd, and respective bypasses and local streets between Kelly Rd and Sand Lake Rd, see the attached individual scenario diagrams</i>					
Sand Lake Rd west of US 45	11,800	15,000	18,000	17,000	17,000
Sand Lake Rd east of US 45	11,900	17,000	18,000	17,000	17,000
US 45 bw Sand Lake Rd and IL 132	16,000	30,000	32,000	32,000	32,000
IL 132 west of US 45	19,400	24,000	31,000	30,000	31,000
IL 132 east of US 45	34,600	39,000	47,000	48,000	47,000
US 45 south of IL 132	19,500	28,000	30,000	31,000	30,000

File: M:\proj1\ceb\forecasts\2010 Analysis\final ADTs_Ja-23-10.xlsx

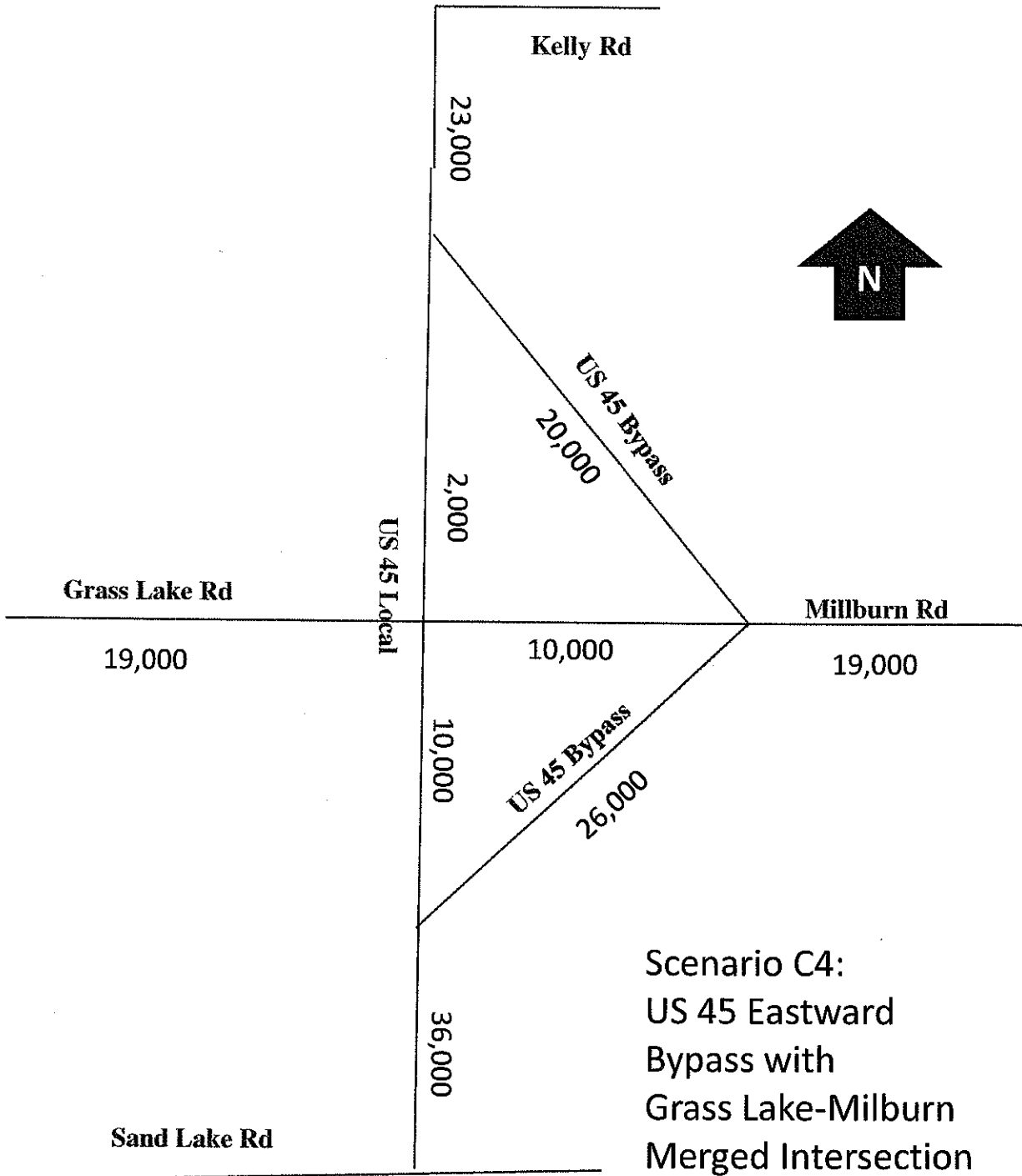


No Build Scenario:
US 45 No Bypass

2040 ADTs for Segments
S of Kelly Rd /
N of Sand Lake Rd

11/19/2010

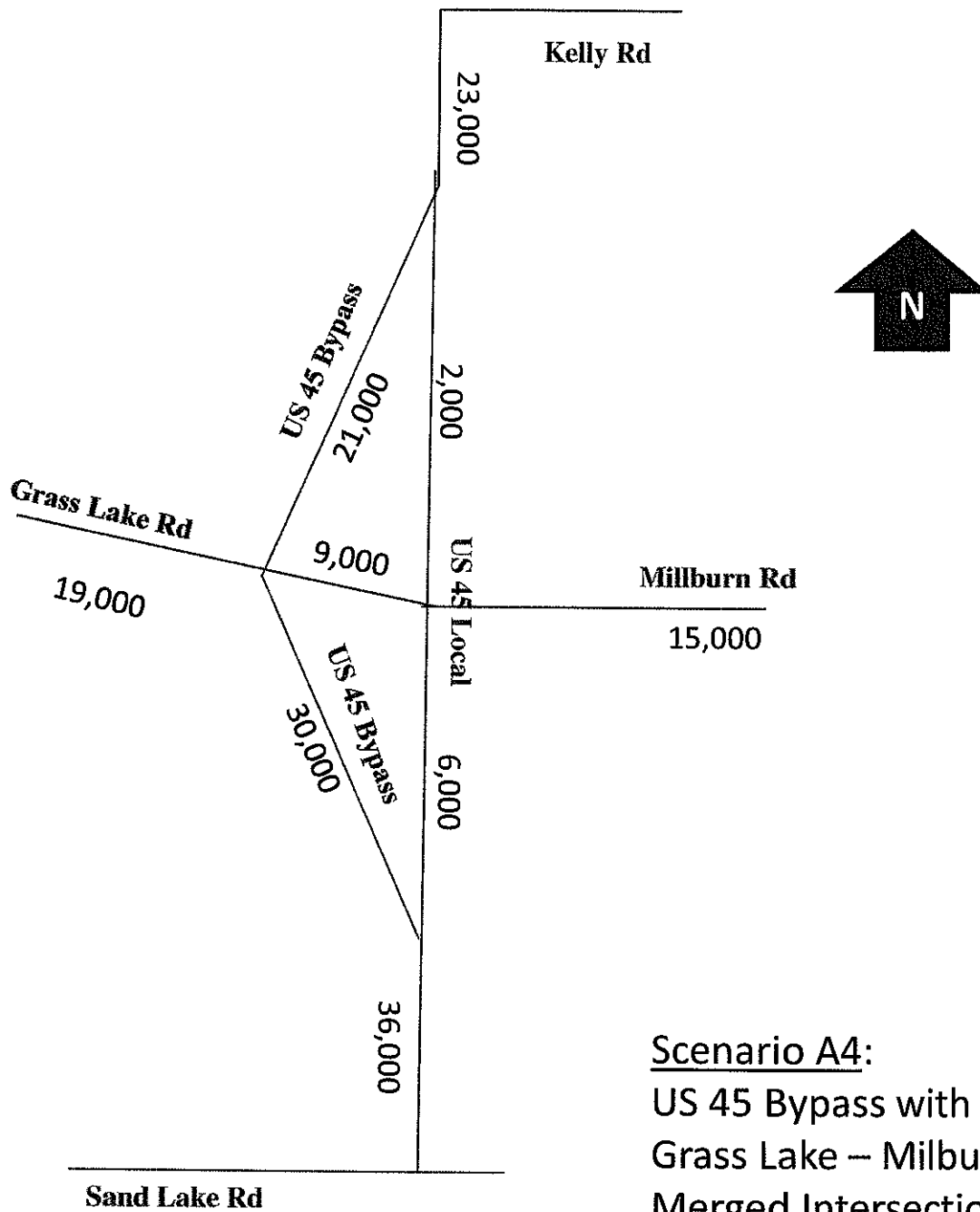
US 45 from IL 173 to IL 132 -
Milburn (la-23-10) - 2040
Update



**2040 ADTs for
New Segments**

11/19/2010

US 45 from IL 173 to IL 132 -
Milburn (la-23-10) - 2040
Update

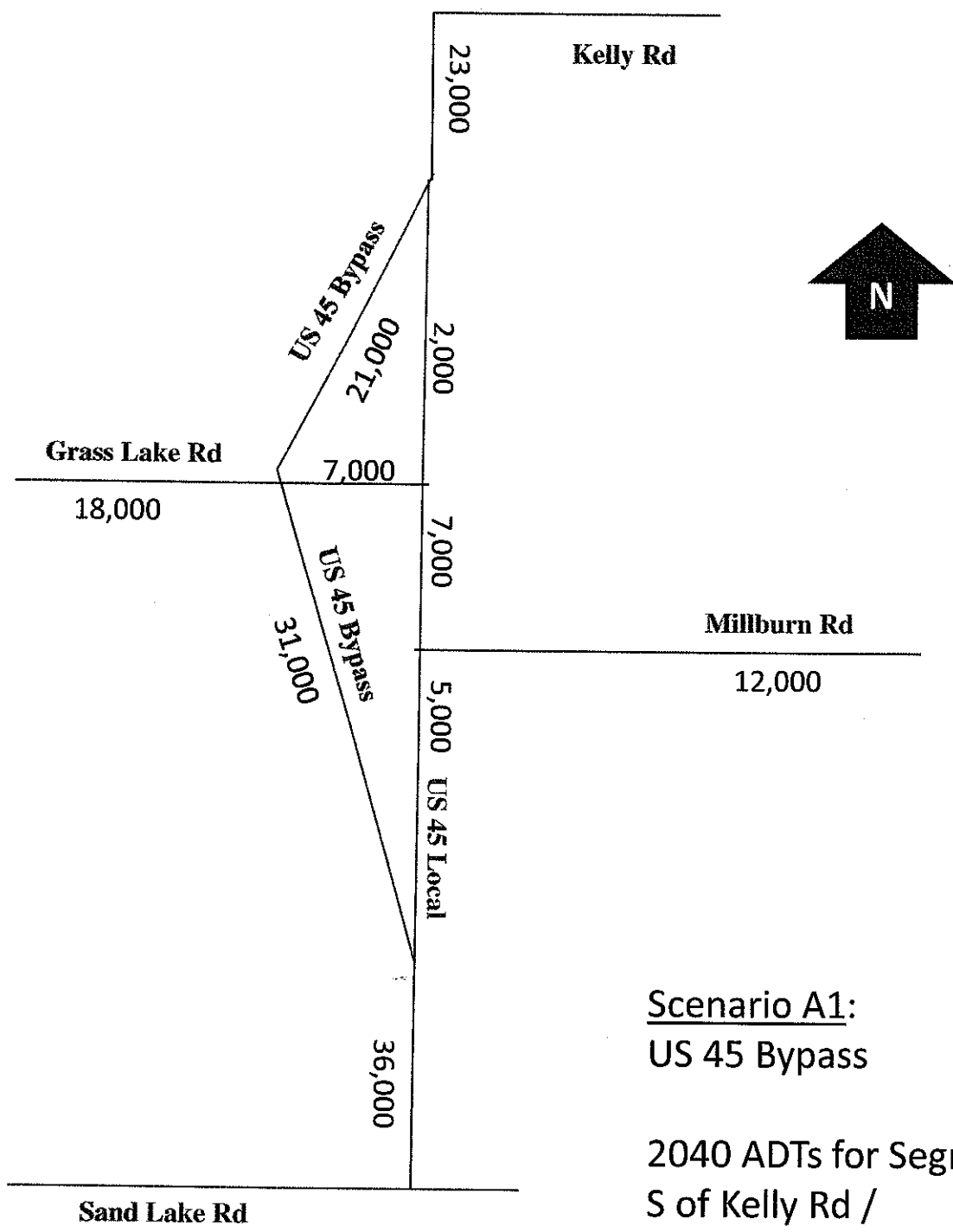


Scenario A4:
 US 45 Bypass with
 Grass Lake – Millburn
 Merged Intersection

**2040 ADTs for
 Segments
 S of Kelly Rd /
 N of Sand Lake Rd**

11/19/2010

US 45 from IL 173 to IL 132 -
 Milburn (Ia-23-10) - 2040
 Update



Scenario A1:
US 45 Bypass

2040 ADTs for Segments
S of Kelly Rd /
N of Sand Lake Rd

11/19/2010

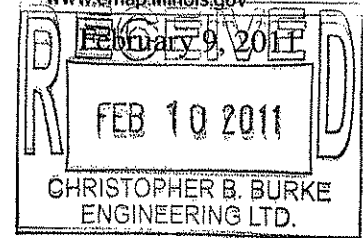
US 45 from IL 173 to IL 132 - Milburn
(1a-23-10) - 2040 Update



Chicago Metropolitan Agency for Planning

233 South Wacker Drive
Suite 800
Chicago, Illinois 60606

312 454 0400
www.cmap.illinois.gov



Mr. Martin G. Buehler, P.E.
Director of Transportation / County Engineer
Lake County Division of Transportation
600 W. Winchester Road
Libertyville IL 60048

Subject: US 45 from IL 173 to IL 132 – Adjusted 2040 ADTs for Scenarios A4 and C4
Lake County DOT

Dear Mr. Buehler:

In response to a request made on your behalf and dated February 9, 2011 in regards to year 2040 average daily traffic (ADT) projections issued for the above location on November 30, 2010, we have developed adjusted year 2040 average daily traffic (ADT) projections for five (5) segments within the subject location.

The adjusted 2040 projections for those 5 segments are depicted on 2 attached diagrams for the respective A4 and C4 scenarios. The remaining segments on the applicable scenarios shall remain unchanged.

Please be aware that the Illinois Department of Transportation has prepared Strategic Regional Arterial (SRA) reports for: US 45, IL 173, and IL 132. SRA Reports include right-of-way, geometric, access and transit recommendations. The executive summaries can be found at www.cmap.illinois.gov/sra/ with other information about the SRA system.

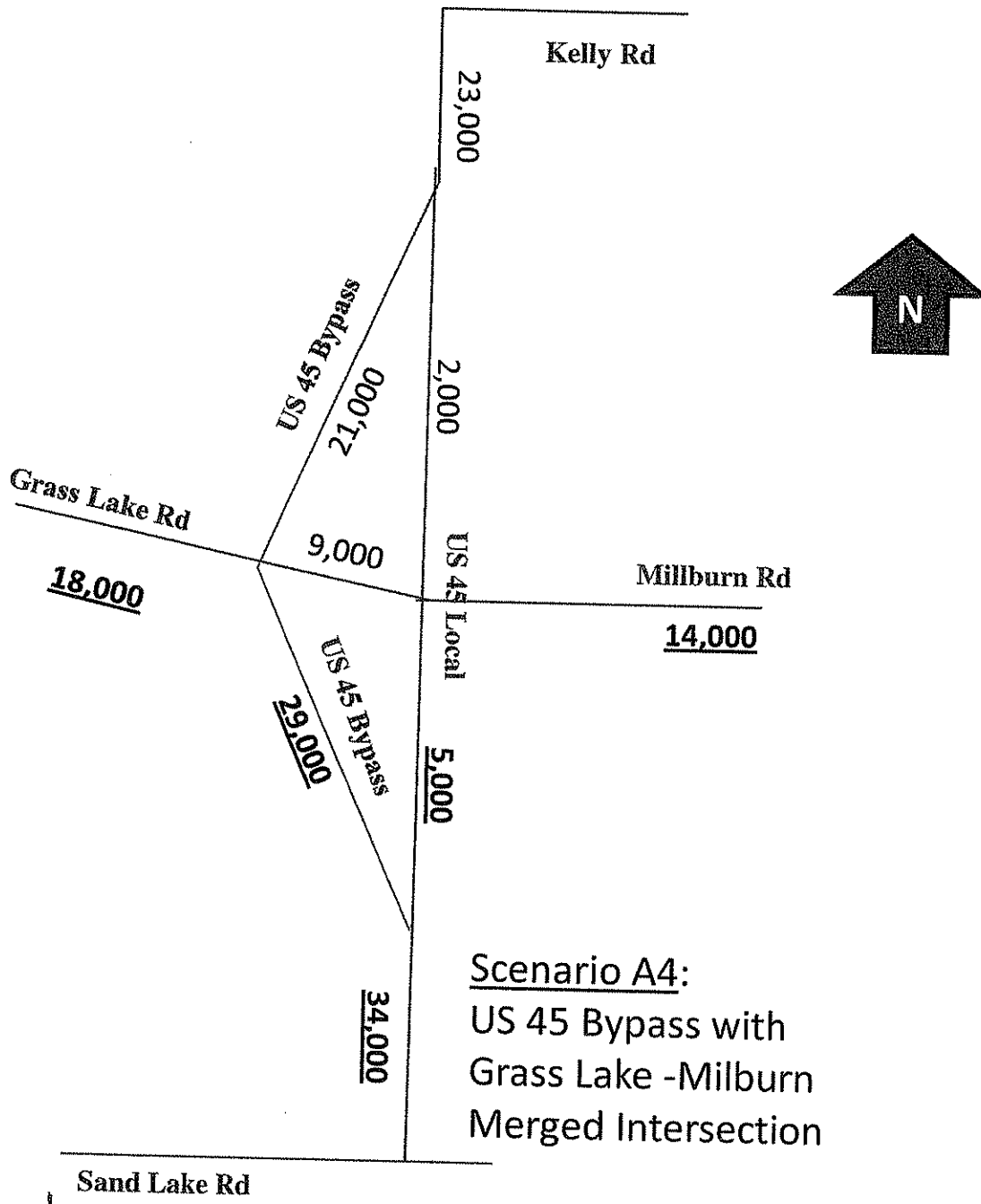
Traffic projections are developed using existing ADT data provided in the request letter and the results from the most recent (October 2010) CMAP RTP/TIP Travel Demand Analysis. The regional travel model uses CMAP 2040 socioeconomic projections and assumes the implementation of the 2040 Regional Transportation Plan for the Northeastern Illinois area.

If you have any questions, please call Jose Rodriguez at (312) 386-8806.

Sincerely,

Donald P. Kopec
Deputy Director for Planning and Programming

cc: Gleason (LCDOT); Matkovic (CBBEL)
M:\proj\cebf\forecasts\2010 Response\la-23-10 adj A4 and C4.docx

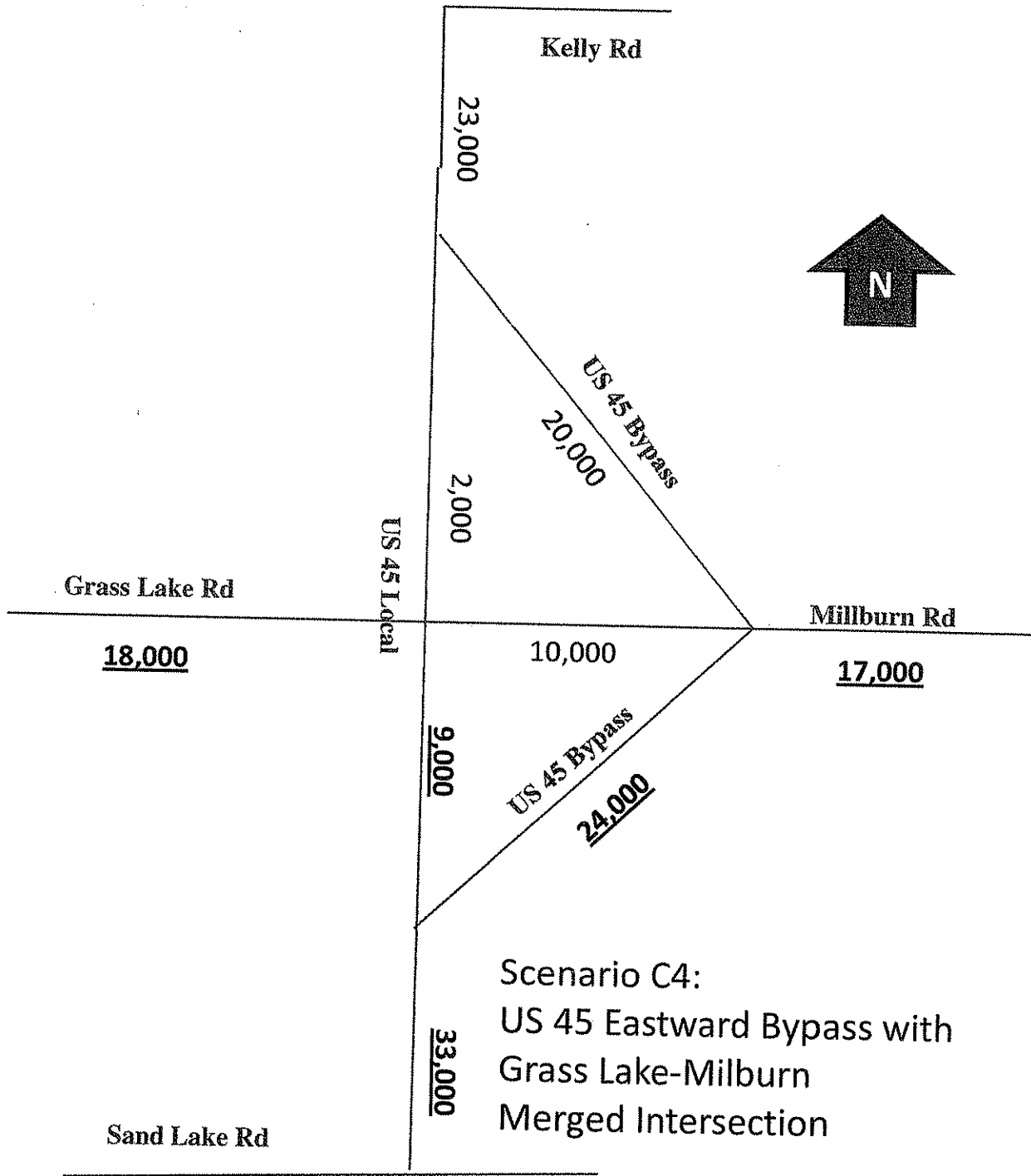


Scenario A4:
 US 45 Bypass with
 Grass Lake -Milburn
 Merged Intersection

2040 ADTs (Dec. 2010)
 Adjusted ADTs – XX,XXX (Feb. 2011)

2/9/2011

US 45 from IL 173 to IL 132 - Milburn (la-23-10)
 - 2040 Update with Concurred Adjustments



2040 ADTs (Dec. 2010)
 Adjusted ADTs – XX,XXX (Feb. 2011)

PACE

EXISTING BUS ROUTE WITHIN THE PROJECT AREA – 6/18//2010

PREFERRED ALTERNATIVE EMAIL – 3/12/2013

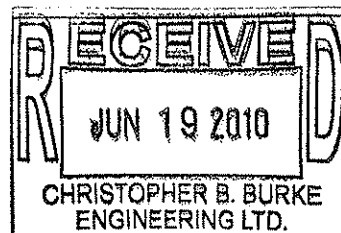


A Fresh Approach To Public Transportation

Thomas J. Ross
Executive Director

June 18, 2010

Mr. Michael J. Matkovic, P.E.
Phase 1 Department Head, V.P.
Christopher B. Burke Engineering, LTD
9575 W. Higgins Road Suite 600
Rosemont, Illinois 60018



Re: US 45 from north of Il 132 to north of Il 173

Dear Mr. Matkovic:

MUST BE NW IF WESTBOUND

In reference to the above project Pace Route 570 operates through the intersection of US45/Grand Avenue. Operating days are Monday through Saturday. Span of service is 5:30 a.m. to 9:30 p.m. Monday through Friday and 7:30 a.m. to 8:45 p.m. on Saturday. Current bus stop locations westbound stop SW corner of US 45/Grand Avenue intersection; Eastbound stop SE corner of US45/Grand Avenue intersection. Peak number of Buses through intersection 2 per hour. No need for shelter pad or bus turnout at this time.

Should you need further assistance, feel free to contact me at (847) 228-4287.

Sincerely,

Taqhi Mohammed,
Transportation Engineer

By: *Thomas J. Radak*
Thomas J. Radak, AICP
Senior Project Manager

Matthew J. Huffman

From: Westrom, Ryan [RWestrom@patrickco.com]
Sent: Tuesday, March 12, 2013 2:01 PM
To: mmatkovic@cbbel.com
Cc: jcebulski@patrickco.com; mhuffman@cbbel.com; Frank Zurek
Subject: Fwd: Pace Suburban Bus Agency Comment on Preferred Alternative

Categories: Millburn

FYI, an online comment received. Should we run this one by IDOT to see their thoughts?

Ryan

Begin forwarded message:

From: seth.morgan@pacebus.com
Date: March 12, 2013, 12:01:58 PM EDT
To: jcebulski@patrickengineering.com, rwestrom@patrickengineering.com
Subject: **Pace Suburban Bus Agency Comment on Preferred Alternative**

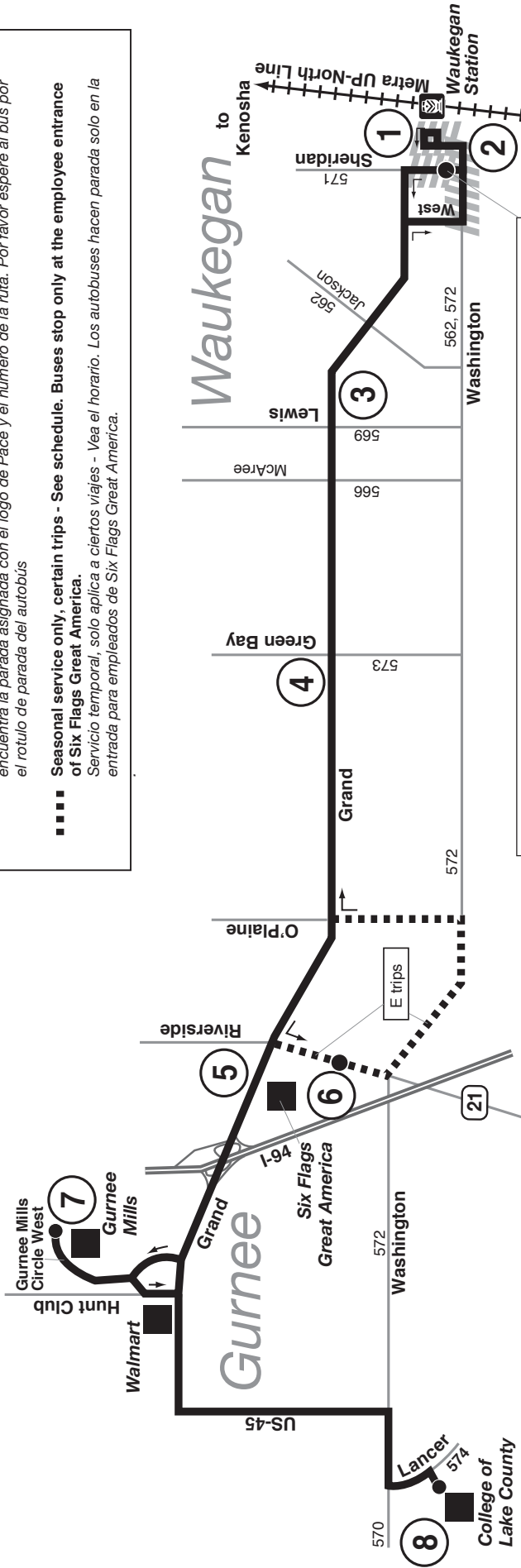
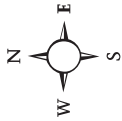
While Pace does not currently have service within the boundaries of this project, it is possible that service will be extended into this area during the lifetime of this roadway. It is therefore important to ensure that the roadway design can safely accommodate transit as well as private car traffic. There are several specific attributes of the proposed design that could potentially make this difficult, but we are hopeful that relatively easy fixes are possible.

1. Pace is strongly supportive of the fact that this design includes a complete sidewalk network, which is essential to multimodal transportation design and for transit accessibility in particular. These sidewalks should be carried forward into the final design as part of this construction project.
2. Pace operates fixed routes on major arterials whenever possible, allowing transit customers to take advantage of the same speed benefits that these roads offer to private cars. However, a design speed above 40mph can be dangerous for bus stops. In the interests of ensuring that this roadway design can accommodate buses as well as cars, we would strongly request that the design speed of this facility be limited to a speed which would allow buses to safely stop in the travel lane for passenger pickups. Transit users cannot realize the benefits of a newer, faster arterial roadway if the bus must leave that roadway in order to safely load passengers.
3. Southbound US 45 (new bypass) at Grass Lake: If bus service were to be provided on US 45, it would be difficult to offer a southbound bus stop at Grass Lake Rd. This is because buses cannot safely make a service stop in a turn lane, and both sides of the intersection are almost entirely monopolized by right turn lanes. We suggest that the right turn lane onto Haven Lane be shortened slightly so that there is at least 85 feet of straight curb between the point of tangency for the Grass Lake intersection and the start of the taper for the Haven Lane right turn lane. This will allow us to offer a bus stop on US 45 just south of Grass Lake. This location is important for a bus stop in case it is necessary to offer transfers between two different bus routes on US 45 and Grass Lake Road at some point in the future.
4. Southbound US 45 (new bypass) at Old US 45: If bus service were to be provided on US 45, it would be desirable to offer a bus stop at the intersection of the new bypass and the old US 45 near the southern limits of this project. However, the current design includes no provision for a

crosswalk across the new US 45 bypass at this intersection. If a crosswalk is included at this intersection, it will increase pedestrian safety while accessing a bus stop on the west side of US 45.

Route 565

Effective Date
June 12, 2016



Buses will stop at Posted Stops Only in Downtown Waukegan on Washington and Sheridan.
Los autobuses solamente pararán por Paradas Asignadas en el centro de Waukegan por Washington y Sheridan.

Flag Stops. Upon passenger's signal to driver, bus will stop at any intersection along the route where it is safe to do so.
Al hacerle señal al conductor, el autobús parará en cualquier intersección a lo largo de la ruta siempre y cuando sea un lugar seguro para parar.

Posted Stops Only. Bus will stop to pick up and drop off passengers only at bus stop signs with the Pace logo and route number. Please wait for the bus at a bus stop sign.
Solamente paradas asignadas. El autobús solamente parará a recoger o bajar a pasajeros donde se encuentra la parada asignada con el logo de Pace y el número de la ruta. Por favor espere al bus por el rotulo de parada del autobús

Seasonal service only, certain trips - See schedule. Buses stop only at the employee entrance of Six Flags Great America.
Servicio temporal, solo aplica a ciertos viajes - Vea el horario. Los autobuses hacen parada solo en la entrada para empleados de Six Flags Great America.

Transfer at the College of Lake County to/from Routes 570, 572, 574 and the Round Lake Area Call-n-Ride. Call 847-847-9169 for details about Call-n-Ride service boundaries, service hours and to schedule a ride.
Transborde en el College of Lake County a/de las Rutas 570, 572, y 574 y el servicio Llame-y-Viaje del Area de Round Lake. Llame al 847-847-9169 para detalles sobre el servicio Llame-y-Viaje incluyendo límites del área de servicio, el horario, y para programar su viaje.

Todos los autobuses están equipados con racks para bicicletas.
 El servicio de Pace es accesible para sillas de ruedas.

Transfer to Routes 561, 562, 563, 564, 568 and 571 by getting off Route 565 on Washington at Sheridan (SW corner) and crossing to the main bus terminal on Sheridan north of Washington.
Transborde a Rutas 561, 562, 563, 564, 568 y 571 con saliendo del autobús de Ruta 565 en Washington por Sheridan (esquina suroeste) y cruzando al terminal principal de autobuses sobre Sheridan, norte de Washington.

Transfer to Route 572 at the Waukegan Metra Station.
Transborde a Ruta 572 en la estación de Metra en Waukegan.

On days when the road ramp to Waukegan Metra Station is too icy to be used safely by buses, buses will start and end their trips at the intersection of Washington / Sheridan. On these days, no bus service will be available at Waukegan Metra Station.
En días cuando la rampa a la Estación de Metra en Waukegan esté muy resbalosa para ser utilizada seguramente por los autobuses, los autobuses comenzaran y terminaran sus viajes en la intersección de Washington/Sheridan. En estos días, ningún servicio de autobús será disponible en la Estación de Metra en Waukegan.

After serving the Metra station, some eastbound buses will continue to the main bus terminal on Sheridan Road. See schedule.
Después de servir a la estación de Metra, unos autobuses viajando hacia el este continuaran al terminal principal de autobuses sobre Sheridan Road. Consulte el horario.

VILLAGE OF LINDENHURST

INITIAL COORDINATION MEETING SUMMARY – 4/26/2010

RESOLUTION TO UTILIZE THE U.S. ROUTE 45 EASTERN BYPASS
ALTERNATIVE – 10/27/2010

COORDINATION MEETING SUMMARY – 9/22/2011

PROJECT STATUS UPDATE AND PRE-PUBLIC HEARING MEETING
SUMMMARY – 6/28/2012

LCDOT TRAFFIC NOISE INFORMATION FOR UNDEVELOPED LANDS
LETTER – 6/28/2012

DRAINAGE COORDINATION MEETING SUMMARY – 3/14/2013

DRAINAGE COORDINATION MEETING SUMMARY – 10/30/2014

US Route 45/Millburn Bypass
IL Route 132 to IL Route 173
Section No. 05-00262-02-RP
Lake County Division of Transportation

**4/12/2010 Lindenhurst
Meeting Minutes**

DATE: April 26, 2010

TO: Attendees

FROM: Matt Huffman – CBBEL

MEETING DATE: April 12, 2010
TIME: 11:00 am

SUBJECT: Initial Coordination Meeting

LOCATION: Lindenhurst Village Hall

ATTENDEES: Mayor Susan Lahr – Lindenhurst Mayor
Matt Formica – Lindenhurst Village Administrator
Wes Welsh – Lindenhurst Public Works Director
Paula Trigg - LCDOT
Chuck Gleason – LCDOT
Jarrod Cebulski – Patrick Engineering, Inc.
Mike Matkovic – CBBEL
Matt Huffman – CBBEL

An initial project coordination meeting with the Village of Lindenhurst was held on April 12, 2010. The purpose of the meeting was to:

- introduce the US Route 45/Millburn Bypass project
- summarize the project and alternative development process's
- review the environmental analysis performed (GIS based) and preliminary results
- review the evaluation matrix content, relative comparison of alternatives, grading, and presentation
- discuss next steps
- provide an opportunity for Lindenhurst to comment on the project

The Lake County Division of Transportation (LCDOT) is the lead agency for the project, which includes improvements to US Route 45 in the vicinity of the intersections of Grass Lake Road and Millburn Road with US Route 45. An Environmental Assessment will be prepared from IL Route 132 north to IL Route 173 (i.e., logical termini). A Combined Design Report (i.e., detailed engineering) will be prepared to address area around the Grass Lake Road and Millburn Road intersections with US Route 45. This includes evaluating east bypass, west bypass, and on-alignment alternatives for US Route 45. This bypass location was previously studied by the Illinois Department of Transportation (IDOT) as part of the US Route 45 Strategic Regional Arterial (SRA) studies. In the mid 1990s, IDOT recorded a west bypass alignment in this area, which was the consensus realignment choice based on



CHRISTOPHER B. BURKE ENGINEERING, LTD.

9575 W Higgins Road, Suite 600 Rosemont, Illinois 60018-4920 Tel (847) 823-0500 Fax (847) 823-0520

coordination with local municipalities, the Lake County Board, the Lake County Forest Preserve District, and LCDOT.

The project kicked off in December 2008, followed by a public information meeting in February 2009, and formation of the Community Advisory Group (CAG). Based on information received from the CAG, a range of eighteen initial alternatives was developed, nine of which were later discarded based on LCDOT, IDOT, and CAG input. Some of the reasons of dismissing were impacts to historically significant structures in the Millburn Historic District and not meeting the purpose and need statement of the project.

The logical termini and purpose and need statement for the project have been approved by the Federal Highway Administration (FHWA), IDOT, and other resource agencies (as part of the National Environmental Policy Act [NEPA]/404 merger process). FHWA and the other resource agencies also agreed with the elimination of nine alternatives - leaving nine alternatives to be carried forward for further analysis. The nine remaining alternatives include three west bypass options, three US Route 45 on-alignment options, and three east bypass options.

Preliminary conceptual plan view drawings depicting the nine remaining alternatives were presented to LCFPD. Typical cross sections were also presented for US 45, Millburn Road, and Grass Lake Road. All alternative alignments have been preliminarily reviewed and are acceptable to LCDOT and IDOT. The alternative alignments used IDOT design criteria and tried to minimize impacts as much as possible. The "A" alternatives (west bypass) use the previously recorded IDOT alignment. ROW was preserved for the recorded west bypass alignment in certain locations during the last 15 years as Lindenhurst developed.

A draft impact evaluation matrix for the nine remaining alternatives was also presented to LCFPD. Matrix content, relative comparison of alternatives, grading, and presentation were discussed. The impact criteria listed on the matrix is based on NEPA/IDOT policy – consistent with topics that will be evaluated in the EA. Potential impacts were calculated using available GIS information and field collected data (as available). The impact matrix quantifies impacts within the proposed project right-of-way, which is typically a 130 foot corridor; all resources within this right-of-way "footprint" were considered impacted. Avoidance of resources due to bridging (e.g., floodway) was not included at this point in the alternative evaluation process. The impact matrix will be presented at the next CAG meeting. CAG members will receive a packet of information prior to the upcoming CAG meeting. It is anticipated that this packet of information will include conceptual plan view drawings of the nine alternatives and the impact matrix.

CBBEL stated that the segments of US 45 outside the core study area (Millburn Bypass area) will be assessed and a general ROW footprint will be developed for



determination of impacts for the Environmental Assessment. North of the core study area LCFPD has two forest preserves, Raven Glen and Ethel's Woods. Through this section the west right of way will be held to minimize impacts to LCFPD property.

CBBEL explained that the Illinois Natural History Survey (INHS) completed wetland and biological surveys for this project. Cultural surveys are ongoing. IDOT – Bureau of Design and Environment (BDE) cleared this project with respect to biological resources; the Illinois Department of Natural Resources (IDNR) also terminated consultation with respect to state listed threatened and endangered species. At the request of the U.S. Fish and Wildlife Service (USFWS), INHS conducted searches for the Eastern Prairie Fringed Orchid (*Platanthera leucophaea*). INHS followed USFWS guidelines for evaluating Eastern Prairie Fringed Orchid habitat in northeastern Illinois with searches conducted on three non-consecutive days during the period between June 28 and July 11. No Eastern Prairie Fringed Orchids were identified during the field searches. CBBEL stated that INHS completed the wetland delineation for the study area and has been coordinated with Lake County Stormwater Management Commission (LCSMC). The INHS field identified wetlands are different from those that are mapped; there is more mapped wetland within the study area than identified by INHS.

Lindenhurst indicated that there would be utility impacts for some of the alternatives. CBBEL will coordinate with Lindenhurst to acquire utility atlases. There was discussion about various mitigation strategies for the "A" alternatives along with access of Haven Lane. The current design shows the east leg of Haven Lane with a cul-de-sac and also an option for a full access intersection. Lindenhurst provided no major objections or concerns to any of the alternatives that are being carried forward to CAG #3. CBBEL indicated that there could be agreements set up for median beautification along state routes.

CBBEL summarized the next steps for the project. These include finalizing the preliminary impact analysis of the nine remaining alternatives for the upcoming CAG meeting on April 27, 2010. It is anticipated that additional alternatives will be dropped following a review of the impact analysis and consideration of LCDOT, IDOT and CAG input. A public meeting to present the alternatives being carried forward is anticipated in Summer 2010. Tentatively, the project team anticipates a September 2010 NEPA/404 merger meeting to present the alternatives being carried forward for detailed review and to obtain concurrence. Based on the current schedule, CBBEL anticipates Phase I completion in December 2011.

Action Items

- CBBEL to send Lindenhurst a full set of plans for their records
- Lindenhurst to send LCDOT utility atlases

The meeting concluded at approximately 12:00 pm.



LMEC



Village of Lindenhurst

2301 E. Sand Lake Road
Lindenhurst, Illinois 60046-8934

BUREAU OF PROGRAMMING
RECEIVED
OCT 28 2010
DISTRICT #1

10/27/2010

Ms. Marie Glynn
IDOT Project Manager
201 W. Center Ct.
Schaumburg, IL 60196

Re: Resolution Urging the Federal Highway Administration, Illinois Department of Transportation and Lake County Division of Transportation to Utilize the U.S. Route 45 Eastern Bypass Alternative

Dear Ms. Glynn:

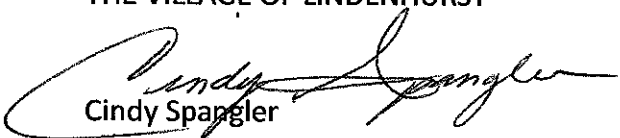
Your name was provided by Chuck Gleason of the Lake County Division of Transportation. He identified you as the person to best assist the Village of Lindenhurst with disseminating the referenced Resolution. The Resolution was adopted by the Village Board at the Regular Meeting on Monday, October 25, 2010.

Please assist the Village by routing the Resolution to the appropriate individuals associated with the Lake County Division of Transportation, the Illinois Department of Transportation and the Federal Highway Administration. If it is more appropriate for us to issue the Resolution directly, please provide me with the contact information. My email address is cspangler@lindenhurstil.org.

Thank you for your assistance in this matter.

Sincerely,

THE VILLAGE OF LINDENHURST


Cindy Spangler
Deputy Clerk

enclosure

RESOLUTION NO. 10-10-1821-R

**VILLAGE OF LINDENHURST
LAKE COUNTY, ILLINOIS**

**Published in Pamphlet Form by Authority of the
President and Board of Trustees
of the
Village of Lindenhurst, Lake County, Illinois
Date of Publication: October 25, 2010**

RESOLUTION NO. 10-10-1821-R

A RESOLUTION URGING THE FEDERAL HIGHWAY ADMINISTRATION, ILLINOIS DEPARTMENT OF TRANSPORTATION AND LAKE COUNTY DIVISION OF TRANSPORTATION TO UTILIZE THE U.S. ROUTE 45 EASTERN BYPASS ALTERNATIVE

WHEREAS, U.S. Route 45 serves as a vital North-South link from the Wisconsin border south to Chicago's Northern Suburbs; and

WHEREAS, existing U.S. Route 45 in this area carries as much as 16,900 vehicles per day on a two lane roadway, and traffic volume is anticipated to increase in the future from expected development growth North of the Village; and

WHEREAS, the Lake County Division of Transportation (LCDOT) in coordination with the Illinois Department of Transportation (IDOT) has initiated Phase I Engineering and Environmental Studies (Phase I Study) to evaluate long term improvement needs for U.S. Route 45 from IL 132 to IL 173, with special focus on the Grass Lake Road and Millburn Road intersections; and

WHEREAS, in the 1990's, IDOT studied a Route 45 bypass of the Millburn Historic District as part of a Strategic Regional Arterial (SRA) study, which included a western bypass alignment; and

WHEREAS, in 1993 as part of IDOT's SRA study, the Village of Lindenhurst adopted Resolution 93-7-850-R which stated the Village's strong belief that an alignment east of Millburn would be the most beneficial long term solution for the Village of Lindenhurst and the historic community of Millburn; and

WHEREAS, in accordance with Federal Project Development procedures and the National Environmental Policy Act, the Phase I Engineering and Environmental Study has taken a "clean slate" approach with respect to a fresh look at the purpose and need for this project; and

WHEREAS, the Phase I study will evaluate all reasonable alternatives for the Millburn area including western and eastern bypass alignments, and improvements to existing Route 45; and

WHEREAS, recent public comment and petition indicated roughly 91% of all respondents were in favor of an eastern bypass alignment; and

WHEREAS, the Village of Lindenhurst continues to be concerned with the negative impacts a western alignment would have on existing homes and commercial property due to significant truck traffic diverting from I94; and

WHEREAS, high quality natural areas of the McDonald Woods Forest Preserve would be negatively impacted by a western alignment and the overall environment of the property will be adversely affected by the placement of a major highway on its borders; and

WHEREAS, land impacted by an eastern alignment is primarily undeveloped vacant land or agriculture use,

NOW, THEREFORE, BE IT RESOLVED by the Mayor and Board of Trustees of the Village of Lindenhurst, Illinois as follows:

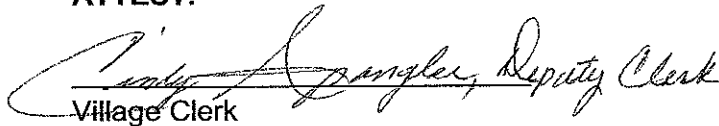
1: Based upon potential environmental impacts, negative impact on the community due to noise and safety concerns resulting from significant truck traffic, and a more cost-effective viable solution moving Rte 45 to the East of its existing location, the Village of Lindenhurst strongly urges the Federal Highway Administration, Illinois Department of Transportation and Lake County Division of Transportation, collectively known as the Project Study Group, to utilize the alignment labeled Alternate C4 (Eastern Bypass Alignment) as generally depicted on Exhibit A attached to this Resolution.

PASSED AND APPROVED by the President and members of the Board of Trustees of the Village of Lindenhurst, Illinois this 25th day of October, 2010.



VILLAGE PRESIDENT

ATTEST:



Village Clerk

TRUSTEES:

Aye

Nay

Bill Anderson

X

Patty Chybowski

X

Patrick Dunham

X

Dominic Marturano

X

Renee Metzelaar

X

Timothy Wayne

Absent



MEETING MINUTES

Meeting Date: September 22, 2011
Date Issued: October 6, 2011
Location: Lindenhurst Village Hall
Project: U.S. 45 – IL 132 to IL 173 and Millburn Bypass
Purpose: Lindenhurst Coordination Meeting

<u>Attendees</u>	<u>Representing</u>	<u>Phone</u>
Susan Lahr	Mayor - Lindenhurst	847-356-8252
Matt Formica	Village Administrator - Lindenhurst	847-356-8252
Wes Welsh	Village Engineer/Public Works Director - Lindenhurst	847-356-8252
Tom Lippert	Executive Director - Lindenhurst Park District	847-356-6011
Chuck Gleason	LCDOT	847-377-7447
Paula Trigg	LCDOT	847-377-7400
Mike Matkovic	Christopher B. Burke Engineering (CBBEL)	847-823-0500
Matt Huffman	Christopher B. Burke Engineering (CBBEL)	847-823-0500

The meeting began at 1:00 pm. The purpose of this meeting was to provide an update on project status to the Village of Lindenhurst following the selection of the preferred bypass alternative A4 by the Project Study Group (Lake County Division of Transportation (LCDOT), Illinois Department of Transportation (IDOT), and Federal Highway Administration (FHWA)). Feedback was also being sought from the Village of Lindenhurst regarding design details for the preferred bypass Alternative A4.

A meeting agenda was distributed and several exhibits were displayed including an overall exhibit of the preferred bypass Alternative A4, an environmental resource exhibit, the U.S. 45 proposed typical cross section, and larger scale exhibits of the preferred bypass Alternative A4 near the Haven Lane Subdivision, Heritage Trail Subdivision, and Millburn Historic District. The Village of Lindenhurst began the discussion with questions regarding the selection process of the preferred bypass Alternative A4. CBBEL provided an overview of factors considered by the Project Study Group.

- **Transportation Performance:** Based on the analysis of the three finalist alternatives for projected year 2040 traffic during the evening peak travel period, bypass Alternative A4 provides the best overall transportation performance within the Millburn Bypass area roadway network. The network includes the U.S. 45 bypass, Grass Lake Road, Millburn Road, old U.S. 45, Independence Blvd., Heritage Drive, and Haven Lane intersections. The results of the network analysis show that bypass Alternative A4 would result in 99 hours of total travel time (cumulative for all vehicles traveling through the network during the peak hour) as compared to 116 hours for bypass Alternative C4, a 17 hour or 15 percent difference in total travel time through the network. The total travel delay (travel time above free flow travel) would be 32 hours for bypass Alternative A4 as compared to 39 hours for bypass Alternative C4, an 18 percent difference. The main intersection for each finalist alternative was also analyzed for the year 2040 evening peak period. The intersection of U.S. 45 at Grass Lake Road with bypass Alternative A4 was the best performing at level of service (LOS) C with 31.7 seconds of average delay per vehicle. The main intersection of U.S. 45 at Millburn Road with bypass Alternative C4, would be LOS D with 37.6 seconds of average delay per vehicle, a 15 percent difference. These differences also correlate to differences in user costs, emissions, and energy consumption.

- Compatibility with regional travel patterns: As part of early development of the project Purpose and Need statement, which is available on the project website, the project team conducted origin/destination traffic studies, and consulted with the Chicago Metropolitan Agency for Planning (CMAP) to perform a "select link" analysis to evaluate travel patterns in the study area. The results of this analysis showed the predominant travel patterns in the study area are oriented in a northwest/southeast direction. The western bypass supports this more effectively than an eastern bypass where traffic will be pulled through or past the historic district, which is one of the likely reasons for the performance differences. Correspondingly, CMAP's traffic projections show higher anticipated traffic on Millburn Road for bypass Alternative C4 (17,000) than bypass Alternative A4 (14,000).
- SRA Design Criteria: The roadway alignment of bypass Alternative C4 is less desirable than bypass Alternative A4 due to the minimum radius reverse curves. This alignment was developed to avoid the known archeological sensitive site, and surveyed wetlands to the north, which resulted in a less desirable design as compared to bypass Alternative A4. This is an even greater issue since U.S. Route 45 is designated a Strategic Regional Arterial (SRA) roadway by IDOT and FHWA. Another design issue is the proximity of the main intersection to the old U.S. Route 45 and Grass Lake Road, which poses turn lane storage and taper deficiencies.
- Lake County Forest Preserve: The Lake County Forest Preserve District (LCFPD) supported the western bypass as being most compatible with their regional trail objectives. Coordination occurred with LCFPD during the IDOT 1995 SRA study which identified a western bypass which was concurred to by LCFPD at that time. Planning efforts have occurred since then and the current preferred bypass Alternative A4 coincides best with the LCFPD Preliminary Trail Alignment as shown in their March 1, 2011 exhibit connecting Mill Creek holdings, Millennium Trail, McDonald Woods, Ethel's Woods, and Raven Glen. LCFPD concurred with a *de minimis* finding regarding the impact to their property, which was approved by FHWA. The *de minimis* finding indicates that there are no adverse effects to McDonald Woods as a result of the proposed improvement.
- Impact on the Millburn Historic District: Alternative C4 bisects the Millburn Historic District, a National Register Historic Place, and disconnects the most historically significant structure, the Strang House, from the remainder of the historic district. Bypass Alternative A4 avoids any impact to the Millburn Historic District.

LCDOT indicated that all evaluation criteria were considered as a whole. Some of the evaluation criteria are based on established Federal laws such as Section 404 of Clean Water Act protecting wetlands, and Section 106 of the National Historic Preservation Act protecting historic resources. Therefore the avoidance of wetlands and impacts to the Millburn Historic District are important considerations.

The Village of Lindenhurst asked specific questions about the noise analysis, safety, differences in transportation performance between bypass Alternative A4 and C4, landscaping, speed limits, the Federal project development process, and involvement of the Lake County Board. CBBEL and LCDOT provided the following responses:

- Noise analysis: As standard practice for transportation projects, noise analysis and modeling is typically conducted when a preferred alternative is selected due to the design details and information required to perform the modeling. The FHWA Traffic Noise Model (TNM) is required to be used to evaluate the existing condition and for the preferred alternative. The noise modeling for this project is not yet finalized. An initial part of the modeling process is to take field noise readings to validate the model. The field noise readings have no bearing on the results of the noise analysis, but are simply to establish that the model is accurate based on real life conditions, and for this project, that was so. Once the model is validated by this method, the model can then be used to predict noise levels for existing conditions and proposed improvement. The noise analysis process was also explained. If noise abatement is warranted and feasible, it must still meet the IDOT cost per benefitted resident criteria to be implemented with the project.

- **Safety:** Safety concerns were expressed by the Village regarding the Haven Lane intersection and the ability of vehicles to safely ingress and egress from Haven Lane to U.S. Route 45. It was explained that it is expected there will be adequate gaps for vehicles to make an eastbound left turn due to the proximity of the traffic signal at the Grass Lake Road and U.S. 45 intersection. Pedestrian access would not be provided across U.S. Route 45 at Haven Lane. As a part of this project, an area of flat ground behind the curb line will be provided to accommodate a sidewalk on the east side of U.S. Route 45 up to Grass Lake Road which will be connected to the proposed multiuse path along the west side of U.S. Route 45 at the new signalized intersection of Grass Lake Road and U.S. Route 45. The project team is looking into whether a southbound right turn lane into the Forest Trails Subdivision can fit within the existing bypass right-of-way. A northbound left turn lane will be provided to Haven Lane. The east leg of Haven Lane is recommended to become a cul de sac per the Homeowners Associations Declarations. A southbound left turn lane is not feasible due to the northbound dual left turn lanes at the Grass Lake Road intersection to the north, which disallows a southbound left turn lane without considerable additional pavement widening.
- There was discussion about the possible connection of Haven Lane to Grass Lake Road to form a 4-way intersection with Heritage Drive. There is currently a ROW stub off of Haven Lane that appeared it would line up with a future road to Grass Lake Road. The Village indicated that this is a 50 foot ROW and was intended for a future short road that led to a cul-de-sac. A future road could be built at a later date by the Village of Lindenhurst, but is not being considered for this project.
- **Landscaping:** The proposed improvement has a barrier median in the roadway which will be grassed at a minimum. For any barrier medians that are within the Village's municipal boundary there is the opportunity for additional landscaping if the Village agrees to maintenance. This would need to be discussed with IDOT. LCDOT does anticipate there to be potential for landscaping in buffer areas near Haven Lane. There is another buffer area adjacent to the Heritage Trails subdivision.
- **Speed Limits:** The Village of Lindenhurst expressed some concern over the speed limits on U.S. Route 45 and Grass Lake Road. The speed limit on U.S. Route 45 is proposed to be 45 mph. The proposed speed limit on Grass Lake Road was not provided at the time of the meeting but will be looked into by LCDOT. LCDOT indicated that they perform speed studies to establish the proposed speed limits on their County Highways, so the speed limits could change based on these studies at a future date after the project is constructed.
- **Federal Project Development Process:** LCDOT is funding the engineering and construction of this project based on results of 2006 Lake County Transportation Summit. U.S. Route 45 is a State Route, and the County has some Federal funds allocated for the construction of this project. Based on Federal funding and following IDOT procedures, this project is proceeding through the Federal project development process. FHWA is the agency that oversees the Federal project development process for the project and ensures that all Federal laws and processes are followed. IDOT and LCDOT act on behalf of FHWA to carry out the day to day project management of the project. Throughout the project development process the project is presented to FHWA and other Federal resource agencies for their comments and concurrence.
- **Lake County Board involvement:** The transportation decisions are made by the Lake County Division of Transportation with concurrence from IDOT and FHWA depending on the roads involved and source of funding. The Lake County Board will vote on release of the funding for Phase II Engineering and Phase III (construction), as they did for Phase I.

The Village of Lindenhurst Park District provided comments on the compatibility of bypass Alternative A4 with the Village's Pedestrian and Bicycle Plan. The Village of Lindenhurst Park District and the LCFPD have been working in cooperation to provide pedestrian connectivity north and south through the Village of Lindenhurst and LCFPD holdings. The improvement of U.S. Route 45 from IL 132 to IL 173, including the Millburn Bypass area, will include a graded area for a bike path along the west side of the roadway. As a part of the IDOT Complete Streets law, pedestrian and bicycle facilities must be planned for in any project. The policy states that IDOT will contribute 80 percent of the cost and the local governing body must contribute 20 percent along state routes. LCDOT has similar cost participation for County routes and also a

pedestrian/bicycle accommodation policy. LCDOT indicated that the LCFPD expressed possible interest in providing the cost participation for the multi-use path along the west side of U.S. Route 45. The concern of the Park District is that the LCFPD will contribute the 20 percent of the cost share for the bike path adjacent to the proposed bypass and will abandon potential funding and participation for the proposed underpass of Grass Lake Road connecting McDonald Woods to the Park District property. It was agreed that LCDOT, Lindenhurst Park District, and LCFPD will work on setting up a coordination meeting to discuss the pedestrian and bicycle accommodations for this project.

The meeting proceeded following the distributed agenda beginning with discussion of the bypass project limits from Country Place on the south to just north to Independence Boulevard and the typical cross section of the bypass. It was discussed that space will be provided for a multi-use path on the west side of the bypass and a sidewalk on the east side. Grass Lake Road will have space for a multi-use path on the north side from Heritage Drive to old U.S. Route 45. The Village of Lindenhurst will need to cost share and provide maintenance for portions of the pedestrian facilities within their municipal boundary contingent upon the extent of potential LCFPD participation. If the Village wanted roadway lighting to be incorporated it would be 100 percent Village cost. The north segment of Old U.S. 45 is intended to become a cul de sac and not tie into the bypass at Independence Boulevard, which would remain a safer three leg intersection design.

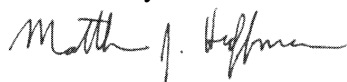
Through coordination meetings with the Village of Old Mill Creek they have indicated that they would like jurisdiction of old U.S. Route 45 and a portion of old Grass Lake Road. The jurisdictional transfer of old U.S. Route 45 would occur with IDOT and old Grass Lake Road with LCDOT. The signals would be removed at both the existing locations.

The Village provided utility atlases and Planning Commission meeting minutes from 1996 and 1997 regarding the Haven Lane subdivision. The Village indicated that Wes Welsh should be contacted for any additional information the project team needed.

The next steps in the project development process will be completion of the noise analysis and review by IDOT and LCDOT, development of the preliminary engineering plans for the bypass, concept level engineering plans for the segments north and south of the bypass area to IL 132 and IL 173, and preparation of the Draft Environmental Assessment. CAG#6 is anticipated for Fall 2011 with a Public Hearing anticipated in early 2012. The Village and LCDOT also discussed LCDOT attendance at small group meetings that would be setup by the Village to discuss the project and address questions, which the County was agreeable to.

The meeting adjourned at approximately 4:00 p.m.

Submitted by:



Matthew Huffman, P.E.
Christopher B. Burke Engineering, Ltd.

US Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

Section No. 05-00262-02-RP

P-91-666-09

Lake County Division of Transportation

**Lindenhurst Coordination
Meeting Summary**

MEETING DATE: June 28, 2012

MEETING TIME: 10:00 a.m.

SUBJECT: Project Status Update and Pre-Public Hearing Coordination

LOCATION: Lindenhurst Village Hall
2301 Sand Lake Road

ATTENDEES: Matt Formica – Lindenhurst Village Administrator
Wes Welsh – Lindenhurst Public Works Director
Chuck Gleason – LCDOT
Marie Glynn – IDOT
Ryan Westrom – Patrick Engineering Inc.
Mike Matkovic – Christopher B. Burke Engineering, Ltd.

The purpose of this meeting was to provide an overall project status update to the Village of Lindenhurst with respect to ongoing engineering and environmental studies for the US Route 45 project from IL 132 to IL 173 and the Millburn Bypass and to discuss Public Hearing preparations. A meeting agenda was distributed. A copy of the agenda and the meeting sign-in sheet is provided at the end of this meeting summary. The following summarizes the main points of discussion at this meeting and any resulting action items.

It was discussed that IDOT will have more of a leadership role with the project as part of completing the ongoing Phase I engineering and environmental studies (Phase I studies), and that IDOT will be the lead agency for subsequent Phase II engineering (contract plan preparation and land acquisition) and construction of the Millburn Bypass. This results from the Lake County Board transferring funding for the Millburn Bypass project secured by the County to IDOT for implementation. LCDOT staff will remain involved with the project through completion of the Phase I study. It was pointed out that while LCDOT has been the lead agency for this project since 2009, IDOT has been actively involved throughout the project development process, along with FHWA, as members of the Project Study Group.

The Environmental Assessment (EA) being prepared for the project has been reviewed on multiple occasions by IDOT and FHWA, and is nearing approval. The Public Hearing cannot be scheduled until FHWA has approved the EA, which is the basis for the Public Hearing. As previously discussed, the EA addresses the planned improvements associated with the Millburn Bypass, but also likely future improvements north and south of the bypass in between IL 132 and IL 173, establishing the environmental footprint (i.e. right-of-way footprint) for these areas. This was required by FHWA based on logical termini requirements per federal project development procedures.



US Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

Section No. 05-00262-02-RP

P-91-666-09

Lake County Division of Transportation

Lindenhurst Coordination

Meeting Summary

The preliminary roadway plan and profile sheets have been developed in detail for the Millburn Bypass, which is essentially from Country Place on the south to north of Independence Boulevard, and to a more conceptual level north and south of the bypass. The typical roadway cross section is identical for the entire EA limits from IL 132 to IL 173 and includes two travel lanes in each direction separated by a 22 foot wide barrier-curb median. Accommodations for a 10 feet wide multi-use path along the west side of U.S. Route 45 and 5 feet wide sidewalk along the east side of U.S. Route 45 are included in the plans for the entire limits from IL 132 to IL 173, as well as along major side streets such as Grass Lake Road and Sand Lake Road. Minor alignment shifts have been incorporated in the likely improvement plans north and south of the bypass to minimize impacts to developed properties south of Sand Lake Road, and additional forest preserve properties (Raven Glen and Ethel Woods) north of Miller Road. It was further discussed that IDOT has a separate ongoing Phase I study that will look at detailed roadway plans north and south of the bypass. Additional coordination with the Village of Lindenhurst will occur as part of the separate IDOT Phase I study as those detailed plans advance. An overview of the plan and profile sheets provided for the full EA limits was provided, which, as noted, includes the planned improvements for the Millburn Bypass, and likely future improvements north to IL 173 and south to IL 132. Along the portions of the proposed bypass within the McDonald Woods boundaries, two low clearance bridges are proposed to avoid high quality Waters of the U.S. sites, and to provide unobstructed movement for small to medium size terrestrial wildlife in response to concerns expressed by environmental agencies during project coordination. These bridges are pending review and approval by IDOT. The proposed plans also include designated areas for storm water detention and implementation of water quality Best Management Practices (BMPs) for the full EA limits including the bypass area. Two sets of the plan and profile sheets for the full EA limits were provided to the Village of Lindenhurst for their review.

It was discussed that proposed drainage plans and a Location Drainage Study (LDS) report are being prepared for the Millburn Bypass project. Both are currently under review by IDOT. When IDOT completes their review, a coordination meeting will be requested with the Village of Lindenhurst to review the proposed drainage plan for the bypass. It is anticipated that this meeting will occur toward the end of July. The proposed drainage plans for US Route 45 north and south of the bypass are being prepared as part of the separate IDOT Phase I study, for which coordination with the Village of Lindenhurst will occur at a future date, sometime after the Public Hearing for the current study.

The results of the traffic noise analysis for the full EA limits, including the Millburn Bypass were then discussed. The Traffic Noise Report has been reviewed and approved by IDOT and FHWA, and a copy was provided to the Village of Lindenhurst. The traffic noise analysis was prepared based on projected year 2040 traffic levels. Specifically for the bypass area, there are properties that will see a reduction in traffic noise, and properties that will see an increase in traffic noise as a result of the bypass. In areas where traffic noise will increase and approach or exceed the Noise Abatement Criteria



US Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

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level (NAC) of 67 dB(A), the benefits of noise abatement walls in accordance with IDOT and FHWA requirements were evaluated. There are instances where a noise abatement wall will not work due to openings for access roads such as along Haven Lane to the west. In other locations, such as along Haven Lane to the east and along the Heritage Trails subdivision, there are not enough residences that would benefit (5 dB(A) reduction in traffic noise levels) from a noise abatement wall to allow the walls to meet the IDOT and FHWA allowable cost per benefitted receptor criteria. On this basis, noise abatement walls will not be constructed along the bypass or at any other locations along U.S. Route 45 within the full EA limits. The Village inquired if the County or the Village could participate in the cost of the noise abatement walls such that the cost per benefitted receptor criteria is met. It was indicated that 3rd party cost participation to achieve the cost per benefitted receptor criteria is not allowed per IDOT and FHWA policy. It was noted that the costs, as well as the specific number of benefitted receptors, were outlined within the noise analysis report distributed to the Village.

A copy of Table 1-3 (Common Sound Levels) from IDOT's Highway Traffic Noise Abatement Manual (HTNAM) was provided to the Village and reviewed. Based on the noise analysis, the highest noise levels anticipated for the residences closest to the bypass within the Forest Trail and Heritage Trails subdivisions based on year 2040 traffic projections are approximately 68 dB(A) and 66 dB(A) respectively. As a point of reference, as shown in Table 1-3, this is comparable to normal speech at a distance of three feet, and less than common noise levels within a commercial area. The offset distance of approximately 90 feet to 150 feet, from the proposed bypass (west curb line) to the closest residences within the Heritage Trails subdivision, was a factor in these results. While the nearest residences will experience an increase in traffic noise levels, there are not enough residences that would benefit from a noise abatement wall such that the cost per benefitted receptor criteria would be met.

Opportunities for visual buffering along the Forest Trail and Heritage Trails subdivisions were discussed. This would include planting of trees/shrubs focused in these areas in accordance with IDOT's tree replacement policy. Along the Forest Trail subdivision, there is very limited opportunity to include plantings within the right-of-way previously purchased for this project by the State of Illinois. Additional temporary construction easements in all four quadrants at the Haven Lane crossing would be desirable to provide a more robust visual buffering. It was discussed that acquisition of these temporary easements would need to be discussed with the Forest Trail Homeowners Association. For now, these easements will be shown on the plans and discussions with the Forest Trail Homeowners Association would be pursued. Along the Heritage Trails subdivision, there is already a considerable amount of vegetation (trees/shrubs) in the area in between the proposed bypass and the subdivision. This area will also be looked at for additional plantings to further increase the visual buffer. Both locations provide opportunities for the Village to consider specialty landscape features such as Village gateways, etc. Depending on what the Village desires, Village cost participation and agreement to maintain these features may be required. The Village indicated a potential interest in both locations.



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The Village was provided a letter with information on anticipated future traffic noise levels based on year 2040 traffic within currently undeveloped lands adjacent to U.S. Route 45 from IL 132 to IL 173. This information was provided to the Village for their consideration of these future traffic noise levels and planning if developments are considered in these areas.

A preliminary aerial flythrough visualization of the proposed Millburn Bypass improvements was shown. This visualization is anticipated to be available on the project website and shown at the Public Hearing to provide a better understanding of the locational relationship between the proposed bypass improvements and adjacent properties. It was discussed that a visualization of the 2040 No-Build condition (2040 traffic on the existing roadway facilities) might be helpful for viewers to further understand the reason the bypass project is required. The project team will look at options in this regard.

Potential Village cost participation and maintenance responsibility items associated with the proposed bypass improvements were discussed. IDOT and LCDOT policy requires local agency cost participation and/or maintenance responsibility for items such as bike paths/sidewalks, roadway lighting, median landscape features, and utility relocations (if already within the highway right-of-way via permit). Lake County is currently coordinating with the Lake County Forest Preserve District (LCFPD) regarding the LCFPD covering the local agency cost participation (20%) and maintenance responsibility for the portions of the bike path along the west side of U.S. Route 45 and along the south side of Grass Lake Road west of U.S. Route 45. The Village was provided preliminary information on the approximate level of Village cost participation to provide sidewalk along the east side of U.S. Route 45 from Haven Lane to realigned Grass Lake Road, and along the north side of Grass Lake Road from the bypass to Heritage Drive. This information will be updated prior to completion of the Phase I study to be included in a Letter of Intent between the Village and IDOT at that time. The Village also expressed potential interest in adding landscape features within the available median areas along the bypass, acknowledging potential cost participation requirements and maintenance requirements. It was discussed that this will need to also be discussed with the Village of Old Mill Creek since areas of the median are within Old Mill Creek boundaries. LCDOT and IDOT intend to meet with Old Mill Creek in the near future and will follow-up with Lindenhurst afterwards accordingly. Continuous roadway lighting was briefly discussed, which would be a 100% village cost responsibility if desired. The Village does not anticipate requesting continuous roadway lighting along the bypass. The Village did express an interest in lighting at side street intersections such as Haven Lane and Independence Boulevard. IDOT indicated that per policy existing unwarranted beacon lighting within the highway right-of-way would be removed at Village cost. These locations are currently under review by IDOT. The results of this review will be provided to the Village. All cost participation and/or maintenance responsibility items identified by the conclusion of the Phase I study will be included in a Letter of Intent between the Village and IDOT.



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A brief overview of the upcoming Public Hearing was provided. The Public Hearing is anticipated to be an open house type Public Hearing, which provides attendees the opportunity to come and view exhibits, ask questions, and submit comments at any time that suits their schedule. The Public Hearing is anticipated to be held from 4 p.m. to 7 p.m.. The location is anticipated to be Millburn School West. The date is anticipated to be during the first half of August, contingent upon completion of ongoing reviews by IDOT and FHWA. As soon as a date is selected the Village will be notified. The Public Hearing will feature the proposed improvement plan details for the proposed west Millburn Bypass. Information will also be presented regarding the likely future improvements to U.S. Route 45 north and south of the bypass area. It is not anticipated that detailed information will be presented on the bypass alternatives considered throughout the prior project development process. The focus will be on the selected bypass alternative as presented in the EA.

It was discussed that similar to the small group meeting held with residents from the Forest Trail subdivision, a small group meeting is anticipated to be held with residents from the Heritage Trails subdivision in the foreseeable future. This meeting would provide an opportunity for Q and A with the project team. It is desirable that a Village trustee attend this meeting, as occurred with the Forest Trail meeting.

The meeting concluded at approximately 12:00 p.m.

Meeting summary prepared by:

Mike Matkovic

Christopher B. Burke Engineering, Ltd.



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Lindenhurst Coordination
Meeting Summary

U.S. Route 45; IL Route 132 to IL Route 173 and Millburn Bypass

Village of Lindenhurst Coordination Meeting

2301 East Sand Lake Road

June 28, 2012 – 10:00 a.m.

MEETING AGENDA

1) Overall Project Status Update

- a) Environmental Assessment (EA) development (IL 132 to IL 173 and Millburn Bypass)
- b) Preliminary Roadway Plan and Profile development
 - i) Planned improvements for Millburn Bypass
 - ii) Likely Future Improvements north and south of the Bypass to establish environmental footprint for EA
 - *Detailed studies north and south of the Bypass are part of separate IDOT Phase I project*
 - iii) Distribute Bypass and Like Future Improvements plans
- c) Drainage Plan development (Bypass only)
- d) Engineering Design Report (DR) development (Bypass only)

2) Traffic Noise Analysis

- a) Noise Abatement Walls do not meet IDOT and FHWA Criteria
- b) Options for Visual Buffering
 - i) Heritage Trails Subdivision
 - ii) Forest Trail Subdivision
- c) Planning For Undeveloped Lands

3) Overview of the Proposed Improvement Plans

- a) Planned Bypass Improvements
 - i) Design Near Forest Trail and Heritage Trails
 - ii) Grass Lake Road Intersection
 - iii) Visualization of planned Bypass improvements with Projected 2040 Traffic Volumes
- b) Likely Future Improvements north and south of Bypass for EA
- c) Potential Village Cost/Maintenance Participation Items
 - (1) Sidewalk and Bike Path
 - (2) Roadway Lighting
 - (3) Median Landscaping and Maintenance
 - (4) Letter of Intent

4) Public Hearing Overview

- a) Format and Content
- b) Location and Timeframe





**Traffic Noise Information for Undeveloped Lands
U.S. Route 45, IL Route 132 to IL Route 173, and Millburn Bypass
Lake County, IL**

June 28, 2012

The Hon. Susan Lahr
Mayor, Village of Lindenhurst
2301 E. Sand Lake Road
Lindenhurst, IL 60046

Dear Mayor Lahr:

As part of the ongoing Phase I Engineering and Environmental Study (Phase I Study) for U.S. Route 45, from IL Route 132 to IL Route 173, and the Millburn Bypass, we would like to take this opportunity to coordinate traffic noise information for undeveloped lands. Specifically, the projected future traffic noise levels were evaluated for lands either currently under your jurisdiction or land that may come under your jurisdiction near the proposed Millburn Bypass improvements and likely future improvements along U.S. Route 45 south to IL Route 132 and north to IL Route 173.

For developed lands, a traffic noise study has been completed for this project and the results will be summarized in the Environmental Assessment prepared for this Phase I Study. Enclosed for your information is an exhibit showing the predicted design year (2040) build traffic noise levels for the undeveloped lands identified along the project corridor.

We hope this information will be useful to you in planning and permitting future development in your area. We recommend that you carefully consider the future predicted noise levels to avoid potential issues of public concern over incompatible noise levels.

To help with your future planning and discernment regarding permitting decisions, we encourage you to obtain the Federal Highway Administration (FHWA) publication titled *Entering the Quiet Zone: Noise Compatible Land Use Planning*. This publication can be obtained from the FHWA website:

[http://www.fhwa.dot.gov/environment/noise/noise compatible planning/federal approach/land use/quietzon.pdf](http://www.fhwa.dot.gov/environment/noise/noise%20compatible%20planning/federal%20approach/land%20use/quietzon.pdf)

For additional information regarding traffic noise, regulations and policy, noise analyses or noise abatement, we encourage you to visit the Illinois Department of Transportation's web site at:

<http://www.dot.il.gov/desenv/noise.html>

Very truly yours,

Chuck Gleason
Acting Director
Planning and Programming

Enclosure

cc: Marie Glynn, Illinois Department of Transportation

www.lakecountyil.gov

Division of Transportation

Paula J. Trigg, P.E.
Acting Director of Transportation/
Acting County Engineer

600 West Winchester Road
Libertyville, Illinois 60048-1381
Phone 847 377 7400
Fax 847 984 5888

U.S. Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

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**Illinois Department of Transportation
Lake County Division of Transportation**

**Drainage Coordination
Meeting Summary**

MEETING DATE: March 14, 2013

MEETING TIME: 10:00 a.m.

SUBJECT: Drainage Coordination Meeting

LOCATION: Village of Lindenhurst - Village Hall
2301 Sand Lake Road, Lindenhurst, IL

ATTENDEES: Wes Welsh –Lindenhurst
Marie Glynn – IDOT
Lynn Hobbs – IDOT
Ilene Daily - CBBEL
Matt Huffman – CBBEL

The purpose of this meeting is to discuss the proposed drainage plan for proposed improvement to U.S. Route 45 from Country Place on the south to north of Independence Boulevard (i.e. Millburn Bypass). The proposed drainage plan for U.S. Route 45 from IL Route 132 to Country Place (i.e. South Section) and north of Independence Boulevard to IL Route 173 (i.e. North Section) will be presented to Lindenhurst when the proposed drainage plan is completed, which will be sometime later in 2013. The Public Hearing for U.S. Route 45 from IL Route 132 to IL Route 173 is on March 21, 2013 at Millburn West Middle School from 4:30 pm to 7:30 pm and will present the likely improvements for the South Section and North Section of U.S Route 45, proposed improvements for the U.S. Route 45 Millburn Bypass, and the Environmental Assessment from IL Route 132 to IL Route 173. Currently only funding has been established to move the Millburn Bypass forward to Phase II Engineering, land acquisition, and construction. The South Section and North Section are only funded through Phase I Engineering.

A general overview of the design for the Millburn Bypass was provided: U.S. Route 45 will be two lanes in each direction, with a 22 foot grassed median, barrier curb and gutter, space for a bike path on the west side, and space for a sidewalk on the east side. The proposed improvement on Grass Lake Road is one eastbound lane and two westbound lanes with left and right turn lanes are intersections, barrier curb and gutter, and space for bike path and sidewalk. There will be one signalized intersection at the U.S. Route 45 Bypass and re-aligned Grass Lake Road; the existing signals will be removed.

The general drainage design consists of capturing all roadway drainage in a storm sewer system along U.S. Route 45 and Grass Lake Road, which is a design feature of using barrier curb and gutter. A series of three detention basins are located at the south, middle, and north ends of the U.S. Route 45 Bypass. The proposed storm sewer



U.S. Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

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Meeting Summary**

systems drain to the proposed detention basins. The detention basins are designed to contain the 100 year, 24 hour critical storm duration from the IDOT right-of-way and release the runoff at a prescribed rate set by the Lake County Stormwater Management Commission (LCSMC), subject to IDOT minimum restrictor sizes. The detention basins also act as Best Management Practice (BPM) design features, which help to naturally filter roadway storm water prior to being released to the natural drainage path. The detention basins are currently designed only detain water during a storm event and will not have continuous standing water. Drainage ditches will be located on the outside of the roadway where the existing ground drains towards the roadway. Cross road culverts will be provided separately from the proposed storm sewers to maintain existing off site drainage patterns.

The south detention basin at Country Place collects the runoff from U.S. Route 45, south of the intersection of the U.S. Route 45 Bypass and existing U.S. Route 45. The project team asked about the culvert near Country Place. Lindenhurst indicated that this culvert was designed according to design standards, as best they know. The location of the south detention basin will be looked at near Country Place to allow for a future east leg of the intersection.

The middle detention basin is located east of the U.S. Route 45 bypass on the acquired Lake County Forest Preserve District (LCFPD) property. This basin contains roadway storm runoff from Grass Lake Road and the U.S. Route 45 Bypass south of Independence Boulevard. Roadway runoff north of the Tributary to Millburn Creek (Tributary) was able to be piped under the Tributary with a 42 inch pipe to utilize already acquired property and eliminate the need for an additional detention basin at the Grass Lake Road intersection. Roadway storm runoff, south of Millburn Creek, is piped over Millburn Creek and above the three sided structure carrying U.S. Route 45, which limits the size of the south detention basin. The Lindenhurst existing water main and sanitary sewer are not anticipated to be impacted when the Bypass crosses them in McDonald Woods. The Village was concerned with force main impacts along Haven Lane. The project team indicated they would look into that and report back to the Village, however, some of the utility conflicts will not be worked out until Phase II Engineering initiates. The intent to maintain existing drainage patterns along Grass Lake Road west of U.S. Route 45 was discussed.

The north detention basin is located on existing Route 45 right-of-way and a remnant parcel that is being purchased. This detention basin contains storm runoff of U.S. Route 45 Bypass north of Independence Boulevard. The Village asked if the drainage along Independence Boulevard will remain. The project team indicated the intent is for the existing system to remain intact, however, detailed design on Independence will not be done until Phase II Engineering.



U.S. Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

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Other topics were discussed outside of the proposed drainage design of the U.S. Route 45 Bypass including the jurisdictional transfer of old U.S. Route 45, detailed design of the South Section of U.S. Route 45 with respect to future development and proposed new water main to the west of U.S. Route 45, and other concerns of detention facility locations in the South Section of U.S. Route 45. The Village expressed a preference for wetland detention basins that would retain six to nine inches of water, which is consistent with their current requirement for new developments. The project team indicated that future meetings will be set up to present the detailed design plans for the North and South Sections of U.S. Route 45. Comments will be solicited until April 8th, 2013 for the Millburn Bypass and the likely improvements to U.S. Route 45 for the North and South Sections. The Village indicated that they would like to limit detention along U.S. Route 45 to limit impacts to future potential commercial developments.

The meeting concluded at approximately 10:45 a.m.

Meeting summary prepared by:

Matt Huffman

Christopher B. Burke Engineering, Ltd.



U.S. Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

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Lake County Division of Transportation

Drainage Coordination
Meeting Summary



**Illinois Department
of Transportation**

Attendance Roster

Bureau: Programming Section: Hydraulics

Project/Topic: US Route 45 – Milburn By-pass

Date: 3/14/2013

Time: 10:00 am

Location: Village of Lindenhurst

	Attendees	Representing	Phone Number	Email Address
1.	Wesley Welsh	Village of Lindenhurst	847-356-8252	wwelsh@lindenhurstil.org
2.	Lynn Hobbs	IDOT – Hydraulics	847-705-4782	Lynn.hobbs@illinois.gov
3.	Marie Glynn	IDOT	847-705-4073	Marie.Glynn@illinois.gov
4.	Ilene Dailey	CBBEL - Drainage	847-823-0500	lDailey@cbbel.com
5.	Matt Huffman	CBBEL - Phase I	847-823-0500	MHuffman@cbbel.com
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U.S. Route 45

IL Route 132 to IL Route 173

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Illinois Department of Transportation

Drainage Coordination
Meeting Summary

MEETING DATE: October 30, 2014

MEETING TIME: 10:30 a.m.

SUBJECT: Drainage Coordination Meeting

LOCATION: Village of Lindenhurst – Village Hall
2301 Sand Lake Road, Lindenhurst, IL

ATTENDEES: Matt Formica – Village of Lindenhurst
John Briggs – Gewalt Hamilton Associates (Village Engineer)
Marie Glynn – IDOT
Lynn Hobbs – IDOT
Ilene Dailey - CBBEL
Matt Huffman – CBBEL

The purpose of this meeting was to discuss the proposed drainage plan for the U.S. Route 45 project from IL 132 to IL 173 Phase I Study, excluding the Millburn Bypass which was completed in 2013. A public hearing was held in March 2013 for the entire EA project limits from IL 132 to IL 173 which showed preliminary geometrics, detention facilities, and environmental footprint. An Environmental Assessment was prepared for the project and received a Finding of No Significant Impact (FONSI) in September 2013. The sections of U.S. Route 45 from 1000 ft north of IL 132 to Country Place (South Section), and 600 feet north of Independence Boulevard to 1,500 feet north of IL Route 173 (North Section) are currently in the process of completing Phase I Engineering and the subject of discussion for the meeting. The South and North Sections are currently funded only for Phase I Engineering. The Millburn Bypass is currently in Phase II Engineering and is programmed for construction.

A general overview of the design for the U.S. Route 45 project was provided. U.S. Route 45 will be two lanes in each direction, with a 22 foot grassed median, barrier curb and gutter, closed drainage system, space for a ten foot hot mix asphalt bike path on the west side, and space for a five foot sidewalk on the east side. The conceptual drainage design consists of storm sewer systems which typically drain all roadway pavement to detention facilities prior to release to the natural course of drainage. Any offsite tributary areas draining towards the roadway are controlled via ditches and conveyed via roadway cross culverts to maintain existing drainage patterns. The detention basins are designed per IDOT standards and typically provide the volume required to detain the 100-year critical storm duration runoff for added impervious area and release it at the 10-year existing rate. Per IDOT policy, detention facilities for roadway purposes must be independent from other adjacent detention facilities; no sharing of detention is permitted. The detention basins also act as Best Management Practice (BMP) design features, which help to naturally filter roadway storm water prior to ~~being released~~ releasing into



U.S. Route 45

IL Route 132 to IL Route 173

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**Drainage Coordination
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the natural drainage path. All basins are planned to retain approximately 6 inches of water below the outlet elevation to promote growth of various vegetation and wetland characteristics. The preliminary detention design shown in the Phase I plans assumes standard side slopes (3:1) and shapes. Refinements to the basin including overall shape, variable side slopes, bottom elevations, are performed as part of Phase II engineering. The Village's request to improve aesthetics and layout of the basins will be noted in the Combined Design Report narrative under the Special Design and Construction Considerations section. It was confirmed that the Village of Lindenhurst is not aware of any pavement flooding conditions within the South or North Sections.

A presentation of the proposed drainage design was made starting at the southern limit and progressing north. An exhibit was distributed, which shows the existing drainage crossing locations and culvert sizes, as well as the municipal and township boundaries. The Village of Lindenhurst has jurisdiction west of U.S. Route 45 for almost the entire South Section, and also has a small part of the south portion of the North Section west of U.S. Route 45.

The South Section extends from 1,000 feet north of the IL Route 132 intersection to Country Place. The IL 132 intersection was evaluated as part of a separate IDOT project to widen U.S. Route 45 south to IL Route 176. Near Country Place, this project would connect into the Millburn Bypass which is currently funded for construction. A short segment of the Millburn Bypass project would be modified to tie to the proposed four lane section (instead of existing two lanes). Improvements to Sand Lake Road and Stearns School Road are included with this project resulting from the intersection improvement at U.S. Route 45.

The drainage design for the southern section does not involve any flood plains or floodways. Subsequently no hydraulic reports were required for any of the drainage crossings per IDOT standards. There are eight existing cross road culverts and six proposed detention facilities. All existing culverts are being removed and replaced, with exceptions of the culvert of Dodge School Creek under Stearns School Road and the culvert at Station 104+80, which are extended. All detention basins are located in open space and there are no impacts to existing structures.

Dodge School Creek crosses under U.S. Route 45 south of Falling Waters (Sta. 69+00) and the Tributary to Dodge School Creek crosses U.S. Route 45 just north of Sand Lake Road (Sta. 83+50). Dodge School Creek crosses Stearns School Road (Sta. 6+50) and converges with the Tributary, and then flows east to North Mill Creek. The Tributary to Dodge School Creek currently flows through a roadside ditch, which is re-located with the improvement adjacent to the proposed bike path.

Sand Lake Road and Stearns School Road, both LCDOT jurisdiction facilities, drain from west to east and have proposed storm sewer systems to collect pavement drainage. A



U.S. Route 45

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small portion of Stearns School Road does not drain to a detention facility and releases to a vegetated ditch for water quality benefit prior to discharging to Dodge School Creek. The proposed detention basins upstream of Stearns School Road are sized to provide the IDOT required volume for the roadway improvements.

The North Section was presented briefly, starting from the south, which is the location of the north limit of the Millburn Bypass improvement approximately 600 feet north of Independence Boulevard, to north of IL Route 173, which includes the intersection. The drainage design for the northern section was only discussed as it pertains to the Village of Lindenhurst, which is approximately to Station 185+00.

No comments were provided on the proposed drainage design during the meeting. A half size set of the proposed drainage plans were left with the Village and PDFs of the plans will be emailed to meeting attendees for comment subsequent to the meeting. It was stated that IDOT is aiming for Design Approval of the South Section by the end of this year and the North Section early in 2015, so comments are requested within three weeks.

Additional, non-drainage topics were also discussed. As previously relayed, IDOT requires local agencies whose jurisdiction is adjacent to the roadway to cost participate (80/20) and maintain any pedestrian or multi-use facilities that they agree to have constructed in their jurisdiction. If they choose to not cost participate, a shelf will be provided, and the municipality would be responsible for 100 percent of the cost and maintenance of these facilities if implemented in the future. Along US 45, a multi-use trail is proposed along the west side, and a sidewalk on the east. Along Grass Lake Road, a multi-use trail is proposed on the south side from McDonalds Woods to the US 45 west bypass, and along the north side from the US 45 west bypass to existing US 45. Sidewalks are proposed along the north side of Grass Lake Road from Heritage Drive to the US 45 west bypass, and along the south side from the west bypass to existing US 45. The LCFPD has offered to participate in the local cost participation for the bicycle path along the US 45 west bypass from McDonald Woods (future east entrance to forest preserve along US 45 west bypass) to Raven Glen. The local agencies would continue to be responsible for maintaining the multi-use trail within their jurisdiction, and not LCFPD. All other locations would require cost participation from local municipalities or townships. The Village will be receiving a Letter of Intent to communicate the location and cost share of the pedestrian and bicycle facilities. In some instances a local agency may opt not to cost participate, but another local agency could step in and fulfill the local cost obligations for construction of the sidewalk or bike path with the project.

The Village stated that they have a planned water and sanitary project along the west side of U.S. Route 45. There are also potential development plans that are active west of U.S. Route 45 in the vicinity of Chatham Way. The Village will provide the most current information to the project team.



U.S. Route 45

IL Route 132 to IL Route 173

Section No. 05-00262-02-RP

P-91-666-09

Illinois Department of Transportation

Drainage Coordination Meeting Summary

The Village requested that IDOT share draft plans for the proposed IL 132 / US 45 intersection improvements.

The meeting concluded at approximately 11:45 p.m.

Meeting summary prepared by:

Matt Huffman - Christopher B. Burke Engineering, Ltd.





Attendance Roster

Bureau: Programming Section: Hydraulics
 Project/Topic: US Route 45 – IL 132 to IL 173 (Excluding Millburn Bypass) Drainage Coordinating Meeting
Village of Lindenhurst
 Date: October 30, 2014
 Time: 10:30 a.m.
 Location: Village of Lindenhurst

	Attendees	Representing	Phone Number	Email Address
1.	Lynn Hobbs	IDOT Hydraulics	(847) 705-4782	lynn.hobbs@illinois.gov
2.	MATT FORMICA	Lindenhurst	(847) 356-8252	MFORMICA@lindenhurst.il.us
3.	JOHN BRIGGS	GEWALT HAMILTON LINDENHURST	847-478-9700	JBRIGGS@GHA-ENGINEERING.COM
4.	Ilene Dailey	CBBEL	847-823-0500	idailey@cbbel.com
5.	Marie Glynn	IDOT Programming CROWN HILL	847-705-4073	marie.glynn@illinois.gov
6.	MATT HOFFMAN	CBBEL MHOFFMAN@CBBL.COM	847-823-0500	MHOFFMAN@CBBL.COM
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VILLAGE OF OLD MILL CREEK

COORDINATION MEETING SUMMARY – 9/14/2011

LCDOT TRAFFIC NOISE INFORMATION FOR UNDEVELOPED LANDS
LETTER – 6/28/2012

PROJECT STATUS UPDATE AND PRE-PUBLIC HEARING MEETING
SUMMMARY –7/19/2012

DRAINAGE COORDINATION MEETING SUMMARY – 3/14/2013

DRAINAGE COORDINATION MEETING SUMMARY – 11/3/2014



MEETING MINUTES

Meeting Date: September 14, 2011
Date Issued: October 4, 2011
Location: Lake County Division of Transportation
Project: U.S. 45 – IL 132 to IL 173 and Millburn Bypass
Purpose: Old Mill Creek Coordination Meeting

<u>Attendees</u>	<u>Representing</u>	<u>Phone</u>
Jennifer Andrew	Village of Old Mill Creek	847-828-3737
Roger Baske	Village of Old Mill Creek	847-912-2667
Tim Smith	Village of Old Mill Creek	847-840-5309
Al Maiden	Rolf C. Campbell & Assoc.	847-302-6800
Chuck Gleason	LCDOT	847-377-7447
Paula Trigg	LCDOT	847-377-7400
Matt Huffman	Christopher B. Burke Engineering (CBBEL)	847-823-0500
Martin Worman	Christopher B. Burke Engineering (CBBEL)	847-823-0500
Kevin Clark	The Lakota Group (Lakota)	312-467-5445
Ryan Westrom	Patrick Engineering Inc. (Patrick)	312-201-7955

The following notes reflect our understanding of the discussions and decisions made at this meeting. If you have any questions, additions or comments, please contact us at the above address. We will consider the minutes to be accurate unless written notice is received within 10 working days of the date issued.

The purpose of this meeting was to provide an update on project status to the Village of Old Mill Creek following the selection of preferred alternative A4, and as well to obtain their feedback on the remaining improvement details going forward. The meeting began at 3:00 p.m.

1. After introductions, LCDOT began by giving a confirmation of the recent selection of preferred alternative A4. The A4 route will become the west bypass around the intersections at Grass Lake Road and Millburn Road with a realignment of Grass Lake Road to meet with Millburn Road at existing U.S. Route 45 near the Millburn Historic District area. This improvement is part of an Environmental Assessment of U.S. 45 from IL 132 north to IL 173, however the portion funded for Phase II engineering and construction is only the realignment portion. Old Mill Creek indicated they knew about this selection via their CAG representation, and support the preferred alternative.
2. Project limits for this improvement were noted, where the realignment returns to existing U.S. 45 near Country Place on the south and just north of Independence Boulevard on the north. The improvement on Grass Lake Road extends west of Heritage Drive on the west and to the intersection with the former Millburn Road and U.S. 45 on the east.
3. An overview of the U.S. Route 45 realignment characteristics was given by Patrick. It was noted that the typical section shows two lanes in each direction with turning lanes at the intersections. A center median is planned, with a bike path running adjacent on the west and a sidewalk on the east. The median would be grass unless a local municipality chose to provide enhancements. It was observed that these elements would be cost participation items for the local agency (20%). Included would be the sidewalk, median enhancements, and potentially the multi-use path. LCDOT indicated that the Lake County Forest

Preserve District is considering obtaining maintenance and also funding of the local cost share of the multi-use path along the realignment. It was also observed that most of the realignment route remains in Old Mill Creek, however some of it is within Lindenhurst. Agreement on the proposed enhancements along the route between the local agencies needs to be reached.

4. An overview of the rerouted Grass Lake Road/Millburn Road characteristics was then given by CBBEL. It was noted that the typical section shows two lanes westbound through the main intersection with one lane eastbound and auxiliary lanes at the intersections. A flush painted median is planned, with a multi-use path running adjacent on the north. A crosswalk on the north leg of the proposed intersection at 'old' U.S. 45 is planned. It was noted that this intersection will be proposed as stop-controlled on the north and south approaches, with east-west traffic flowing free.
5. Old Mill Creek observed that an unsignalized intersection with existing U.S. 45 and Grass Lake Road was not preferable, and expressed concern that cars exiting those legs of the intersection would not find a gap. However, CBBEL noted that, based on projections of the proposed traffic conditions at the time of construction, a traffic signal is anticipated not being warranted at this location. Old Mill Creek inquired as to the proposed speed limit on the new Grass Lake/Millburn Road, and the project team noted they would provide it.
6. Discussion of the 'old' U.S. 45 then ensued. Patrick stated that the anticipated scope of work as part of the realignment project includes signal removal at both the former Grass Lake Road and Millburn Road intersections with U.S. 45 as well as pavement marking removal and replacement.
7. The potential connections between 'old' U.S. 45 and the realigned U.S. 45 were discussed. As shown on the final alternative plan, a full tee intersection connection is proposed on the southern end, but the northern end concludes at a cul de sac. Old Mill Creek noted that they are highly desirous of a connection at this northern end. Old Mill Creek indicated that maintaining this connection will increase access to and from the Historic District. LCDOT noted that the reason this connection was not shown were threefold. First, IDOT may not be desirous of a new intersection at this location due to access management reasons. Second, there would not be a signal warranted, and thus there are potential safety concerns in crossing U.S. 45. Thirdly, they felt this would increase cut through traffic within the Historic District, traffic which could be traveling too fast, and did not think that situation would be optimal. Old Mill Creek stated, however, that they felt that via traffic calming measures the number and speed of vehicles could be limited. As well they felt the benefits of a connection at this location outweighed the safety concerns. The project team agreed to follow up with IDOT and check on their thoughts as to whether an access would be allowed at this location, and as well, their thoughts on a marked mid-block pedestrian crossing if a signal is not warranted. This intersection would also be under the jurisdiction of the Village of Lindenhurst and their input on this potential connection will also be sought.
8. The future jurisdiction of 'old' U.S. 45 was then discussed. Old Mill Creek noted that they were interested in taking ownership of this roadway. Discussion as to how this would occur was had, and Old Mill Creek was informed that the transfer would occur from IDOT to the Village, as IDOT is the current owner. Details of this negotiation will be part of the discussion in formulating the jurisdictional transfer agreement.
9. Additionally, the status of 'old' Grass Lake Road was discussed, east of the proposed west realignment. The project team noted that many options for its remainder were available, ranging from a cul de sac just east of the realigned U.S. 45 to its removal. It was noted that other parties may be interested in the land if the roadway were abandoned. Old Mill Creek noted, however, that they felt this portion of Grass Lake Road could be part of their Village redevelopment plans, and thought there could be options within this area. They expressed interest in receiving this roadway as a jurisdictional transfer as well. LCDOT noted that this is a County route, and the transfer would be from the County in this case. Old Mill Creek asked whether Grass Lake Road could tie back into U.S. 45, and the project team noted that this could not be possible in its current location due to the proximity to the new intersection on realigned U.S. 45 with the relocated Grass Lake Road. Further discussion as to this potential transfer will be had after Old Mill Creek coordinates with their residents in the area.

10. Then, potential Historic District improvements that could be made in the 'old' U.S. 45 area were showcased. As part of the project team's work, designs for this area were prepared. While this may not be part of the construction on this project, the improvements could happen in synchrony with the move of traffic to the realignment route. Lakota presented the concepts they prepared, showing the concept proposed roadway for 'old' U.S. 45 and streetscaping, including sidewalks, lighting, and other furnishings and treatments. They prepared four typical sections along 'old' U.S. 45, a plan view of the area, and two before-after renderings showing the potential concept.

The concept for a potential new roadway cross-section addressed the likelihood that the roadway would become a local street with narrower lanes and overall width throughout. The main goals were to maximize pedestrian connections to residential neighborhoods and create a streetscape concept that fits the Village's historic character. The northern and southernmost sections depict two 12-foot lanes, as well as four-foot paved asphalt shoulders on each side. Bioswales and natural plantings are envisioned as a stormwater management strategy, combined with groupings of trees to blend in and enhance the existing rural landscape. The core of the historic district envisions curb and gutter with five-foot sidewalks on both sides; parallel parking on the east; new historic district signage; traditional pedestrian lighting; short split rail fences to mimic the surrounding horse farms; natural stone retaining walls in key locations; new crosswalks; and seating pockets.

It was discussed that these concepts and ideas are a starting point for the Village to begin envisioning how their historic district can be improved and "branded" with the new realignment.

11. The issue of noise created by a widened U.S. 45 was discussed. LCDOT stated that the noise assessment has not yet been finalized. Old Mill Creek requested that consideration for the use of asphalt pavement in lieu of concrete be made in the interest of reducing noise.
12. It was noted that next steps in the project will include the preparation of the project Environmental Assessment report, and then a Public Hearing.
13. The project team noted that minutes from the meeting would be distributed, and that the action items followed-up upon. Action items noted were:
 - a. LCDOT to provide Old Mill Creek with the proposed speed limit for the new Grass Lake Road
 - b. The project team to inquire with IDOT as to their thoughts on providing an east access at Independence Boulevard to connect to 'old' U.S. 45 and/or a pedestrian crossing at this location
 - c. Old Mill Creek to provide any plans for development adjacent to the project site for consideration in design of the final project geometric details
 - d. Old Mill Creek to formally initiate their request for jurisdictional transfer of 'old' U.S. 45 from IDOT and Grass Lake Road from LCDOT.
 - e. Old Mill Creek to provide a copy of their recent zoning changes for noting in the Environmental Assessment report being prepared.

The meeting adjourned at approximately 4:30 p.m.

Submitted by:



Ryan Westrom
Patrick Engineering Inc.



**Traffic Noise Information for Undeveloped Lands
U.S. Route 45, IL Route 132 to IL Route 173, and Millburn Bypass
Lake County, IL**

Division of Transportation

Paula J. Trigg, P.E.
Acting Director of Transportation/
Acting County Engineer

600 West Winchester Road
Libertyville, Illinois 60048-1381
Phone 847 377 7400
Fax 847 984 5888

June 28, 2012

The Hon. Tim Smith
Mayor, Village of Old Mill Creek
40870 N. Hunt Club Road
Old Mill Creek, IL 60083

Dear Mayor Smith:

As part of the ongoing Phase I Engineering and Environmental Study (Phase I Study) for U.S. Route 45, from IL Route 132 to IL Route 173, and the Millburn Bypass, we would like to take this opportunity to coordinate traffic noise information for undeveloped lands. Specifically, the projected future traffic noise levels were evaluated for lands either currently under your jurisdiction or land that may come under your jurisdiction near the proposed Millburn Bypass improvements and likely future improvements along U.S. Route 45 south to IL Route 132 and north to IL Route 173.

For developed lands, a traffic noise study has been completed for this project and the results will be summarized in the Environmental Assessment prepared for this Phase I Study. Enclosed for your information is an exhibit showing the predicted design year (2040) build traffic noise levels for the undeveloped lands identified along the project corridor.

We hope this information will be useful to you in planning and permitting future development in your area. We recommend that you carefully consider the future predicted noise levels to avoid potential issues of public concern over incompatible noise levels.

To help with your future planning and discernment regarding permitting decisions, we encourage you to obtain the Federal Highway Administration (FHWA) publication titled *Entering the Quiet Zone: Noise Compatible Land Use Planning*. This publication can be obtained from the FHWA website:

http://www.fhwa.dot.gov/environment/noise/noise_compatible_planning/federal_approach/land_use/quietzon.pdf

For additional information regarding traffic noise, regulations and policy, noise analyses or noise abatement, we encourage you to visit the Illinois Department of Transportation's web site at:

<http://www.dot.il.gov/desenv/noise.html>

Very truly yours,

Chuck Gleason
Acting Director
Planning and Programming

Enclosure

cc: Marie Glynn, Illinois Department of Transportation

www.lakecountyil.gov

U.S. Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

Section No. 05-00262-02-RP

P-91-666-09

Illinois Department of Transportation
Lake County Division of Transportation

Old Mill Creek Coordination
Meeting Summary

MEETING DATE: July 19, 2012

MEETING TIME: 1:00 p.m.

SUBJECT: Project Status Update and Pre-Public Hearing Coordination

LOCATION: LCDOT
600 West Winchester Road, Libertyville

ATTENDEES: Tim Smith – Old Mill Creek
Milton Anderson – Old Mill Creek
Mike Fogarty – Old Mill Creek
Roger Baske – Old Mill Creek
Jennifer Andrew – Old Mill Creek
Al Maiden – Old Mill Creek (RCCA/Manhard Consulting)
Yamin Yamin – Old Mill Creek (James Anderson Co.)
Paula Trigg – LCDOT
John Baczek – IDOT
Brian Carlson – IDOT
Terry Heffron – IDOT
Marie Glynn – IDOT
Ryan Westrom – Patrick Engineering Inc.
Mike Matkovic – Christopher B. Burke Engineering Ltd.

The purpose of this meeting was to provide an overall project status update to the Village of Old Mill Creek with respect to ongoing engineering and environmental studies for the U.S. Route 45 project from IL 132 to IL 173 and the Millburn Bypass and to discuss Public Hearing preparations.

Documents Distributed at Meeting

- Meeting Agenda. A copy of the agenda and the meeting sign-in sheet is attached.
- Preliminary proposed roadway plans, profiles, and cross sections for the full limits (IL 132 to IL 173). The Village requested three additional review sets, which will be mailed separately.
- Noise Report
- Local Cost Participation Items
- IDOT Guidance on Local Cost Participation (Exhibit A)

The following provides a summary of the discussion and any resulting action items.



U.S. Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

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**Illinois Department of Transportation
Lake County Division of Transportation**

**Old Mill Creek Coordination
Meeting Summary**

Agency Coordination (IDOT and LCDOT)

It was discussed that IDOT will lead the remaining portion of Phase I (engineering and environmental studies), Phase II (contract plan preparation and land acquisition), and Phase III (construction of the Millburn Bypass). For the sections north and south of the bypass, there is no funding for Phase II or III.

LCDOT staff will remain involved with the project through completion of the Phase I study. It was pointed out that while LCDOT has been the lead agency for this project since 2009, IDOT has been actively involved throughout the project development process, along with FHWA, as members of the Project Study Group.

West Bypass Selection

The Village asked if the decision on the West Bypass is final. It was confirmed that the Project Study Group (IDOT and LCDOT in coordination with FHWA) has selected the west bypass Alternative A4 as the preferred alternative. This was discussed with the Community Advisory Group (CAG) at the meeting in July 2011. The proposed improvement plans for the preferred west bypass alternative will be presented at the upcoming Public Hearing.

Environmental Assessment

The Environmental Assessment (EA) being prepared for the project has been reviewed on multiple occasions by IDOT and FHWA, and is nearing approval. The Public Hearing will be scheduled following FHWA approval of the EA. The EA addresses the planned improvements associated with the Millburn Bypass, but also likely future improvements north and south of the bypass in between IL 132 and IL 173, establishing the environmental footprint (i.e., right-of-way footprint) for these areas. This was required by FHWA based on logical termini requirements per federal project development procedures.

Roadway Plans (Millburn Bypass Area)

The typical roadway cross section from IL 132 to IL 173 includes two travel lanes in each direction separated by a 22 foot wide barrier-curb median. Accommodations for a 10 foot wide multi-use path along the west side of U.S. Route 45 and 5 feet wide sidewalk along the east side of U.S. Route 45 are included in the plans for the entire limits from IL 132 to IL 173, as well as along major side streets such as Grass Lake Road and Sand Lake Road.

The preliminary roadway plan and profile sheets have been developed in detail for the Millburn Bypass from approximately Country Place to Independence Boulevard and at a more conceptual level north and south of the west bypass.

The plans include retaining the Independence Boulevard pavement in between the bypass and existing U.S. Route 45 and providing a four-leg intersection at this location, which will allow southbound left turns from the bypass at Independence Boulevard. Independence Boulevard will have stop signs at the new bypass intersection. Similarly, it



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was explained that the intersection of existing U.S. Route 45 and realigned Grass Lake Road/Millburn Road will not have a traffic signal, but will have stop signs on the north and south legs of this intersection.

It was discussed that proposed drainage plans and a Location Drainage Study (LDS) report are being prepared for the Millburn Bypass project. Both are currently under review by IDOT. When IDOT completes their review, a coordination meeting will be requested with the Village of Old Mill Creek to review the proposed drainage plans for the bypass. It is anticipated that this meeting will occur in advance of the Public Hearing. The proposed plans also include designated areas for storm water detention and implementation of water quality Best Management Practices (BMPs) for the full EA limits including the bypass area.

Roadway Plans (North and South of the Bypass Area)

The preliminary roadway plan and profile sheets have been developed at a conceptual level north and south of the west bypass.

Minor alignment shifts have been incorporated in the likely improvement plans north and south of the bypass to minimize impacts to developed properties south of Sand Lake Road, and additional forest preserve properties (Raven Glen and Ethel Woods) north of Miller Road.

IDOT has a separate ongoing Phase I study that will look at detailed roadway plans north and south of the bypass that is ongoing. Additional coordination with the Village of Old Mill Creek will occur as part of the separate IDOT Phase I study as those detailed plans north and south of the bypass area advance.

The proposed drainage plans for U.S. Route 45 north and south of the bypass are being prepared as part of the separate IDOT Phase I study, for which coordination with the Village of Old Mill Creek will also occur at a future date, sometime after the Public Hearing for the current study.

Noise Analysis Results

The results of the traffic noise analysis for the full EA limits including the Millburn Bypass were discussed. Two copies were provided to the Village of Old Mill Creek. The analysis was based on the proposed roadway improvements assumed to be in place with projected year 2040 traffic levels. Specifically for the bypass area, there are properties that will see a reduction in traffic noise such as properties adjacent to existing U.S. Route 45, and properties that will see an increase in traffic noise such as the closest residences within the Forest Trail and Heritage Trails subdivisions. The change in traffic noise levels predicted for year 2040 conditions within the bypass area ranges from -12 to +14 dB(A). Outside of the bypass area, the change in traffic noise levels ranges from 0 to 5 dB(A).

In areas where traffic noise will increase and approach or exceed the Noise Abatement Criteria level (NAC) of 67 decibels or dB(A), the benefits of noise abatement walls in accordance with IDOT and FHWA requirements were evaluated. There are locations where a noise abatement wall meets the dB(A) requirements but will not work due to



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openings for access roads such as along Haven Lane to the west. In other locations, such as along Haven Lane to the east and along the Heritage Trails subdivision, there are not enough residences that would benefit from a noise abatement wall (minimum 5 dB(A) reduction in traffic noise levels) to meet the IDOT and FHWA allowable cost per benefitted receptor criteria. On this basis, noise abatement walls will not be constructed along the bypass or other locations along U.S. Route 45 within the full EA limits.

The offset distances of approximately 90 feet to 150 feet from the proposed bypass (west curb line) to the closest residences within the Heritage Trails subdivision, was a primary factor in these results. While the nearest residences will experience an increase in traffic noise levels, there are, as noted, not enough residences that would benefit from a noise abatement wall such that the cost per benefitted receptor criteria would be met.

The traffic noise analysis was prepared in accordance with the IDOT Highway Traffic Noise Abatement Manual (HTNAM) that is available on the IDOT website (<http://www.dot.il.gov/environment/HTNAMManual.pdf>). As noted in the HTNAM, it was discussed that a change of 3 dB(A) is a barely perceivable change in noise, while an increase of 10 dB(A) is perceived as being twice as loud.

The Village was referred to Table 1-3 (Common Sound Levels) within the HTNAM (copy attached) which provides a point of reference to common sound levels. The highest traffic noise levels anticipated for year 2040 conditions within the IL 132 to IL 173 corridor, including along the bypass, are 68 to 69 dB(A). As shown in Table 1-3, this is comparable to normal speech at a distance of three feet, and considerably less, for instance, than a gas lawnmower at 100 feet.

It was indicated that the cost of noise walls is based on a \$25 per square foot cost and that 3rd party cost participation to achieve the cost per benefitted receptor criteria is not allowed as part of the project per IDOT and FHWA policy.

Village Comments Regarding Noise Analysis

The Village inquired about providing an area within the U.S. Route 45 right-of-way for the Village to potentially construct noise abatement walls as part of potential future developments. IDOT indicated that the preference would be to plan future developments to be compatible with predicted traffic noise levels which was the topic of the June 28th letter mailed to the Village (additional copy was provided to the Village). This would include appropriate offsets from the highway right-of-way.

If noise abatement is desired by the Village as part of future developments, whether in the form of berms or noise abatement walls, IDOT's preference would be to provide it off of the highway right-of-way on private property. The Village could also approach IDOT in the future for a permit to construct noise abatement walls within the U.S. Route 45 right-of-way at 100% Village cost and maintenance responsibility. In general, and contingent upon the specific location and associated topography, noise abatement walls could be considered near the right-of-way line, although additional easements may be required for Village maintenance, and other potential issues such as drainage and utility impacts would need to be resolved.



U.S. Route 45

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Visual Buffering

Opportunities for visual buffering along the project were discussed. This would include planting of trees/shrubs focused in certain areas in accordance with IDOT's tree replacement policy to provide a visual buffer. This would not provide noise abatement, but would block line of sight from residences to the roadway. Along the Heritage Trails subdivision, there is already a considerable amount of vegetation (trees/shrubs) in the area in between the proposed bypass and the subdivision. Along the Forest Trail subdivision, there is very limited opportunity to include plantings within the right-of-way previously purchased for this project by the State of Illinois. However, 20 feet wide landscape easements adjacent to the highway right-of-way were included in the subdivisions plats. Additional plantings will be considered in these areas to provide some further visual buffering.

Jurisdictional Transfer (State Highway)

Discussion occurred regarding the potential jurisdictional transfer (JT) of existing IDOT-owned U.S. Route 45 to the Village of Old Mill Creek within the limits of the bypass. IDOT explained to the Village the process to JT a roadway to a community. In general terms, the present worth value of the roadway and right-of-way will be calculated and offered to the Village as a one-time payment in exchange for the jurisdictional transfer, which would be expected to occur after completion of construction and the new bypass roadway is open to traffic. The jurisdictional transfer would mean that the roadway would become a Village street with the U.S. Route 45 designation moved to the bypass, and that the Village would have complete operational (stop signs, speed limits, trucks, etc.) and maintenance jurisdiction and responsibility for the roadway in perpetuity, with the condition that the roadway remain in public use.

If pursued, the JT requirements would be spelled out in forthcoming correspondence from IDOT after the present worth calculations are completed. IDOT would also provide typical future roadway maintenance costs that the Village could expect.

Based on information available, it is unclear if the Village of Lindenhurst boundary extends across existing U.S. Route 45 at the Independence Boulevard intersection. The Village of Old Mill Creek will review their record annexation agreement in this regard and inform IDOT and LCDOT accordingly. IDOT maintenance staff needs to access the highway system from their own roadways. If a remnant parcel exists, IDOT may not be in a position to do the JT. If necessary, a de-annexation from Lindenhurst in order to transfer complete jurisdiction of U.S. Route 45 to the Village of Old Mill Creek may be necessary to facilitate the JT.

Jurisdictional Transfer (County Highway)

Discussion then turned to the LCDOT-owned existing Grass Lake Road, which the Village has also expressed interest in a jurisdictional transfer. LCDOT noted that they would be open to such a transfer, however would not provide a payment as does IDOT. Discussion in regards to whether this roadway portion could be abandoned ensued, with dialogue to continue. Discussion of potential future additional access points to the west



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bypass and/or the realigned Grass Lake Road near the new intersection between these roads also occurred. It was noted that any such future desired accesses could be applied for via a permit with IDOT or LCDOT, respectively. The Village will need to coordinate with the current landowners to achieve these developments.

Local Cost Participation

Potential Village cost participation and maintenance responsibility items were discussed. IDOT and LCDOT policy requires local agency cost participation and/or maintenance responsibility for items such as bike paths/sidewalks, roadway lighting, median landscape features, and utility relocations (if already within the highway right-of-way via permit).

Regarding bike paths/sidewalks, both IDOT and LCDOT policies indicate that the bike paths and sidewalks can be included with construction of the bypass project as long as the adjacent jurisdictional agency agrees to contribute 20% of the construction cost and agrees to maintenance responsibility. If not included with this project and the Village desired to construct them at a future date, the Village would be responsible for 100% of the cost and maintenance.

The Lake County Forest Preserve District (LCFPD) has expressed an interest in covering the local agency cost participation (20%) for the bike path along the west side of U.S. Route 45 and along the south side of Grass Lake Road west of U.S. Route 45, as part of the land acquisition process for this project. However, the LCFPD will only be able to maintain the bike path within the limits of the McDonald Woods Forest Preserve. The Village of Lindenhurst and/or the Village of Old Mill Creek will have to agree to maintain sections of the bike path outside the McDonald Woods boundaries in order for the bike path to be included with construction of the bypass.

The Village of Old Mill Creek was provided preliminary information on the approximate level of Village cost participation to provide sidewalk along the east side of U.S. Route 45 and south side of the realigned Grass Lake Road (east of the bypass), and bike path along the north side of realigned Grass Lake Road (east of the bypass) within the Village limits. The Village expressed interest in participating and agreeing to maintain these sections of sidewalk and bike path. **Post Meeting Note: IDOT confirmed that the Village can use their allocation of MFT funds to cover their 20% match for bicycle/pedestrian accommodations.**

The cost information will be updated prior to completion of the Phase I study and will be included in a Letter of Intent between the Village and IDOT. The Village indicated that they support landscaping within the median areas, but that they may not be able to maintain. It was discussed that the Village of Lindenhurst has expressed interest in median landscaping and potentially maintaining the median areas.

Continuous roadway lighting was briefly discussed, which would be a 100% village cost responsibility if desired. The Village does not like continuous roadway lighting, and does not plan to submit a request for lighting.



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Public Hearing

A brief overview of the upcoming Public Hearing was provided. The Public Hearing will feature the proposed improvement plan details for the proposed west Millburn Bypass. Information will also be presented regarding the likely future improvements to U.S. Route 45 north and south of the bypass area.

The Public Hearing is anticipated to be an open house type Public Hearing, which provides attendees the opportunity to come and view exhibits, ask questions, and submit comments at any time that suits their schedule.

The date has not been determined, but is anticipated to occur in late August or September, contingent upon completion of ongoing reviews by IDOT and FHWA. As soon as a date is selected the Village will be notified. The Public Hearing is anticipated to be held from 4 p.m. to 7 p.m. The location is anticipated to be Millburn School West.

A preliminary aerial fly-through visualization of the proposed Millburn Bypass improvements was shown. This visualization is anticipated to be available on the project website and shown at the Public Hearing to provide a better understanding of the proximity of the proposed bypass improvements and adjacent properties.

Other

The County inquired about an Old Mill Creek Zoning Exhibit for an east bypass alternative that is posted on the move45east.org website. The Village indicated that this exhibit was prepared as part of a previous "what if" exercise before the Project Study Group selected the preferred west bypass alternative, and that the Village supports the preferred west bypass alternative. The Village will provide a letter to IDOT and LCDOT stating this to ensure there is no misunderstanding in this regard.

The meeting concluded at approximately 3:15 p.m.

Meeting summary prepared by:

Mike Matkovic

Christopher B. Burke Engineering, Ltd.



U.S. Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

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Illinois Department of Transportation
Lake County Division of Transportation

Old Mill Creek Coordination
Meeting Summary

U.S. Route 45; IL Route 132 to IL Route 173 and Millburn Bypass

Village of Old Mill Creek Coordination Meeting
at LCDOT Libertyville Office
July 19, 2012 – 1:00 p.m.

MEETING AGENDA

- 1) Overall Project Status Update
 - a) Environmental Assessment (EA) development (IL 132 to IL 173 and Millburn Bypass)
 - b) Preliminary Roadway Plan and Profile development
 - i) Planned improvements for Millburn Bypass
 - ii) Likely Future Improvements north and south of the Bypass to establish environmental footprint for EA
 - *Detailed studies north and south of the Bypass are part of separate IDOT Phase I project*
 - iii) Distribute Bypass and Like Future Improvements plans
 - c) Drainage Plan development (Bypass only)
 - d) Engineering Design Report (DR) development (Bypass only)
- 2) Traffic Noise Analysis
 - a) Noise Abatement Walls do not meet IDOT and FHWA Criteria
 - b) Planning For Undeveloped Lands
- 3) Overview of the Proposed Improvement Plans
 - a) Planned Bypass Improvements
 - i) Independence Blvd. intersection
 - ii) Visualization of planned Bypass improvements with Projected 2040 Traffic Volumes
 - b) Likely Future Improvements north and south of Bypass for EA
- 4) Jurisdictional Transfer of existing US Route 45 (from IDOT) and Grass Lake Road (from LCDOT) to Old Mill Creek
- 5) Potential Village Cost/Maintenance Participation Items
 - (1) Sidewalk and Bike Path
 - (2) Roadway Lighting
 - (3) Median Landscaping and Maintenance
 - (4) Letter of Intent
- 6) Public Hearing Overview
 - a) Format and Content
 - b) Location and Timeframe



U.S. Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

Section No. 05-00262-02-RP

P-91-666-09

Illinois Department of Transportation
Lake County Division of Transportation

Old Mill Creek Coordination
Meeting Summary

U.S. ROUTE 45; IL 132 TO IL 173 AND MILLBURN BYPASS

VILLAGE OF OLD MILL CREEK COORDINATION MEETING

July 19, 2012

1:00 p.m. at LCDOT Office in Libertyville

SIGN-IN SHEET

	Name	Representing	Email
1	Ryan Westrom	Patrick Engineering	rwestrom@patrickco.com
2	MIKE MATKOVIC	CBBEL	MMATKOVIC@CBBEL.COM
3	Time Smith	Old Mill Creek	Time at Tempel Smith Co. LLC
4	Yamin Yamin	James Anderson Co. Old Mill Creek	YAYAMIN@JACOENGINEERS.COM
5	Milton Anderson	OMC Trustee	miltsee@aol.com
6	Mike Fogarty	Tempel Smith Trust	Fogarty326@aol.com
7	ROGER BASKE	OLD MILL CREEK TRUSTEE & PLANNING DIR.	vbecki@att.net
8	JOHN BACZEK	IL DOT	john.baczek@illinois.gov
9	AL Maiden	RCCA / Manhard Old Mill Creek	amaiden@rccai.com
10	Jennifer Andrew	Old Mill Creek	jennifer.andrew@me.com
11	Brian Carlson	IDOT - Prog Dev.	brian.carlson@illinois.gov
12	Terry Heffron	IDOT - Pgm Dev.	terrence.heffron@illinois.gov
13	Marie Glynn	IDOT Extension Staff/ CIBM Hill	marie.glynn@illinois.gov
14	PAULA TRIGGS	LCDOT	p.trigg@lakecounty.il.gov
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U.S. Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

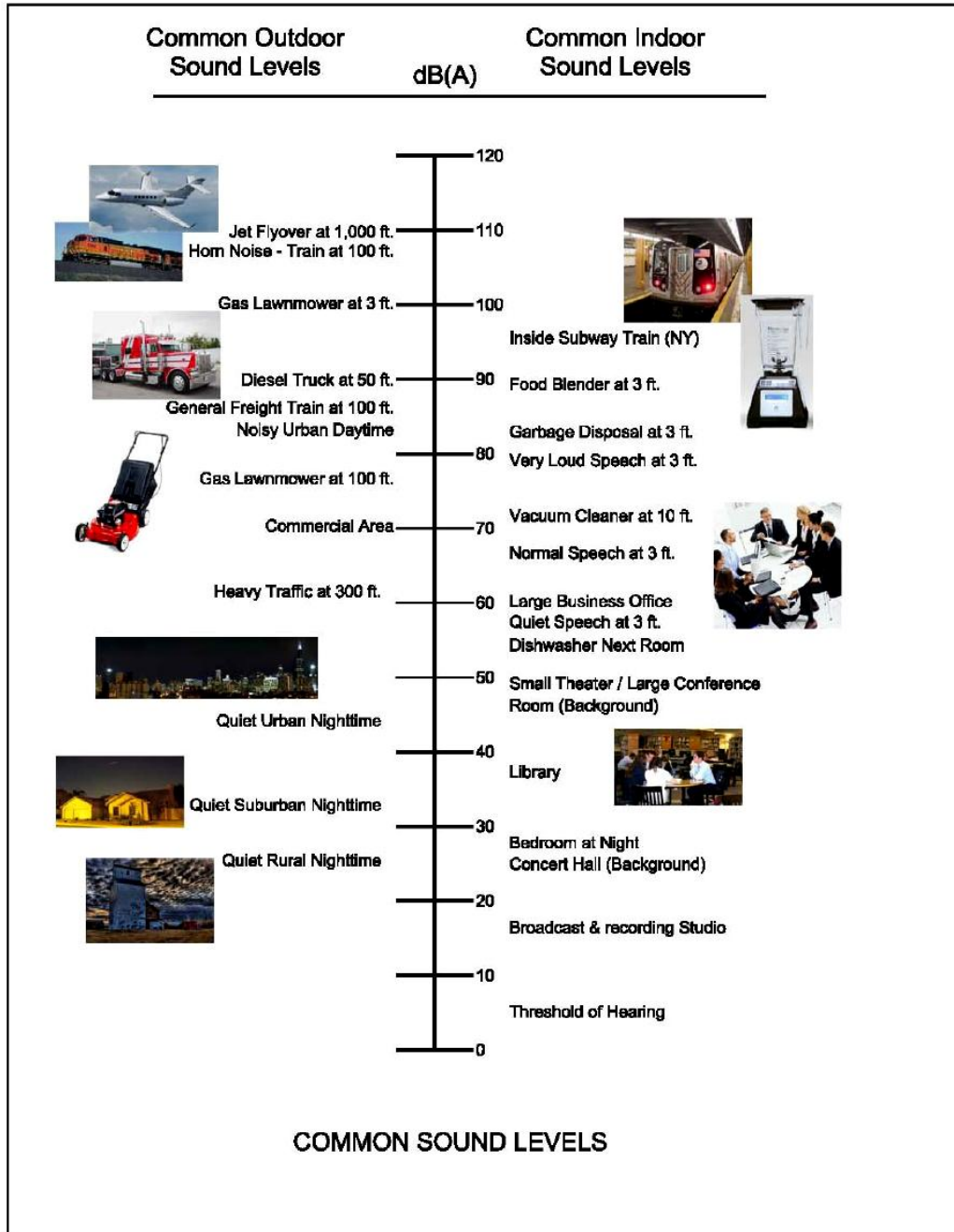
Section No. 05-00262-02-RP

P-91-666-09

Illinois Department of Transportation
Lake County Division of Transportation

Old Mill Creek Coordination
Meeting Summary

**TABLE 1-3
COMMON SOUND LEVELS**



COMMON SOUND LEVELS

U.S. Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

Section No. 05-00262-02-RP

P-91-666-09

**Illinois Department of Transportation
Lake County Division of Transportation**

**Drainage Coordination
Meeting Summary**

MEETING DATE: March 14, 2013

MEETING TIME: 8:30 a.m.

SUBJECT: Drainage Coordination Meeting

LOCATION: TSC International
39105 N. Magnetics Blvd., Wadsworth, IL

ATTENDEES: Tim Smith – Old Mill Creek
Larry Leffingwell - Old Mill Creek
Roger Baske – Old Mill Creek
Yamin Yamin – Old Mill Creek (James Anderson Co.)
Marie Glynn – IDOT
Lynn Hobbs – IDOT
Ilene Dailey - CBBEL
Matt Huffman – CBBEL

The purpose of this meeting is to discuss the proposed drainage plan for proposed improvements to U.S. Route 45 from Country Place on the south to north of Independence Boulevard (i.e. Millburn Bypass). The proposed drainage plan for U.S. Route 45 from IL Route 132 to Country Place (i.e. South Section) and north of Independence Boulevard to IL Route 173 (i.e. North Section) will be presented to Old Mill Creek when the proposed drainage plan is completed, which will be sometime later in 2013. The Public Hearing for U.S. Route 45 from IL Route 132 to IL Route 173 is on March 21, 2013 at Millburn West Middle School from 4:30 pm to 7:30 pm and will present the likely improvements for the South Section and North Section of U.S. Route 45, proposed improvements for the U.S. Route 45 Millburn Bypass, and the Environmental Assessment from IL Route 132 to IL Route 173. Currently funding has been established to move the Millburn Bypass forward to Phase II Engineering, land acquisition, and construction. The South Section and North Section are only funded through Phase I Engineering.

A general overview of the design for the Millburn Bypass was provided: U.S. Route 45 will be two lanes in each direction, with a 22 foot grassed median, barrier curb and gutter, space for a bike path on the west side, and space for a sidewalk on the east side. The proposed improvement on Grass Lake Road is one eastbound lane and two westbound lanes with left and right turn lanes are intersections, barrier curb and gutter, and space for bike path and sidewalk. There will be one signalized intersection at the U.S. Route 45 Bypass and re-aligned Grass Lake Road; the existing signals will be removed.



U.S. Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

Section No. 05-00262-02-RP

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**Drainage Coordination
Meeting Summary**

The general drainage design consists of capturing all roadway drainage in a storm sewer system along U.S. Route 45 and Grass Lake Road, which is a design feature of using barrier curb and gutter. A series of three detention basins are located at the south, middle, and north ends of the U.S. Route 45 Bypass. The proposed storm sewer systems drain to the proposed detention basins. The detention basins are designed to contain the 100 year, 24 hour critical storm duration from the IDOT right-of-way and release the runoff at a prescribed rate set by the Lake County Stormwater Management Commission (LCSMC), subject to IDOT minimum restrictor sizes. The detention basins also act as Best Management Practice (BPM) design features, which help to naturally filter roadway storm water prior to being released to the natural drainage path. The detention basins are currently designed only detain water during a storm event and will not have continuous standing water. Drainage ditches will be located on the outside of the roadway where the existing ground drains towards the roadway. Cross road culverts will be provided separately from the proposed storm sewers to maintain existing off site drainage patterns.

The south detention basin at Country Place collects the runoff from U.S. Route 45, south of the intersection of the U.S. Route 45 Bypass and existing U.S. Route 45. Old Mill Creek indicated that the location of this detention basin prohibits a future east leg of the Country Place intersection. Preliminary subdivision development plans were disclosed to the project team, which show an east leg at Country Place. The planned development is east of U.S. Route 45 from Country Place south to Stearns School Road. The project team requested copies of the development plans. The location of the south detention basins will be investigated further to understand all possible locations to be compatible with a future east leg of the Country Place intersection. Old Mill Creek also shared some flooding and debris concerns resulting from the culvert(s) near Country Place from the development to the west.

The middle detention basin is located east of the U.S. Route 45 bypass on the acquired Lake County Forest Preserve District (LCFPD) property. This basin contains roadway storm runoff from Grass Lake Road and the U.S. Route 45 Bypass south of Independence Boulevard. Roadway runoff north of the Tributary to Millburn Creek (Tributary) was able to be piped under the Tributary to utilize already acquired property and eliminate the need for an additional detention basin at the Grass Lake Road intersection. Roadway storm runoff, south of Millburn Creek, is piped over Millburn Creek and above the three sided structure to minimize the size of the south detention basin.

The north detention basin is located on existing Route 45 right-of-way and a remnant parcel that is being purchased. This detention basin contains storm runoff of U.S. Route 45 Bypass north of Independence Boulevard.

Old Mill Creek shared that they would like to understand the possibilities of the detention basins in regards to the design (i.e. side slopes) and aesthetics. They indicated they



U.S. Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

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Lake County Division of Transportation**

**Drainage Coordination
Meeting Summary**

would prefer the detention basins to be wet bottomed. Discussions occurred if the roadway detention was shared with future private development detention basins. IDOT indicated that this is not preferred and other options would be explored prior to pursuing shared facilities. The project team committed to looking into various detention basin design possibilities and reporting back to Old Mill Creek. Old Mill Creek stated they would like to limit detention along U.S. Route 45 to limit impacts to future potential commercial developments.

Other topics were discussed outside of the proposed drainage design of the U.S. Route 45 Bypass. These topics include the jurisdictional transfer of old U.S. Route 45 and old Grass Lake Road, detailed design of the South Section of U.S. Route 45 with respect to future development to the east of U.S. Route 45, and other concerns of detention facility locations in the South Section of U.S. Route 45. The project team indicated that future meetings will be set up to present the detailed design plans for the South and North Sections of U.S. Route 45. Comments will be solicited until April 8th, 2013 for the Millburn Bypass and the likely improvements to U.S. Route 45 for the North and South Sections.

Old Mill Creek provided a development schematic around the new U.S. Route 45 Bypass and realigned Grass Lake Road intersection. The project team requested design plans for future developments along the U.S. Route 45 corridor.

The meeting concluded at approximately 9:45 p.m.

Meeting summary prepared by:

Matt Huffman

Christopher B. Burke Engineering, Ltd.



U.S. Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

Section No. 05-00262-02-RP

P-91-666-09

Illinois Department of Transportation
Lake County Division of Transportation

Drainage Coordination
Meeting Summary



**Illinois Department
of Transportation**

Attendance Roster

Bureau: Programming Section: Hydraulics

Project/Topic: US 45 Millburn Bypass

Date: 3/14/2013

Time: 8:30 a.m.

Location: _____

	Attendees	Representing	Phone Number	Email Address
1.	Lynn Hobbs	IDOT Hydraulics	(847) 705-4782	lynn.hobbs@illinois.gov
2.	Tom Smith	OMC	347-840-8309	
3.	Laurie W. Keffly	OMC		LWLschap@Aul
4.	YAMIN YAMIN	OMC / James Anderson Co.	847-295-3322	YAYAMIN@
5.	ROGER BASKE	OMC	847-912-2667	JACO ENGINEERS, Co vbe.cmi@att.net
6.	MARIE GLYNN	IDOT	847-705-4073	marie.glynn@illinois.gov
7.	Irene Dailey	CBBEL	847-823-0500	idailey@cbbel.com
8.	Matt Hoffman	CBBEL	847-823-0500	M.Hoffman@cbbel.com
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U.S. Route 45

IL Route 132 to IL Route 173

Section No. 05-00262-02-RP

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Illinois Department of Transportation

**Drainage Coordination
Meeting Summary**

MEETING DATE: November 3, 2014

MEETING TIME: 2:00 p.m.

SUBJECT: Drainage Coordination Meeting

LOCATION: Village of Old Mill Creek – Village Hall
40870 Hunt Club Road, Old Mill Creek, IL

ATTENDEES: Tim Smith – Village of Old Mill Creek
Larry Leffingwell – Village of Old Mill Creek
Roger Baske – Village of Old Mill Creek
Yamin Yamin – James Anderson Company (Village Engineer)
Marie Glynn – IDOT
Lynn Hobbs – IDOT
Ilene Dailey - CBBEL
Matt Huffman – CBBEL

The purpose of this meeting was to discuss the proposed drainage plan for the U.S. Route 45 project from IL 132 to IL 173 Phase I Study, excluding the Millburn Bypass which was completed in 2013. A public hearing was held in March 2013 for the entire EA project limits from IL 132 to IL 173 which showed preliminary geometrics, detention facilities, and environmental footprint. An Environmental Assessment was prepared for the project and received a Finding of No Significant Impact (FONSI) in September 2013. The sections of U.S. Route 45 from 1000 feet north of IL 132 to Country Place (South Section), and 600 feet north of Independence Boulevard to 1,500 feet north of IL Route 173 (North Section) are currently in the process of completing Phase I Engineering and the subject of discussion for the meeting. The South and North Sections are currently funded only for Phase I Engineering. The Millburn Bypass is currently in Phase II Engineering and is programmed for construction.

A general overview of the design for the U.S. Route 45 project was provided. U.S. Route 45 will be two lanes in each direction, with a 22 foot grassed median, barrier curb and gutter, closed drainage system, space for a ten foot hot mix asphalt bike path on the west side, and space for a five foot sidewalk on the east side. The conceptual drainage design consists of storm sewer systems which typically drain all roadway pavement to detention facilities prior to release to the natural course of drainage. Any offsite tributary areas draining towards the roadway are controlled via ditches and conveyed via roadway cross culverts to maintain existing drainage patterns. The detention basins are designed per IDOT standards and typically provide the volume required to detain the 100-year critical storm duration runoff for added impervious area and release it at the 10-year existing rate. Per IDOT policy, detention facilities for roadway purposes must be independent from other adjacent detention facilities; no sharing of detention is typically



U.S. Route 45

IL Route 132 to IL Route 173

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**Drainage Coordination
Meeting Summary**

permitted, however this discussion could be brought to IDOT for consideration. The detention basins also act as Best Management Practice (BMP) design features, which help to naturally filter roadway storm water prior to releasing into the natural drainage path. All basins are planned to retain approximately 6 inches of water below the outlet elevation to promote growth of various vegetation and wetland characteristics. The preliminary detention design shown in the Phase I plans assumes standard side slopes (3:1) and shapes. Refinements to the basin including overall shape, variable side slopes, bottom elevations, are performed as part of Phase II engineering. The Village's request to improve aesthetics and layout of the basins will be noted in the Combined Design Report narrative under the Special Design and Construction Considerations section.

A presentation of the proposed drainage design was made starting at the southern limit and progressing north. An exhibit was distributed, which shows the existing drainage crossing locations and culvert sizes, as well as the municipal and township boundaries. The Village of Old Mill Creek has jurisdiction east of U.S. Route 45 for almost the entire South Section, and has jurisdiction on the west and east sides of US 45 through portions of the North Section. Specifically, the Village of Old Mill Creek municipal limits start approximately 300 feet south of Falling Waters Drive and east of U.S. Route 45 and extend north to Kelly Road. An exhibit was distributed, which shows the existing drainage crossing locations and culvert sizes.

Proposed drainage for the South Section which extends from 1,000 feet north of the IL Route 132 intersection to Country Place was discussed. For reference, the IL 132 intersection was evaluated as part of a separate IDOT project to widen U.S. Route 45 south to IL Route 176. Near Country Place, the South Section would connect into the Millburn Bypass which is under Phase II design and currently funded for construction. A short segment of the Millburn Bypass project would be modified to tie to the proposed four lane section (instead of existing two lanes). Improvements to Sand Lake Road and Stearns School Road are included with this project resulting from the intersection improvement at U.S. Route 45.

The Village of Old Mill Creek stated that they prefer wet bottom detention facilities and agree with the positive aspects of infiltrating water prior to discharge to the natural course of drainage. One exception was the proposed detention basin at the north end of the Millburn Bypass, which the Village Roadway Commissioner suggested should be an open water basin. Water quality was a concern to the Village. The Village also expressed desire to make the detention facilities fit in with the surrounding land and have varying side slopes. It was asked if detention facilities can be provided away from the U.S. Route 45 frontage. IDOT Bureau of Hydraulics representative stated that the detention facilities are typically within IDOT right-of-way and access would be needed. The Village expressed a desire to continue discussion of the detention basin design and location to understand if there were opportunities for IDOT to deviate from their standard practice. There is the possibility that the some detention basins could be reduced or eliminated if oversized ditches could be implemented, however additional right-of-way



U.S. Route 45

IL Route 132 to IL Route 173

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**Drainage Coordination
Meeting Summary**

(strip takes) would likely be needed from adjacent properties. There is also some uncertainty if this is feasible and further investigation would be needed.

The drainage design for the southern section does not involve any flood plains or floodways. Subsequently no hydraulic reports were required for any of the drainage crossings per IDOT standards. There are eight existing cross road culverts and six proposed detention facilities. All existing culverts are being removed and replaced, with exceptions of the culvert of Dodge School Creek under Stearns School Road and the culvert at Station 104+80, which are extended. All detention basins are located in open space and there are no impacts to existing structures. Dodge School Creek crosses under U.S. Route 45 south of Falling Waters (Sta. 69+00) and the Tributary to Dodge School Creek crosses U.S. Route 45 just north of Sand Lake Road (Sta. 83+50). Dodge School Creek crosses Stearns School Road (Sta. 6+50) and converges with the Tributary, and then flows east to North Mill Creek. The Tributary to Dodge School Creek currently flows through a roadside ditch, which is re-located with the improvement adjacent to the proposed bike path. The Old Mill Creek President suggested that in a previous intersection improvement, alternate design for this Tributary should have been considered. Sand Lake Road and Stearns School Road, both LCDOT jurisdiction facilities, drain from west to east and have proposed storm sewer systems to collect pavement drainage. A small portion of Stearns School Road does not drain to a detention facility and releases to a vegetated ditch for water quality benefit prior to discharging to Dodge School Creek. The proposed detention basins upstream of Stearns School Road are sized to provide the IDOT required volume for the roadway improvements.

Discussion occurred regarding the drainage design of the South Section. The Village currently has a planned residential and commercial development east of U.S. Route 45 from Stearns School Road to Country Place. There was concern of the compatibility of the proposed drainage plan with the planned development, mostly with the placement of the detention facilities. Old Mill Creek objected to the location of detention basins 3.1 and 3.2 across from Falling Waters Drive, which could prohibit future roadway access east. Objections were raised over the location of detention basin 7, which is located 350 feet north of Stearns School Road on land currently planned for commercial land use. The proximity of this detention basin to the intersection of Sand Lake/Stearns School Road and U.S. Route 45 is an issue because this is a prime commercial real estate location for the Village. It was suggested that basin 7 be moved to the west side of U.S. Route 45 within vacant land.

There was some discussion regarding the Millburn Bypass improvements, schedule, and status of Phase II engineering and right-of-way acquisition. The overall improvement was discussed, including geometric tie-ins, forecast traffic along existing US 45, and intersection traffic control.



U.S. Route 45

IL Route 132 to IL Route 173

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**Drainage Coordination
Meeting Summary**

The presentation and comments for the proposed drainage design of the North Section (extends from the approximately 600 feet north of Independence Boulevard, to north of IL Route 173) focused on areas within the Village of Old Mill Creek's jurisdictional boundaries. A portion of the Millburn Bypass project will need to be widened to accommodate the proposed typical section. The drainage design for this portion of the North Section involves two cross road culverts and two proposed detention basins. The two culverts will be replaced with the project. Detention basin 14 is located within Village of Old Mill Creek municipal limits. All existing culverts are proposed to be removed and replaced. It was noted that the proposed right-of-way will be modified on the plans displayed where previously proposed detention facilities were located; the right-of-way will be adjusted where detention basins were removed as the design is refined.

Additional, non-drainage topics were also discussed. As previously relayed, IDOT requires local agencies whose jurisdiction is adjacent to the roadway to cost participate (80/20) and maintain any pedestrian or multi-use facilities that they agree to have constructed in their jurisdiction. If they choose to not cost participate, a shelf will be provided, and the municipality would be responsible for 100 percent of the cost and maintenance of these facilities if implemented in the future. Along US 45, a multi-use trail is proposed along the west side, and a sidewalk on the east. Along Grass Lake Road, a multi-use trail is proposed on the south side from McDonalds Woods to the US 45 west bypass, and along the north side from the US 45 west bypass to existing US 45. Sidewalks are proposed along the north side of Grass Lake Road from Heritage Drive to the US 45 west bypass, and along the south side from the west bypass to existing US 45. The LCFPD has offered to participate in the local cost participation for the bicycle path along the US 45 west bypass from Mc Donald Woods (future east entrance to forest preserve along US 45 west bypass) to Raven Glen. The local communities would continue to be responsible for maintaining the multi-use trail within their jurisdiction, and not LCFPD. All other locations would require cost participation from local municipalities or townships. The Village will be receiving a Letter of Intent to communicate the location and cost share of the pedestrian and bicycle facilities. In some instances a local agency may opt not to cost participate, but another local agency could step in and fulfill the local cost obligations for construction of the sidewalk or bike path with the project.

The jurisdictional transfer of Old U.S. Route 45 within the Millburn Bypass project was discussed. The IDOT Project Manager indicated that IDOT is in the process of preparing a Letter of Intent identifying local cost participation items. At that time the Village can respond with their comments. Some concerns were raised regarding the jurisdictional transfer and liability regarding ADA standards.

The Village requested that the design team work with the proposed subdivision land planner and engineer to look at alternate detention facility locations. IDOT requested PDFs of any approved development plans for review before further meetings are held, and stated that drainage comments could be sent via e-mail to the IDOT Project



U.S. Route 45

IL Route 132 to IL Route 173

Section No. 05-00262-02-RP

P-91-666-09

Illinois Department of Transportation

Drainage Coordination Meeting Summary

Manager or by letter to the Bureau of Hydraulic Unit Head, Rick Wojcik (cc. Lynn Hobbs and Marie Glynn).

The Village is not aware of any roadway flooding complaints along existing US 45 or crossroads. A full size set of the proposed drainage plans and half size sets of the existing and proposed drainage plans were left with the Village. PDFs of the plans will be emailed to meeting attendees for comment subsequent to the meeting.

The meeting concluded at approximately 4:00 p.m.

Meeting summary prepared by:

Matt Huffman - Christopher B. Burke Engineering, Ltd.





Attendance Roster

Bureau: Programming Section: Hydraulics
 Project/Topic: US Route 45 - IL 132 to IL 173 (Excluding Millburn Bypass) Drainage Coordinating Meeting
Village of Old Mill Creek
 Date: November 3, 2014
 Time: 2:00 p.m.
 Location: Village of Old Mill Creek

	Attendees	Representing	Phone Number	Email Address
1.	MATT HOFFMAN	CBBEL	847-823-0500	M.Hoffman@cbbel.com
2.	Ilene Dailay	CBBEL	"	idailay@cbbel.com
3.	Yamin Yamin	JACO	847-295-3322	YAYAMIN@JACO
4.	ROGER BASKE	OLD MILL CREEK	847-912-2667	vbeckie@str.net ENGINEERS.co
5.	Tim Saubert	DMC	847-840-5359	Tim.Saubert@tempco.com
6.	Lynn Hobbs	IDOT-Hydraulics	(847) 705-4782	lynn.hobbs@illinois.gov
7.	Marie Glynn	IDOT Programming CH2M Hill	(847) 705-4073	marie.glynn@illinois.gov
8.	Larry Loffignel	DMC		
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WARREN TOWNSHIP AND

LAKE VILLA TOWNSHIP

DRAINAGE COORDINATION MEETING 10/30/2014

U.S. Route 45

IL Route 132 to IL Route 173

Section No. 05-00262-02-RP

P-91-666-09

Illinois Department of Transportation

**Drainage Coordination
Meeting Summary**

MEETING DATE: October 30, 2014

MEETING TIME: 8:30 a.m.

SUBJECT: Drainage Coordination Meeting

LOCATION: Warren Township – Village Hall
17801 W. Washington St., Gurnee, IL

ATTENDEES: Gerald Rudd – Warren Township
Amy Sarver – Warren Township
Dan Venturi – Lake Villa Township
Marie Glynn – IDOT
Lynn Hobbs – IDOT
Ilene Dailey - CBBEL
Matt Huffman – CBBEL

The purpose of this meeting was to discuss the proposed drainage plan for the U.S. Route 45 project from IL 132 to IL 173 Phase I Study, excluding the Millburn Bypass which was completed in 2013. A public hearing was held in March 2013 for the entire EA project limits from IL 132 to IL 173 which showed preliminary geometrics, detention facilities, and environmental footprint. An Environmental Assessment was prepared for the project and received a Finding of No Significant Impact (FONSI) in September 2013. The sections of U.S. Route 45 from 1000 ft north of IL 132 to Country Place (South Section), and 600 feet north of Independence Boulevard to 1,500 feet north of IL Route 173 (North Section) are currently in the process of completing Phase I Engineering and the subject of discussion for the meeting. The South and North Sections are currently funded only for Phase I Engineering. The Millburn Bypass is currently in Phase II Engineering and is programmed for construction.

A general overview of the design for the U.S. Route 45 project was provided. U.S. Route 45 will be two lanes in each direction, with a 22 foot grassed median, barrier curb and gutter, closed drainage system, space for a ten foot hot mix asphalt bike path on the west side, and space for a five foot sidewalk on the east side. The conceptual drainage design consists of storm sewer systems which typically drain all roadway pavement to detention facilities prior to release to the natural course of drainage. Any offsite tributary areas draining towards the roadway are controlled via ditches and conveyed via roadway cross culverts to maintain existing drainage patterns. The detention basins are designed per IDOT standards and typically provide the volume required to detain the 100-year critical storm duration runoff for added impervious area and release it at the 10-year existing rate. Per IDOT policy, detention facilities for roadway purposes must be independent from other adjacent detention facilities; no sharing of detention is permitted. The detention basins also act as Best Management Practice (BMP) design features,



U.S. Route 45

IL Route 132 to IL Route 173

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**Drainage Coordination
Meeting Summary**

which help to naturally filter roadway storm water prior to being released to the natural drainage path. All basins are planned to detain approximately 6 inches of water below the outlet elevation to promote growth of various vegetation and wetland characteristics. The preliminary detention design shown in the Phase I plans assume standard side slopes (3:1) and shapes. Refinements to the basin including overall shape, variable side slopes, bottom elevations, are performed as part of Phase II engineering. These items will be noted in the Combined Design Report narrative under the Special Design and Construction Considerations section.

It was confirmed that Warren Township and Lake Villa Township are not aware of any pavement flooding conditions within the South or North Sections.

A presentation of the proposed drainage design was made starting at the southern limit and progressing north. An exhibit was distributed, which shows the existing drainage crossing locations and culvert sizes, as well as the municipal and township boundaries. Lake Villa Township is only involved with the very south part of the South Section and south part of the North Section west of U.S. Route 45. Warren Township has jurisdiction east of U.S. Route 45 south of Falling Waters Drive. Antioch Township has jurisdiction north of Kelly Road on both sides of U.S. Route 45.

The South Section extends from 1,000 feet north of the IL Route 132 intersection to Country Place. The IL 132 intersection was evaluated as part of a separate IDOT project to widen U.S. Route 45 south to IL Route 176. Near Country Place, this project would connect into the Millburn Bypass which is currently funded for construction. A short segment of the Millburn Bypass project would be modified to tie to the proposed four lane section (instead of existing two lanes). Improvements to Sand Lake Road and Stearns School Road are included with this project resulting from the intersection improvement at U.S. Route 45.

The drainage design for the southern section does not involve any flood plains or floodways. Subsequently no hydraulic reports were required for any of the drainage crossings per IDOT standards. There are eight existing cross road culverts and six proposed detention facilities. All existing culverts are being removed and replaced, with exception of the culvert of Dodge School Creek under Stearns School Road and the culvert at Station 104+80, which are extended. All detention basins are located in open space and there are no impacts to existing structures.

Dodge School Creek crosses under U.S. Route 45 south of Falling Waters (Sta. 69+00) and the Tributary to Dodge School Creek crosses U.S. Route 45 just north of Sand Lake Road (Sta. 83+50). Dodge School Creek crosses Stearns School Road (Sta. 6+50) and converges with the Tributary, and then flows east to North Mill Creek. The Tributary to Dodge School Creek currently flows through a roadside ditch, which is re-located with the improvement adjacent to the proposed bike path. Sand Lake Road and Stearns



U.S. Route 45

IL Route 132 to IL Route 173

Section No. 05-00262-02-RP

P-91-666-09

Illinois Department of Transportation

**Drainage Coordination
Meeting Summary**

School Road, both LCDOT jurisdiction facilities, drain from west to east and have proposed storm sewer systems to collect pavement drainage. A small portion of Stearns School Road does not drain to a detention facility and releases to a vegetated ditch for water quality benefit prior to discharging to Dodge School Creek. The proposed detention basins upstream of Stearns School Road are sized to provide the IDOT required volume for the roadway improvements.

The North Section was presented, starting from the south, which is the location of the north limit of the Millburn Bypass improvement approximately 600 feet north of Independence Boulevard, to north of IL Route 173, which includes the intersection. Improvements to Miller Road are included with this project resulting from the intersection improvement at U.S. Route 45. IDOT currently has an ongoing Phase I Study of IL Route 173 from IL Route 59 to U.S. Route 41. Coordination has occurred regarding the improvements of this project at the intersection of U.S. Route 45 with IL Route 173. A portion of the Millburn Bypass project will need to be widened to accommodate the proposed typical section. Discussion occurred regarding the recently constructed church at the southwest corner of the Kelly Road and U.S. Route 45 intersection. Currently the west leg of the Kelly Road intersection functions as an access road/driveway to three residential homes and provides construction access to the church parcel. The roadway lies within right-of-way dedicated for roadway purposes, which is split by a section line that is the boundary between Lake Villa Township and Antioch Township. The Village of Old Mill Creek annexed the church parcel into their Village. Discussion occurred regarding the maintenance of the west leg of the Kelly Road intersection, which Lake Villa Township indicated they do not maintain.

The drainage design for the northern section involves two major waterways, Hastings Creek and Tributary to Hastings Creek. Hastings Creek involves floodway and floodplain, while the Tributary to Hastings Creek only involves floodplain. Pavement flooding was reported at the Tributary to Hastings Creek and the proposed profile of the roadway was raised to meet IDOT's freeboard requirements. Hydraulic Reports were prepared for both waterways. There are seven roadway culverts and seven proposed detention facilities. All existing culverts are proposed to be removed and replaced. It was noted that the proposed right-of-way will be modified on the plans displayed where previously proposed detention facilities were located.

No comments were provided on the proposed drainage design during the meeting. Half size sets of the proposed drainage plans were left with the Townships and PDFs of the plans will be emailed to meeting attendees for comment subsequent to the meeting. It was stated that IDOT is aiming for Design Approval of the South Section by the end of this year and the North Section early in 2015, so comments are requested within three weeks.



U.S. Route 45

IL Route 132 to IL Route 173

Section No. 05-00262-02-RP

P-91-666-09

Illinois Department of Transportation

**Drainage Coordination
Meeting Summary**

Additional, non-drainage topics were also discussed. As previously relayed, IDOT requires local agencies whose jurisdiction is adjacent to the roadway to cost participate (80/20) and maintain any pedestrian or multi-use facilities that they agree to have constructed in their jurisdiction. If they choose to not cost participate, a shelf will be provided, and the municipality would be responsible for 100 percent of the cost and maintenance of these facilities if implemented in the future. Along US 45, a multi-use trail is proposed along the west side, and a sidewalk on the east. Along Grass Lake Road, a multi-use trail is proposed on the south side from McDonalds Woods to the US 45 west bypass, and along the north side from the US 45 west bypass to existing US 45. Sidewalks are proposed along the north side of Grass Lake Road from Heritage Drive to the US 45 west bypass, and along the south side from the west bypass to existing US 45. The LCFPD has offered to participate in the local cost participation for the bicycle path along the US 45 west bypass from McDonald Woods (future east entrance to forest preserve along US 45 west bypass) to Raven Glen. The local agencies would continue to be responsible for maintaining the multi-use trail within their jurisdiction, and not LCFPD. All other locations would require cost participation from local municipalities or townships. The Townships will be receiving a Letter of Intent to communicate the location and cost share of the pedestrian and bicycle facilities. In some instances a local agency may opt not to cost participate, but another local agency could step in and fulfill the local cost obligations for construction of the sidewalk or bike path with the project. Warren Township expressed no desire to construct the sidewalk along the east side of U.S. Route 45. Lake Villa Township indicated they may be interested in constructing the bike path along the west side of U.S. Route 45 within their jurisdiction.

The meeting concluded at approximately 9:30 a.m.

Meeting summary prepared by:

Matt Huffman - Christopher B. Burke Engineering, Ltd.





Attendance Roster

Bureau: Programming Section: Hydraulics
 Project/Topic: US Route 45 – IL 132 to IL 173 (Excluding Millburn Bypass) Drainage Coordinating Meeting
Warren Township / Lake Village Township / Antioch Township
 Date: October 30, 2014
 Time: 8:30 a.m.
 Location: Warren Township

	Attendees	Representing	Phone Number	Email Address
1.	MATT HUFFMAN	CBREL	847-823-0800	M.HUFFMAN@CBREL.COM
2.	Amy Sarrver	Warren Twp Hwy	847-244-1101	highway@warrentownship.net
3.	Gerald Rudd	"	"	"
4.	DAN VENTURA	LAKE VILL, TWP	847-356-2116	SUPERVISOR@LAKEVILLTOWNSHIP.IL.GOV
5.	Irene Dailley	CBREL	847-823-0800	idailley@cbrel.com
6.	Marie Glynn	IDOT Program Hill	847-705-4073	marie.glynn@illinois.gov
7.	Lynn Hobbs	IDOT - Hydraulics	(847) 705-4787	lynn.hobbs@illinois.gov
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LAKE COUNTY FOREST PRESERVE DISTRICT

INITIAL COORDINATION MEETING SUMMARY – 04/12/2010

PROJECT COORDINATION MEETING SUMMARY – 02/21/2011

**DE MINIMIS CONCURRENCE LETTER WITH RESPECT TO POTENTIAL
CONSTRUCTION ACTIVITIES WITHIN MCDONALD WOODS – 03/18/2011**

PROJECT COORDINATION MEETING SUMMARY – 10/19/2011

PROJECT UPDATE MEETING SUMMARY – 07/09/2012

**DE MINIMIS CONCURRENCE LETTER WITH RESPECT TO POTENTIAL
CONSTRUCTION ACTIVITIES WITHIN RAVEN GLEN FOREST PRESERVE –
05/20/2013**

DRAINAGE COORDINATION MEETING SUMMARY – 07/11/2013

DRAINAGE COORDINATION MEETING SUMMARY – 10/30/2014

**MILLENNIUM TRAIL U.S. ROUTE 45 UNDERPASS MEETING SUMMARY
– 09/06/2018**

DATE: April 14, 2010

TO: Attendees
Ryan Westrom – Patrick Engineering, Inc.
CBBEL Project File (08-0677)

FROM: Matt Huffman – CBBEL

MEETING DATE: April 12, 2010
TIME: 9:00 am

SUBJECT: Initial Coordination Meeting

LOCATION: Lake County Forest Preserve – Almond Road Office
Grayslake, Illinois

ATTENDEES: Andy Kimmel - LCFPD
Mike Fenelon - LCFPD
Chuck Gleason – LCDOT
Jarrod Cebulski – Patrick Engineering, Inc.
Mike Matkovic – CBBEL
Matt Huffman – CBBEL

An initial project coordination meeting with the Lake County Forest Preserve District (LCFPD) was held on April 12, 2010. The purpose of the meeting was to:

- introduce the US Route 45/Millburn Bypass project
- summarize the project and alternative development process's
- review the environmental analysis performed (GIS based) and preliminary results
- review the evaluation matrix content, relative comparison of alternatives, grading, and presentation
- discuss next steps
- provide an opportunity for LCFPD to comment on the project

The Lake County Division of Transportation (LCDOT) is the lead agency for the project, which includes improvements to US Route 45 in the vicinity of the intersections of Grass Lake Road and Millburn Road with US Route 45. An Environmental Assessment will be prepared from IL Route 132 north to IL Route 173 (i.e., logical termini). A Combined Design Report (i.e., detailed engineering) will be prepared to address area around the Grass Lake Road and Millburn Road intersections with US Route 45. This includes evaluating east bypass, west bypass, and on-alignment alternatives for US Route 45. This bypass location was previously studied by the Illinois Department of Transportation (IDOT) as part of the US Route 45 Strategic Regional Arterial (SRA) studies. In the mid 1990s, IDOT recorded a west



bypass alignment in this area, which was the consensus realignment choice based on coordination with local municipalities, the Lake County Board, the Lake County Forest Preserve District, and LCDOT.

The project kicked off in December 2008, followed by a public information meeting in February 2009, and formation of the Community Advisory Group (CAG). Based on information received from the CAG, a range of eighteen initial alternatives was developed, nine of which were later discarded based on LCDOT, IDOT, and CAG input. Andy Kimmel, a Lake County Forest Preserve employee, is a member of the CAG. Some of the reasons of dismissing alternatives were such things as not meeting the purpose and need of the project and impacts to historically significant buildings designed by IHPA.

The logical termini and purpose and need statement for the project have been approved by the Federal Highway Administration (FHWA), IDOT, and other resource agencies (as part of the National Environmental Policy Act [NEPA]/404 merger process). FHWA and the other resource agencies also agreed with the elimination of nine alternatives - leaving nine alternatives to be carried forward for further analysis. The nine remaining alternatives include three west bypass options, three US Route 45 on-alignment options, and three east bypass options.

Preliminary conceptual plan view drawings depicting the nine remaining alternatives were presented to LCFPD. Typical cross sections were also presented for US 45, Millburn Road, and Grass Lake Road. All alternative alignments have been preliminarily reviewed and are acceptable to LCDOT and IDOT. The alternative alignments used IDOT design criteria and tried to minimize impacts as much as possible. The "A" alternatives (west bypass) use the previously recorded IDOT alignment, which impacts the north east corner of McDonald Woods Forest Preserve with approximately 3.13 acres of impact. The alignment bisects a portion of McDonald Woods and creates a 7.61 acre remnant parcel. LCFPD indicated that this parcel will likely have to be acquired if an "A" alternative is selected as the preferred alternative. Moving the "A" alignment to limit impacts to McDonalds Woods would result in numerous residential impacts along with being inconsistent with the Lindenhurst Comprehensive Plan. ROW was preserved for the recorded west bypass alignment in certain locations during the last 15 years as Lindenhurst developed. CBBEL indicated that the 4f process will begin in the near future.

A draft impact evaluation matrix for the nine remaining alternatives was also presented to LCFPD. Matrix content, relative comparison of alternatives, grading, and presentation were discussed. The impact criteria listed on the matrix is based on NEPA/IDOT policy – consistent with topics that will be evaluated in the EA. Potential impacts were calculated using available GIS information and field collected data (as available). The impact matrix quantifies impacts within the proposed project right-of-way, which is typically a 130 foot corridor; all resources within this right-of-way



“footprint” were considered impacted. Avoidance of resources due to bridging (e.g., floodway) was not included at this point in the alternative evaluation process. The impact matrix will be presented at the next CAG meeting. CAG members will receive a packet of information prior to the upcoming CAG meeting. It is anticipated that this packet of information will include conceptual plan view drawings of the nine alternatives and the impact matrix.

CBBEL stated that the segments of US 45 outside the core study area (Millburn Bypass area) will be assessed and a general ROW footprint will be developed for determination of impacts for the Environmental Assessment. North of the core study area LCFPD has two forest preserves, Raven Glen and Ethel’s Woods. Through this section the west right of way will be held to minimize impacts to LCFPD property.

CBBEL explained that the Illinois Natural History Survey (INHS) completed wetland and biological surveys for this project. Cultural surveys are ongoing. IDOT – Bureau of Design and Environment (BDE) cleared this project with respect to biological resources; the Illinois Department of Natural Resources (IDNR) also terminated consultation with respect to state listed threatened and endangered species. At the request of the U.S. Fish and Wildlife Service (USFWS), INHS conducted searches for the Eastern Prairie Fringed Orchid (*Platanthera leucophaea*). INHS followed USFWS guidelines for evaluating Eastern Prairie Fringed Orchid habitat in northeastern Illinois with searches conducted on three non-consecutive days during the period between June 28 and July 11. No Eastern Prairie Fringed Orchids were identified during the field searches. CBBEL stated that INHS completed the wetland delineation for the study area and has been coordinated with Lake County Stormwater Management Commission (LCSMC). The INHS field identified wetlands are different from those that are mapped; there is more mapped wetland within the study area than identified by INHS.

LCFPD indicated that they are in the planning process of potential bike path options to connect McDonald Woods, Hastings Lake, Raven Glen, and Ethel’s Woods Forest Preserves. LCFPD will coordinate with the project team as the planning process develops. LCDOT indicated that pedestrian and bicycle accommodations will be incorporated in the project. Lindenhurst is currently working on pedestrian access from McDonald Woods to Oak Ridge Park and Wetzel Fields. LCFPD has coordinated with Lindenhurst, Old Mill Creek, and Tempel Farms.

CBBEL summarized the next steps for the project. These include finalizing the preliminary impact analysis of the nine remaining alternatives for the upcoming CAG meeting on April 27, 2010. It is anticipated that additional alternatives will be dropped following a review of the impact analysis and consideration of LCDOT, IDOT and CAG input. A public meeting to present the alternatives being carried forward is anticipated in Summer 2010. Tentatively, the project team anticipates a September 2010 NEPA/404 merger meeting to present the alternatives being carried forward for



detailed review and to obtain concurrence. Based on the current schedule, CBBEL anticipates Phase I completion in December 2011.

Action Items

- CBBEL to send LCFPD a full set of plans for their records

The meeting concluded at approximately 10:00 am.



US Route 45/Millburn Bypass
IL Route 132 to IL Route 173
Section No. 05-00262-02-RP
Lake County Division of Transportation

**2/21/2011 LCFPD
Meeting Minutes**

DATE: March 1, 2011

TO: Attendees
Marie Glynn – IDOT
Jarrod Cebulski – Patrick Engineering, Inc.
CBBEL Project File (08-0677)

FROM: Pete Knysz – CBBEL

MEETING DATE: February 21, 2011
TIME: 1:00 PM

SUBJECT: Coordination Meeting

LOCATION: Lake County Forest Preserve District Office
2000 N. Milwaukee Avenue
Libertyville, Illinois

ATTENDEES: Mike Fenelon – LCFPD
Tom Hahn – LCFPD
Andy Kimmel – LCFPD
Chuck Gleason – LCDOT
Paula Trigg – LCDOT
Pete Knysz – CBBEL
Mike Matkovic – CBBEL

On February 21, 2011, representatives from the Lake County Division of Transportation (LCDOT) and Christopher B. Burke Engineering, Ltd. (CBBEL) met with the Lake County Forest Preserve District (LCFPD) for a second US Route 45/Millburn Bypass coordination meeting. The purpose of the meeting was to:

- present the preliminary preferred bypass alternative
- discuss potential pedestrian/bicycle accommodations and connections
- discuss potential right-of-way (ROW) implications
- discuss *de minimis* impact determination versus Section 4(f) evaluation and coordination
- provide an opportunity for LCFPD to comment on the project
- discuss next steps

An Environmental Assessment (EA) is being prepared for proposed improvements to US Route 45 from IL Route 132 north to IL Route 173 (i.e., logical termini). LCDOT is the lead agency for the bypass portion of the project, which includes improvements in the vicinity of the intersections of Grass Lake Road and Millburn Road. The Illinois



CHRISTOPHER B. BURKE ENGINEERING, LTD.

9575 W Higgins Road, Suite 600 Rosemont, Illinois 60018-4920 Tel (847) 823-0500 Fax (847) 823-0520

Department of Transportation (IDOT) is the lead agency north and south of the bypass. CBBEL has been selected as the Phase I consultant for both the bypass and the IDOT portion of the project. IDOT does not have money programmed for Phase II north or south of the bypass. LCDOT anticipates construction of the bypass to begin in 2014.

LCDOT began the meeting by stating that they have selected Alternate A-1 as the preliminary preferred bypass alternative. A full-size preliminary conceptual plan view drawing of Alternate A-1 was provided to LCFPD for review and discussion. Alternate A-1 is the west bypass alternative without re-alignment of Millburn Road and Grass Lake Road. CBBEL explained that a preliminary review of Alternate A-1 was completed with respect to geometry, travel performance, etc., and was acceptable to LCDOT and IDOT. This bypass location was previously studied by IDOT as part of the US Route 45 Strategic Regional Arterial (SRA) studies. In the mid-1990s, IDOT recorded a west bypass alignment in this area, which was the consensus realignment choice based on coordination with local municipalities, the Lake County Board, the LCFPD, and LCDOT.

The selection of this preliminary preferred bypass alternative was guided by consultation with the Illinois Historic Preservation Agency (IHPA). Near the end of January 2011, IHPA provided IDOT with a letter stating that the Druce-Hoffman property located near the southwest corner of the existing US Route 45 and Grass Lake Road intersection should be considered an eligible historic property for purposes of Section 106 of the National Historic Preservation Act. The IHPA determination provided in the January 2011 letter was contrary to previous discussions between IDOT, LCDOT, and IHPA. The IHPA letter references a previous eligibility determination for the Druce-Hoffman property. In early February 2011, LCDOT requested copies of documents pertaining to the previous determination. As part of the NEPA process, IDOT and LCDOT are required to consider avoidance, minimization, and mitigation for potential impacts to historic properties. If avoidance is not possible, then a Section 4(f) evaluation and Section 106 Assessment would be required. At the current time, LCDOT intends to avoid the Druce-Hoffman property. The other two finalist alternatives, A-4 and C-4, both include realigning Grass Lake Road which would displace the Druce-Hoffman residence.

Alternate A-1 would impact approximately 3.1 acres at the northeast corner of McDonald Woods Forest Preserve. The impact would create a 7.6 acre remnant parcel on the east side of the proposed US Route 45 bypass. The project team suggested alternative uses for the remnant parcel, such as a stormwater management facility, parking, etc. LCFPD will consider options, but stated that using the remnant parcel for McDonald Woods parking was not desirable due to maintenance and safety concerns – the existing park entrance off of Grass Lake Road is sufficient. LCFPD indicated that this remnant parcel may need to be acquired by LCDOT as part of this project.



A US Route 45 typical cross section was presented to LCFPD. The typical cross section shows a 10 foot wide bike path on the west side of US Route 45, a sidewalk on the east, and a 22 foot wide median provided within an approximate 130 foot right-of-way (ROW), which may vary due to topography and final design requirements. The median treatment is yet to be determined (future discussion topic with the Community Advisory Group). In accordance with State and County requirements, the ROW width would accommodate pedestrian/bike facilities regardless of whether or not these facilities are supported at this time.

The discussion then focused on different pedestrian/bike facility options. LCFPD is interested in connecting several Lake County forest preserves through an integrated trail system, including connecting McDonald Woods with Raven Glen and Ethel's Woods to the north (also with other preserves located north of IL Route 173), extending the trail system east, and connecting with the newly acquired Mill Creek Forest Preserve to the southeast (adjacent to the north side of Stearns School Road). US Route 45 underpass/overpass options were discussed at two locations: (1) at the east end of McDonald Woods and (2) between Raven Glen and Ethel's Woods. Of the two options, LCFPD said that the underpass/overpass option between Raven Glen and Ethel's Woods was more desirable at this time – an additional option would be to provide an at-grade trail crossing with a stop light at Miller Road. LCDOT stated that the underpass north of McDonald Woods at Grass Lake Road is beyond the limits of this project and will not be funded by LCDOT as part of this project. The project team stated that there is limited space for pedestrian/bike accommodations within the existing ROW along Grass Lake Road and Millburn Road through the Millburn Historic District – a sidewalk (possibly 7 feet wide behind curb) is most likely the maximum that can be provided for pedestrian/bike accommodations along this portion of the corridor. LCFPD will provide additional input regarding potential trail alternatives/connections and their master plan.

Based on coordination with LCFPD (and IDNR), CBBEL understands that Open Space Lands Acquisition and Development (OSLAD) and Open Land Trust (OLT) funds were used for portions of Raven Glen and Ethel's Woods that are immediately adjacent to the project corridor. The project team intends to avoid permanent acquisition of the OSLAD and OLT funded parcels. CBBEL will confirm the funding sources and restrictions on these lands. The project team anticipates that ROW acquisition will be required at Raven's Glen to accommodate the widening of US Route 45 and avoid permanent ROW acquisition from the OLT lands at Ethel's Woods.

The project team explained that a Section 4(f) *de minimis* impact determination would be requested for this project. The SAFETEA-LU amendment to the Section 4(f) requirements allow a *de minimis* impact determination to be made when a project will not adversely affect the features, attributes, or activities that qualify the property for



protection under Section 4(f). A separate determination will be made for proposed impacts at McDonald Woods, Raven Glen, and/or Ethel's Woods, as necessary (with one public notice to be accomplished in conjunction with the project Public Hearing notice). LCFPD will consider and assess potential impacts/implications and get back to the project team regarding concurrence with a *de minimis* finding.

Next Steps

LCDOT stressed that concurrence of the preliminary preferred bypass alternative was still needed from IDOT, Federal Highway Administration (FHWA), and the NEPA/404 Merger meeting regulatory/resource agencies. LCDOT will request concurrence from IDOT and FHWA in early March 2011 and from the NEPA/404 Merger meeting agencies in June 2011. LCDOT recently discussed the preliminary preferred bypass alternative with the Villages of Old Mill Creek and Lindenhurst, and anticipates discussions with the Community Advisory Group (CAG) to take place on March 22, 2011 (tentative date). LCDOT would like to present the preliminary preferred bypass alternative to the CAG before it is made public.

An additional CAG meeting is anticipated in Fall 2011 before the Public Hearing, which is also anticipated this fall.

Action Items

- LCFPD to provide the project team with trail alternatives from McDonald Woods
- LCFPD to provide a copy of the Raven Glen Master Plan (pdf received February 21, 2011)
- LCFPD to consider *de minimis* finding for potential impacts to Section 4(f) lands
- CBBEL to confirm funding sources and associated restrictions associated with OLT funds

The meeting concluded at approximately 2:30 PM.





Martin G. Buehler, P.E.
Director of Transportation/County Engineer

600 West Winchester Road
Libertyville, Illinois 60048-1381
Phone (847) 377-7400
Fax (847) 984-5888

US Route 45
IL Route 132 to IL Route 173 and Millburn Bypass
Section No. 05-00262-02-RP
Lake County

March 18, 2011

Mr. Thomas E. Hahn
Executive Director
Lake County Forest Preserve District
2000 N. Milwaukee Ave.
Libertyville, IL 60048

Dear Mr. Hahn:

The Lake County Division of Transportation (LCDOT) is performing Phase I engineering and environmental studies for the realignment of US Route 45 near the Millburn Historic District. The purpose and need for this project is to alleviate daily traffic congestion along this section of US Route 45 which has reached unfavorable levels, with traffic volumes having increased more than 300% from 1974 to 2009. These conditions will continue to worsen based on the continuing growth in traffic volumes that is projected for this area, and the inability to improve existing US Route 45 through the Millburn Historic District, a National Register Location. These transportation issues and potential solutions have been discussed at two separate Public Meetings, four separate Community Advisory Group (CAG) meetings, and multiple meetings with the Illinois Department of Transportation (IDOT), the Federal Highway Administration (FHWA), and other environmental resource agencies. The result to date is that eighteen (18) initial potential solutions (ie.; alternatives) have been narrowed to three finalist alternatives.

The purpose of this letter is to request concurrence from the Lake County Forest Preserve District (LCFPD) with respect to potential construction activities with McDonald Woods as part of the subject project. As discussed at our meeting on February 21, 2011, two of the three finalist alternatives being considered include a west bypass of US Route 45, both of which would require approximately 3.13 acres of direct property acquisition from McDonald Woods for the roadway realignment, and potentially another 7.13 acres of property acquisition in the northeast corner of McDonald Woods for compensatory storage and/or stormwater detention.

The three finalist alternatives were presented at the Public Meeting for this project on September 2, 2010 which afforded people an opportunity to comment on the potential effects of the three finalist alternatives on McDonald Woods. Of the 300 people that signed in at the Public Meeting, 20 people submitted comments concerning the effect of this project on McDonald Woods. These comments are

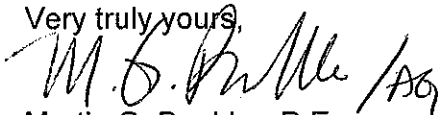
characterized as mostly related to preference for an east bypass or west bypass, and not specifically related to resulting adverse effects on the use or function of McDonald Woods.

As discussed at our meeting on February 21st, the west bypass alternatives are compatible with the results of the prior Millburn Bypass feasibility study by IDOT, and are compatible with a regional bike path system connecting McDonald Woods to Raven Glen and Ethel's Woods to the north via a bike path proposed along the west side of US Route 45. In addition, we have developed a concept plan for a bike path underpass just north of Miller Road as requested. This concept plan is attached for your review and comment. The LCDOT has taken the lead on applying for CMAQ funding for this underpass.

Based on our prior coordination, and contingent upon a west bypass emerging as a Preliminary Preferred Alternative, we intend to seek a "de minimis" impact finding from the Federal Highway Administration based on this project not adversely affecting the features, attributes, or activities that qualify this property for protection under Section 4(f) of the U.S. Department of Transportation Act of 1966. In this regard, we are requesting written concurrence from the LCFPD that a west bypass will not adversely affect the overall recreational activities, features and attributes of McDonald Woods, and as such LCFPD would concur with a "de minimis impact" finding by the FHWA with respect to the subject project and these Section 4(f) resources.

Upon completion of Phase I, Phase II engineering will be initiated and will include development of plats, legal descriptions, and appraisals and acquisition of the required easements. If you have any questions or need additional information, please contact me or Chuck Gleason, Phase I Project Manager, at (847) 377-7447.

Very truly yours,



Martin G. Buehler, P.E.
Director of Transportation/
County Engineer

Attachments

Cc: John Baczek; IDOT Project and Environmental Studies Section Chief

LCFPD De minimis Concurrence

Concur Do Not Concur

Signature: Thomas E. Hahn

Title: EXECUTIVE DIRECTOR

Date: APRIL 4, 2011

Meeting Summary

PROJECT: US Route 45; IL Route 132 to IL Route 173
and the Millburn Bypass
Lake County
Section No. 05-00262-02-RP
P-91-666-09
CBBEL 08-0677

DATE: October 21, 2011

PREPARED BY: Mike Matkovic – CBBEL

MEETING DATE: October 19, 2011
TIME: 1:00 PM

SUBJECT: Project Coordination Meeting

LOCATION: Lake County Division of Transportation
600 W. Winchester Road
Libertyville, Illinois

ATTENDEES: Refer to attached sign-in sheet

On October 19, 2011, representatives from the Lake County Division of Transportation (LCDOT) and Christopher B. Burke Engineering, Ltd. (CBBEL) met with representatives from the Lake County Forest Preserve District (LCFPD) for a third coordination meeting concerning the proposed improvements to US Route 45 from IL Route 132 to IL Route 173, and the Millburn Bypass in Lake County. The purpose of the meeting was to:

- Discuss more detailed design of the preferred west bypass Alternative A4 that will traverse McDonald Woods Forest Preserve
- Discuss potential pedestrian/bicycle accommodations and connections for the entire project limits
- Discuss potential right-of-way acquisition needs and a Section 4(f) *de minimis* impact determination for the Raven Glen Forest Preserve
- Discuss next steps in project development

CBBEL reviewed the overall project development approach for the proposed improvements to US Route 45. LCDOT is the lead agency for the Millburn Bypass project for which the Project Study Team (LCDOT and IDOT in coordination with FHWA) has selected the west bypass Alternative A4 as the preferred bypass alternative. The limits of the proposed improvements associated with the Millburn Bypass are from Country Place on the south to north of Independence Boulevard; where the Millburn Bypass will tie back into existing US Route 45. As part of the

Meeting Summary

Environmental Assessment (EA) being prepared for the Millburn Bypass project, the FHWA has required that concept proposed improvements based on year 2040 traffic projections be developed for a larger section of US Route 45 from IL Route 132 to IL Route 173 based on logical project termini. This will establish the likely environmental footprint for future improvements to US Route 45 within these limits for which environmental impacts will be evaluated the EA. The LCDOT Millburn Bypass project will include detailed engineering and a Combined Design Report (CDR) for the bypass area only.

IDOT is the lead agency north and south of the bypass. A separate CDR will be prepared for areas north and south of the Millburn Bypass project as part of a separate ongoing IDOT Phase I Study for which CBBEL is also the consultant. LCDOT has funding for construction of the Millburn Bypass. However, construction of US Route 45 north and south of the bypass area is not included in IDOT's current FY 2012-2017 Program.

CBBEL reviewed the typical proposed cross section for US Route 45 for the full project limits from IL Route 132 to IL Route 173. The typical cross section includes two 12 feet wide lanes in each direction separated by a 22 foot wide median. A 10 feet wide multi-use trail will be accommodated along the west side of US Route 45 and a 5 feet wide sidewalk will be accommodated along the east side of US Route 45 for the full project limits. The median treatment is anticipated to be grassed where possible, with enhanced landscaping treatments if a local agency agrees to accept maintenance responsibility. Similarly, actual implementation of the multi-use trail and/or sidewalk is contingent upon a local agency agreeing to cost participation (20% match) and maintenance responsibility, which is consistent with both LCDOT and IDOT policies. LCFPD indicated that they would not be able to maintain a landscaped median for US Route 45. Further discussions will be necessary to determine if LCFPD can participate in the cost of portions of the multi-use trail and/or sidewalk.

CBBEL reviewed the preliminary proposed improvement plans traversing the northeast portion of McDonald Woods for the preferred bypass alternative. In order to provide storm water detention for the project as well as additional areas where water quality Best Management Practices (BMPs) can be implemented, additional areas of right-of-way acquisition have been identified on the concept improvement plans for the full project limits from IL Route 132 to IL Route 173. One of these areas is within the remnant parcel on the east side of the proposed bypass within McDonald Woods. The area needed would comprise approximately 50% of the remnant parcel. LCFPD indicated that this remnant area would have no recreational value to the McDonald Woods Forest Preserve and that they would prefer that LCDOT purchase the entire remnant parcel. LCDOT concurred that the proposed plans will indicate acquisition of the entire remnant parcel.

CBBEL reviewed the concept improvement plans for the areas north and south of the Millburn Bypass project. There was considerable discussion with respect to

Meeting Summary

appropriate long term path connections between the US Route 45 corridor and other planned LCFPD facilities. The following desired plan modifications resulted from these discussions:

- A 10 feet wide multi-use path will be shown along the north side of Stearns School Road within the project limits.
- The LCFPD envisions providing a connection between the existing path within McDonald Woods and the proposed path along the west side of the Millburn Bypass. LCFPD requested that this connection be represented on the proposed plans as a future connection by LCFPD.
- A 10 feet wide multi use path should be shown along the south side of Grass Lake Road west of the proposed bypass within the project limits. The path should remain as shown on the north side of Grass Lake Road east of the proposed bypass to “Old 45”.
- The LCFPD envisions providing a connection between the proposed path going under US Route 45 just north of Miller Road within the Raven Glen Forest Preserve and the proposed path along the west side of US Route 45 in this area. LCFPD requested that this connection be represented on the proposed plans as a future connection by LCFPD.
- A 10 feet wide multi-use path should be shown along the north side of IL Route 173 within the project limits, which is consistent with plans to the east and nearest to residential areas to the west.

CBBEL reviewed the concept improvement plans in the vicinity of the Raven Glen and Ethel’s Woods Forest Preserves, which are adjacent to portions of existing US Route 45 north of Miller Road. The southwest portion of Ethel’s Woods just north of Miller Road and east of existing US Route 45 was purchased by LCFPD with Open Land Trust (OLT) funds. In order to avoid right-of-way acquisition from this portion of Ethel’s Woods, the proposed centerline of US Route 45 is proposed to be shifted to the west in this area. As a result, some right-of-way acquisition is required from the Raven Glen Forest Preserve along the west side of US Route 45 from Miller Road to Hastings Creek to the north. North of this area, the proposed centerline of US Route 45 will be shifted to the east to avoid additional right-of-way acquisition from Raven Glen. A temporary construction easement is anticipated to be required at the existing entrance to Raven Glen in order to re-establish the entrance as part of the proposed improvements to US Route 45.

LCFPD concurred with the alignment shift to the west near Miller Road to avoid right-of-way acquisition from the Ethel’s Woods Forest Preserve. LCFPD concurred that the resulting proposed right-of-way acquisition from Raven Glen along the west side of US Route 45 from Miller Road to Hastings Creek would not adversely affect the function and use of the Raven Glen Forest Preserve. On this basis, LCFPD concurred that they would support a Section 4(f) *de minimis* impact finding for the property acquisition from the Raven Glen Forest Preserve. It was discussed that written coordination with

Meeting Summary

respect to a *de minimis* impact finding for the use of property from the Raven Glen Forest Preserve will occur after the Public Hearing for this project.

The remaining overall project schedule was discussed. The draft EA is currently being prepared with initial submittal to LCDOT and IDOT for concurrent review anticipated by the end of October. It is anticipated that the overall review of the EA by LCDOT, IDOT and FHWA, and the associated edits will require approximately three months. After FHWA signs the EA, then the Public Hearing will be held which provides an opportunity for public comments on the proposed improvement plans and the EA. At this time, it is anticipated the Public Hearing will be held in the February 2012 timeframe. After the Public Hearing is held, the Public Hearing summary and resulting EA errata is prepared and coordinated with LCDOT, IDOT and FHWA. Assuming no significant impacts are identified, then the Finding of No Significant Impact (FONSI) is prepared and signed by FHWA which allows Phase I Design Approval. At this time, Phase I Design Approval is anticipated in late Spring 2012. After Phase I Design Approval, LCDOT will proceed with Phase II Engineering and Land Acquisition for the Millburn Bypass.

In addition to action items as noted above, the following additional action items were identified:

- CBBEL will provide an exhibit to LCFPD showing the proposed 10 feet wide multi-use trail along the west side of the Millburn Bypass, and the proposed future connection by LCFPD within McDonald Woods.
- CBBEL will provide the available contour mapping along US Route 45 north of Miller Road for LCFPD use in evaluating potential path locations within the Raven Glen Forest Preserve.
- CBBEL will check the school district boundaries near Independence Drive and existing US Route 45, and possible changes to school district busing policies.

The meeting concluded at approximately 2:45 PM.

Meeting Summary

US Route 45; IL Route 132 to IL Route 173
and Millburn Bypass

SIGN-IN SHEET

MEETING PURPOSE: Lake County Forest Preserve District Coordination
 MEETING DATE: October 19, 2011
 MEETING TIME: 1:00 pm
 LOCATION: Lake County Division of Transportation
 Project #: P-91-666-09

ATTENDEES:

	NAME	REPRESENTING	EMAIL ADDRESS
1.	Pete Knysz	CBBEL	pknysz@cbbel.com
2.	MIKE MATKOVIC	CBBEL	M.MATKOVIC@CBBEL.COM
3.	MIKE FENELON	LCFPD	m.fenelon@lcfpd.org
4.	TOM HAHN	LCFPD	THAHN@LCFPD.ORG
5.	CHUCK GUNSON	LC DOT	CG.GUNSON@LAKECOUNTYIL.GOV
6.	PAULA TRIGG	LC DOT	p.trigg@lakecounty.il.gov
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U.S. Route 45

IL Route 132 to IL Route 173, and Millburn Bypass

Section No. 05-00262-02-RP

P-91-666-09

Meeting Summary

MEETING DATE: July 09, 2012

TIME: 1:30 p.m.

SUBJECT: Project Update

LOCATION: Lake County Forest Preserve District Office
1899 West Winchester Road
Libertyville, Illinois

ATTENDEES: Mike Fenelon – LCFPD
Tom Hahn – LCFPD
Andy Kimmel – LCFPD
Randy Seebach - LCFPD
Chuck Gleason – LCDOT
Mike Matkovic – CBBEL

On July 9, 2012, representatives from the Lake County Division of Transportation (LCDOT) and Christopher B. Burke Engineering, Ltd. (CBBEL) met with the Lake County Forest Preserve District (LCFPD) concerning the proposed improvements to U.S. Route 45 from IL 132 to IL 173 and the Millburn Bypass. The purpose of the meeting was to:

- Discuss design considerations along the Bypass adjacent to McDonald Woods
- Discuss potential LCFPD cost participation items for the Bypass
- Discuss the next steps and upcoming meetings for completion of Phase I engineering and environmental studies

CBBEL indicated that detailed plans have been developed for the funded Bypass improvements, and that concept level plans have been developed north and south of the Bypass area (IL 132 to IL 173) to establish the likely environmental footprint (right-of-way requirements) to be evaluated in the Environmental Assessment (EA) based on logical termini requirements. Both the detailed Bypass improvements and the likely future improvements north and south of the Bypass as discussed in the EA will be presented at the upcoming Public Hearing for comment. Copies of the concept improvement plans along Raven Glen and Ethel's Woods to the north were previously provided to LCFPD.

The proposed Bypass plans include two low clearance bridges over the Tributary to North Mill Creek and an Unnamed Intermittent Stream/Back Channel within the limits of McDonald Woods. The low clearance bridges will have approximately three feet of clearance from stream bank elevation to low beam. The purpose of the bridges is to avoid impacts to these streams which are delineated Waters of the US (WOUS) and



CHRISTOPHER B. BURKE ENGINEERING, LTD.

9575 W Higgins Road, Suite 600, Rosemont, Illinois

U.S. Route 45

IL Route 132 to IL Route 173, and Millburn Bypass

Section No. 05-00262-02-RP

P-91-666-09

Meeting Summary

identified ADID riparian corridors. Through project coordination with environmental resource agencies (USFWS and USACOE), it was requested to avoid impacts at these sites and to provide for terrestrial wildlife movement along these corridors. IDOT is currently reviewing these proposed low clearance bridges given the unique low clearance configuration to avoid environmental impacts. IDOT approval is pending. LCFPD did not have concerns with the proposed low clearance bridges.

Based on further plan development, and in particular the proposed drainage plan, in order to stay within the previously proposed right-of-way along the west side of the proposed Bypass through McDonald Woods, approximately 700 feet of block retaining wall, averaging five to six feet in height would be required. An option was discussed that would eliminate the block retaining wall in favor of 3:1 grading. This option would require additional temporary construction easements since 3:1 grading would require portions of the ditch line to be outside of the current proposed right-of-way line. LCFPD indicated that they would prefer the 3:1 grading option since the retaining wall would include an additional 54" high rail adjacent to the proposed bike path along the west side of the Bypass, and since the 3:1 grading option would be more compatible with a potential future connection to the bike path within McDonald Woods. The LCFPD understands that this will require additional temporary construction easements for grading, and potentially additional permanent easement if IDOT desires to have access to maintain the new drainage ditch in the future.

Exhibits were provided to LCFPD showing the sections of bike path and sidewalk that will be accommodated along the proposed Bypass, but that requires local agency cost participation and maintenance responsibility per IDOT and LCDOT policy in order to be implemented. Based on previous discussions, the LCFPD had expressed interest in participating in the implementation of the proposed bike path along the Bypass and realignment Grass Lake Road west of the Bypass. In this case, IDOT and LCDOT would pick up 80% of the cost and LCFPD would be responsible for 20% of the cost. A table was provided showing a preliminary estimated construction cost based on 2011 unit cost information, which results in an approximate LCFPD cost participation amount of \$45,900 for the bike path. LCFPD indicated that they are anticipating that IDOT will cover their cost for the proposed bike path for this project as part of the land acquisition process, which is how it was handled with recent IDOT improvements along IL Route 21. Regarding maintenance responsibility for the bike path, LCFPD is willing to maintain the bike path along the McDonald Woods frontage but would look to others to maintain the bike path outside of these limits. They are hopeful this can be worked out as long as the cost is covered.

Potential landscaping of the Bypass median area, and maintenance thereof, was discussed. LCFPD is not interested in participating in or maintaining any landscaped median areas along the Bypass.



U.S. Route 45

IL Route 132 to IL Route 173, and Millburn Bypass

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An overall project status was provided. It was indicated that the EA is currently under review by IDOT and FHWA. As soon as the EA is approved, a date for the Public Hearing will be selected, which is anticipated late Summer. The Public Hearing is anticipated to be an Open House Public Hearing from 4 p.m. to 7 p.m. that provides people the opportunity to come at any time during the three hour period.

A 6th Community Advisory Group (CAG) meeting is anticipated to be held a week to 10 days in advance of the Public Hearing to provide an overall project update including the results of the EA, and a preview of materials to be presented at the Public Hearing, as well as further discussion of further design considerations.

The LCFPD was advised that the *de minimis* impact finding for Raven Glen and Ethel's Woods as discussed at previous meetings, will be completed after the Public Hearing. Per IDOT and FHWA requirements, the newspaper display ads announcing the Public Hearing, as well as the Public Hearing presentation will indicate that a *de minimis* impact finding is being considered at both locations, and that public comments are requested. After the Public Hearing, the LCFPD will receive a letter from IDOT requesting their concurrence in the *de minimis* impact finding. With LCFPD concurrence, FHWA will consider granting the *de minimis* impact finding. The LCFPD had no questions regarding this process.

The meeting concluded at approximately 2:45 PM.

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CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W Higgins Road, Suite 600, Rosemont, Illinois



Division of Transportation

Paula J. Trigg, P.E.
Director of Transportation/County Engineer

600 West Winchester Road
Libertyville, Illinois 60048-1381
Phone (847) 377-7400
Fax (847) 984-5888

**U.S. Route 45
IL Route 132 to IL Route 173 and Millburn Bypass
Section No. 05-00262-02-RP
P-91-666-09
Lake County**

May 20, 2013

Mr. Andy Kimmel
Acting Executive Director
Lake County Forest Preserve District
2000 N. Milwaukee Ave.
Libertyville, IL 60048

Dear Mr. Kimmel:

The Illinois Department of Transportation (IDOT) in cooperation with the Lake County Division of Transportation (LCDOT) is nearing completion of the Phase I engineering and environmental studies for the proposed improvement of U.S. Route 45, from IL Route 132 to IL Route 173, in north central Lake County. The purpose of this letter is to request concurrence from the Lake County Forest Preserve District (LCFPD) with respect to potential future construction activities within the southeast portion of the Raven Glen Forest Preserve as part of the subject project.

A public hearing was held for this project on March 21, 2013. The purpose and need for this project is to alleviate traffic congestion that exists today and is projected to worsen by the year 2040 based on the continuing growth in traffic volumes that has occurred and is projected to continue for this area. These transportation issues and potential solutions are discussed in the Environmental Assessment (EA) that was prepared for this project and signed by the Federal Highway Administration (FHWA) on February 28, 2013. The EA is available for viewing on the project website at www.route45project.com.

As discussed in coordination meetings with LCDOT and LCFPD on October 19, 2011, and July 9, 2012, the selected alternative for U.S. Route 45 in the vicinity of the Raven Glen Forest Preserve would require approximately 0.315 acres of direct property acquisition and 0.174 acres of temporary construction easement from the Raven Glen Forest Preserve for the proposed widening of U.S. Route 45. Summaries of these meetings are included in Appendix C of the EA. A copy of the *de minimis* documentation for the Raven Glen Forest Preserve is attached, which is also included in Appendix D of the EA.

This information was included as part of the public hearing for this project held on March 21, 2013, which afforded people an opportunity to comment on the potential effects of this project on the Raven Glen Forest Preserve. There were two comments during the public hearing comment period concerning the effect of this project on the Raven Glen Forest Preserve which are attached for reference.

Based on the prior project coordination and the results of the public hearing, we intend to seek a *de minimis* impact finding from the FHWA based on this project not adversely affecting the features, attributes, or activities of the Raven Glen Forest Preserve that qualifies this property for protection under Section 4(f) of the U.S. Department of Transportation Act of 1966. In this regard, we are requesting written concurrence from the LCFPD that the selected alternative will not adversely affect the overall recreational activities, features and attributes of the Raven Glen Forest Preserve, and as such LCFPD would concur with a *de minimis* impact finding by the FHWA with respect to the subject project and these Section 4(f) resources. Please indicate your concurrence in the space provided below and return one copy to this office.

If you have any questions or need additional information, please contact Chuck Gleason, Project Manager, at (847) 377-7447.

Very truly yours,



Paula J. Trigg, P.E.
Director of Transportation/County Engineer

cc: Marie Glynn, P.E.; IDOT Project Manager

Attachment

LCFPD *de minimis* Concurrence

Concur Do Not Concur

Signature:  _____

Title: Interim Executive Director

Date: May 24, 2013

U.S. Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

Section No. 05-00262-02-RP

P-91-666-09

Illinois Department of Transportation

**Drainage Coordination
Meeting Summary**

MEETING DATE: July 11, 2013

MEETING TIME: 3:00 p.m.

SUBJECT: Drainage Coordination Meeting

LOCATION: Lake County Forest Preserve District
1899 Winchester, Libertyville, IL

ATTENDEES: Randy Seebach - Lake County Forest Preserve District
Andy Kimmel - Lake County Forest Preserve District
John Nelson - Lake County Forest Preserve District
Marie Glynn – IDOT
Lynn Hobbs – IDOT
Ilene Dailey - CBBEL
Matt Huffman – CBBEL

The purpose of this meeting is to discuss the proposed drainage plan for the proposed improvement to U.S. Route 45 from Country Place on the south to north of Independence Boulevard (i.e. Millburn Bypass) as well as the section of U.S. Route 45 from Miller Road to the north near the Lake County Forest Preserve District (LCFPD) holdings of Raven Glen and Ethel's Woods. Funding has been established to move the Millburn Bypass forward to Phase II Engineering, land acquisition, and construction. The south section (IL Route 132 to Bypass) and north section (Bypass to IL Route 173) are only funded through Phase I Engineering. Marie Glynn is the IDOT Phase I project manager for the U.S. Route 45 Bypass and U.S. Route 45 south and north sections. Kim Harvey will be the IDOT Phase II project manager for the U.S. Route 45 Bypass project.

A general overview of the design for the Millburn Bypass was provided: U.S. Route 45 will be two lanes in each direction, with a 22 foot grassed median, barrier curb and gutter, space for a ten foot hot mix asphalt bike path on the west side, and space for a five foot sidewalk on the east side. The proposed improvement on Grass Lake Road is one eastbound lane and two westbound lanes with left and right turn lanes at intersections, barrier curb and gutter, and space for ten foot bike path along the south side and five foot sidewalk along the north side. There will be one signalized intersection at the U.S. Route 45 Bypass and re-aligned Grass Lake Road; the existing signals will be removed.

The general drainage design consists of capturing all roadway drainage in a storm sewer system along U.S. Route 45 and Grass Lake Road, which is a design feature of using barrier curb and gutter. A series of three detention basins are located at the south, middle, and north ends of the U.S. Route 45 Bypass. The proposed storm sewer systems drain to the proposed detention basins. The detention basins are designed to



U.S. Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

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**Drainage Coordination
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contain the 100 year, 24 hour critical storm duration from the IDOT right-of-way and release the runoff at a prescribed rate set by the Lake County Stormwater Management Commission (LCSMC), subject to IDOT minimum restrictor sizes. The detention basins also act as Best Management Practice (BMP) design features, which help to naturally filter roadway storm water prior to being released to the natural drainage path. The grading of the detention basins are currently shown with a standard 3:1 slope and future grading designs/options will be pursued in Phase II Engineering. LCFPD stated that they would like the ponds to retain twelve to eighteen inches of water all year around with varying grading to support different types of vegetation and promote wetland characteristics. The design intent of most LCFPD detention basins is to look as natural as possible with using varying side slopes horizontally. IDOT indicated that various grading opportunities are possible and further detailed design will be carried forward in Phase II Engineering. LCFPD stated they would like to review the plans in Phase II to provide comments and feedback since the ponds are releasing upstream of their holdings.

The south detention basin at Country Place receives the runoff from U.S. Route 45, south of the intersection of the U.S. Route 45 Bypass and existing U.S. Route 45. The south detention basin was moved further south to allow for a future east leg of the Country Place and U.S. Route 45 intersection.

The middle detention basin is located east of the U.S. Route 45 bypass on the acquired Lake County Forest Preserve District (LCFPD) property. This basin receives roadway storm runoff from Grass Lake Road and the U.S. Route 45 Bypass south of Independence Boulevard. Roadway runoff north of the Tributary to Millburn Creek (Tributary) was able to be piped under the box culverts carrying the Tributary with a 42 inch pipe to utilize already acquired property and eliminate the need for an additional detention basin at the Grass Lake Road intersection. South of Millburn Creek, roadway storm runoff is piped over Millburn Creek and above the three sided structure carrying U.S. Route 45, which limits the need for an additional detention basin south of Millburn Creek.. The intent to maintain existing drainage patterns along Grass Lake Road west of U.S. Route 45 was discussed. LCFPD (Kimmel) asked if Millburn Creek will be restored west of the U.S. Route 45 Bypass. IDOT (Glynn) stated a special design consideration will be added to the Design Report for the project to consider this in Phase II. LCFPD stated the release point of the pond should be looked at to create a better angle to limit future erosion.

The north detention basin is located on existing Route 45 right-of-way and a remnant parcel that is being purchased. This detention basin receives storm runoff of U.S. Route 45 Bypass north of Independence Boulevard.

Other topics were discussed outside of the proposed drainage design of the U.S. Route 45 Bypass drainage design including: the bike path and sidewalk design of the Bypass,



U.S. Route 45

IL Route 132 to IL Route 173 and Millburn Bypass

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**Drainage Coordination
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the Grass Lake Road underpass project, and the north section of U.S. Route 45 near Raven Glen and Ethel's Woods Forest Preserves. LCFPD stated that their Millennium Trail, a 12-foot wide trail, will connect to the proposed bike path along the U.S. Route 45 Bypass at the east side of McDonald Woods. LCFPD (Seebach) stated that they would like the Millennium Trail connection to be constructed with this project. IDOT (Glynn) indicated this would likely be worked out during Phase II and the land acquisition process. LCFPD (Nelson) will provide IDOT/CBBEL with a more precise tie-in location to the proposed U.S. Route 45 bike path at the east connection. LCFPD stated a 10-foot paved bike path is acceptable to them and should be that width from the east connection in McDonald Woods north to the future underpass connecting Raven Glen to Ethel's Woods just north of Miller Road. The proposed bike path along U.S. Route 45 from IL Route 132 to IL Route 173 is currently proposed to be 10 feet in width.

The north section of the proposed U.S. Route 45 project near Raven Glen and Ethel's Woods was discussed. There are two existing box culvert crossings of Hastings Creek and Tributary to Hastings Creek. These crossings will be extended and replaced with new box culverts. The general drainage design in this area is also a closed drainage system with curb and gutter that will drain to several detention basins along the east side of U.S. Route 45. LCFPD had no objections to the conceptual drainage plan for the north section near their holdings. LCFPD (Kimmel) asked if there was a possibility of any restoration of Hastings Creek to the west. There will also be some stretches of vegetated ditches that will treat a portion of the roadway runoff prior to discharge. The plans shown at the meeting, Environmental Assessment plan and profile exhibits, included the future proposed underpass of Millennium Trail between Raven Glen and Ethel's Woods. CBBEL (Huffman) stated the design of the underpass is very preliminary but does currently show the anticipated grading and it can be gravity drained to Hastings Creek to the north. LCFPD (Seebach) stated that a proposed parking facility will be located off of Miller Road within Ethel's Woods. The location of the underpass as shown looks to conflict with the proposed parking area. LCFPD will send preliminary plans to IDOT/CBBEL. LCFPD (Nelson) stated the underpass should be eighteen feet by nine feet to accommodate equestrian usage. LCFPD (Kimmel) asked if it is possible to incorporate a southbound right turn lane at the Raven Glen access drive. CBBEL (Huffman) indicated this would be looked at as more detailed engineering is pursuing.

LCFPD is moving forward with construction of the Grass Lake Road underpass to connect McDonald Woods to Oak Ridge Park and Wetzel Field, a Lindenhurst Park District property. LCFPD (Nelson) will send over design plans for the project so that IDOT/CBBEL can look at the Grass Lake Road bike path tie in location.

The meeting concluded at approximately 4:35 p.m.

Meeting summary prepared by:

Matt Huffman - Christopher B. Burke Engineering, Ltd.





Attendance Roster

Bureau: Programming Section: Hydraulics
 Project/Topic: US Route 45 – Milburn Bypass Drainage Coordination Meeting - Lake County Division of Transportation
 Date: 7/11/2013
 Time: 3:00 p.m.
 Location: Lake County Division of Transportation

	Attendees	Representing	Phone Number	Email Address
1.	MATT HUFFMAN	IDOT KBBEL	847-823-0500	MHUFFMAN@CBBEL.COM
2.	Ilene Dailey	IDOT/CBBEL	847-823-0500	idailey@cbbel.com
3.	Lynn Hobbs	IDOT-Hydraulics	847-705-4782	lynn.hobbs@illinois.gov
4.	JOHN NELSON	LCFPD	847-968-3407	jenelson@LCFPD.ORG
5.	RANDY SEEBACH	LCFPD	847/968/3222	rseebach@LCFPD.org
6.	Andy Kimmel		847-968-3209	akimmel@LCFPD.org
7.	MARIE GLYNN	IDOT Extension Staff	312-307-4675	marie.glynn@illinois.gov
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U.S. Route 45

IL Route 132 to IL Route 173

Section No. 05-00262-02-RP

P-91-666-09

Illinois Department of Transportation

**Drainage Coordination
Meeting Summary**

MEETING DATE: October 30, 2014

MEETING TIME: 1:00 p.m.

SUBJECT: Drainage Coordination Meeting

LOCATION: Lake County Division of Transportation
600 W. Winchester Road, Libertyville, IL

ATTENDEES: Bob Gardiner – Lake County SMC
Glenn Westman – Lake County SMC
Emily Karry – LCDOT
Chuck Gleason - LCDOT
Randy Seebach - Lake County Forest Preserve District
John Nelson - Lake County Forest Preserve District
Marie Glynn – IDOT
Lynn Hobbs – IDOT
Ilene Dailey - CBBEL
Matt Huffman – CBBEL

The purpose of this meeting was to discuss the proposed drainage plan for the U.S. Route 45 project from IL 132 to IL 173 Phase I Study, excluding the Millburn Bypass which was completed in 2013. A public hearing was held in March 2013 for the entire EA project limits from IL 132 to IL 173 which showed preliminary geometrics, detention facilities, and environmental footprint. An Environmental Assessment was prepared for the project and received a Finding of No Significant Impact (FONSI) in September 2013. The sections of U.S. Route 45 from 1000 ft north of IL 132 to Country Place (South Section), and 600 feet north of Independence Boulevard to 1,500 feet north of IL Route 173 (North Section) are currently in the process of completing Phase I Engineering and the subject of discussion for the meeting. The South and North Sections are currently funded only for Phase I Engineering. The Millburn Bypass is currently in Phase II Engineering and is programmed for construction.

A general overview of the design for the U.S. Route 45 project was provided. U.S. Route 45 will be two lanes in each direction, with a 22 foot grassed median, barrier curb and gutter, closed drainage system, space for a ten foot hot mix asphalt bike path on the west side, and space for a five foot sidewalk on the east side. The conceptual drainage design consists of storm sewer systems which typically drain all roadway pavement to detention facilities prior to release to the natural course of drainage. Any offsite tributary areas draining towards the roadway are controlled via ditches and conveyed via roadway cross culverts to maintain existing drainage patterns. The detention basins are designed per IDOT standards and typically provide the volume required to detain the 100-year critical storm duration runoff for added impervious area and release it at the 10-year



U.S. Route 45

IL Route 132 to IL Route 173

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**Drainage Coordination
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existing rate. Per IDOT policy, detention facilities for roadway purposes must be independent from other adjacent detention facilities; no sharing of detention is permitted. The detention basins also act as Best Management Practice (BMP) design features, which help to naturally filter roadway storm water prior to being released to the natural drainage path. All basins are planned to detain approximately 6 inches of water below the outlet elevation to promote growth of various vegetation and wetland characteristics. The preliminary detention design shown in the Phase I plans assume standard side slopes (3:1) and shapes. Refinements to the basin including overall shape, variable side slopes, bottom elevations, are performed as part of Phase II engineering. These items will be noted in the Combined Design Report narrative under the Special Design and Construction Considerations section.

Lake County Stormwater Management Commission (LCSMC) asked if there would be any treatments for impacts to ADID wetlands. Mitigation of wetlands would occur according to the proper mitigation ratio depending on jurisdiction of the wetland. Lake County Forest Preserve District (LCFPD) and LCSMC confirmed that they would prefer varying sideslopes and vegetated wetland bottom detention basins. LCSMC recommended that the distance between the inlet and outlet of each detention basin be maximized so water had the maximum amount of time to infiltrate. If placing the inlet and outlet at opposite ends of the detention basin is not possible it was recommended that the topography of the bottom of the basin be such that water would flow indirectly to the outlet. LCSMC asked about how field tiles would be treated; CBBEL (Dailey) stated that field tiles will be handled in accordance with IDOT guidance and observation structures would be placed at the right-of-way to connect the filed tiles appropriately. LCSMC indicated they would provide the drain tile survey to the project team for the Village Green Development.

It was confirmed that Lake County Division of Transportation (LCDOT), LCFPD, and LCSMC are not aware of any pavement flooding conditions within the South or North Sections.

A presentation of the proposed drainage design was made starting at the southern limit and progressing north. An exhibit was distributed, which shows the existing drainage crossing locations and culvert sizes. LCDOT has jurisdiction of Sand Lake Road and Stearns School Road. LCFPD has two holdings along the North Section, Raven Glen and Ethel's Woods Forest Preserves, and has other holdings west along Stearns School Road. LCSMC has no technical jurisdiction in this project because it is an IDOT project, however, their input and recommendations are considered during project development.

The South Section extends from 1,000 feet north of the IL Route 132 intersection to Country Place. The IL 132 intersection was evaluated as part of a separate IDOT project to widen U.S. Route 45 south to IL Route 176. Near Country Place, this project would connect into the Millburn Bypass which is currently funded for construction. A short



U.S. Route 45

IL Route 132 to IL Route 173

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segment of the Millburn Bypass project would be modified to tie to the proposed four lane section (instead of existing two lanes). Improvements to Sand Lake Road and Stearns School Road are included with this project resulting from the intersection improvement at U.S. Route 45.

The drainage design for the southern section does not involve any flood plains or floodways. Subsequently no hydraulic reports were required for any of the drainage crossings per IDOT standards. There are eight existing cross road culverts and six proposed detention facilities. All existing culverts are being removed and replaced, with exception of the culvert of Dodge School Creek under Stearns School Road and the culvert at Station 104+80, which are extended. All detention basins are located in open space and there are no impacts to existing structures.

Dodge School Creek crosses under U.S. Route 45 south of Falling Waters (Sta. 69+00) and the Tributary to Dodge School Creek crosses U.S. Route 45 just north of Sand Lake Road (Sta. 83+50). Dodge School Creek crosses Stearns School Road (Sta. 6+50) and converges with the Tributary, and then flows east to North Mill Creek. The Tributary to Dodge School Creek currently flows through a roadside ditch, which is re-located with the improvement adjacent to the proposed bike path. Sand Lake Road and Stearns School Road, both LCDOT jurisdiction facilities, drain from west to east and have proposed storm sewer systems to collect pavement drainage. A small portion of Stearns School Road does not drain to a detention facility and releases to a vegetated ditch for water quality benefit prior to discharging to Dodge School Creek. The proposed detention basins upstream of Stearns School Road are sized to provide the IDOT required volume for the roadway improvements.

The North Section was presented, starting from the south, which is the location of the north limit of the Millburn Bypass improvement approximately 600 feet north of Independence Boulevard, to north of IL Route 173, which includes the intersection. Improvements to Miller Road are included with this project resulting from the intersection improvement at U.S. Route 45. IDOT currently has an ongoing Phase I Study of IL Route 173 from IL Route 59 to U.S. Route 41. Coordination has occurred regarding the improvements of this project at the intersection of U.S. Route 45 with IL Route 173. A portion of the Millburn Bypass project will need to be widened to accommodate the proposed typical section.

The drainage design for the northern section involves two major waterways, Hastings Creek and Tributary to Hastings Creek. Hastings Creek involves floodway and floodplain, while the Tributary to Hastings Creek only involves floodplain. LCSMC asked if there would be floodway and floodplain storage provided. Regulatory floodway and floodplain compensatory storage will be provided in accordance with IDOT requirements. The project team will look into the provision of 'floodplain' storage for local waterways that drain over 100 acres. Pavement flooding was reported at Tributary to Hastings Creek



U.S. Route 45

IL Route 132 to IL Route 173

Section No. 05-00262-02-RP

P-91-666-09

Illinois Department of Transportation

**Drainage Coordination
Meeting Summary**

and the proposed profile of the roadway was raised to meet IDOT's freeboard requirements. Hydraulic Reports were prepared for both waterways. There are seven roadway culverts and seven proposed detention facilities. All existing culverts are proposed to be removed and replaced. It was noted that the proposed right-of-way will be modified on the plans displayed where previously proposed detention facilities were located. LCSMC asked about avoidance of wetland and floodplain impacts. CBBEL (Huffman) explained that the widening locations are varied up to 15 feet within the corridor to minimize impacts.

A pedestrian underpass is shown on the plans north of Miller Road connecting Ravens Glen and Ethel's Woods Forest Preserves. Preliminary culvert design and anticipated path connection alignment is shown. The LCFPD indicated that they may pursue this project ahead of the implementation of the North Section improvement. The underpass costs would be 100 percent LCFPD, but conceptual design will be included in the Phase I Engineering plans to demonstrate compatibility with the U.S. Route 45 improvement. LCFPD also stated they have a proposed parking facility off of the east leg of Miller Road. LCFPD also stated they preferred 45 degree angle wing walls for the proposed culvert.

No specific comments were provided on the proposed drainage design during the meeting. In general LCSMC indicated that they support the conceptual design of detaining and infiltrating water prior to discharge. Half size sets of the proposed drainage plans were left with the agencies and PDFs of the plans will be emailed to meeting attendees for comment subsequent to the meeting. It was stated that IDOT is aiming for Design Approval of the South Section by the end of this year and the North Section early in 2015, so comments are requested within three weeks.

Additional, non-drainage topics were also discussed. As previously relayed, IDOT requires local agencies whose jurisdiction is adjacent to the roadway to cost participate (80/20) and maintain any pedestrian or multi-use facilities that they agree to have constructed in their jurisdiction. If they choose to not cost participate, a shelf will be provided, and the municipality would be responsible for 100 percent of the cost and maintenance of these facilities if implemented in the future. Along US 45, a multi-use trail is proposed along the west side, and a sidewalk on the east. The local communities would continue to be responsible for maintaining the multi-use trail within their jurisdiction, and not LCFPD. All other locations would require cost participation from local municipalities or townships. LCFPD and LCDOT will be receiving a Letter of Intent to communicate the location and cost share of the pedestrian and bicycle facilities. In some instances a local agency may opt not to cost participate, but another local agency could step in and fulfill the local cost obligations for construction of the sidewalk or bike path with the project.



U.S. Route 45

IL Route 132 to IL Route 173

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LCFPD has their planned Millennium Trail along the west side of the Millburn Bypass connecting to McDonald Woods Forest Preserve on the south and running north to Raven Glenn Forest Preserve in the location of the underpass north of Miller Road. LCFPD asked if a pedestrian crossing could be located across Cross Creek Road along the north side of Sand Lake Road; CBBEL will incorporate this into the design. LCFPD also expressed interest in the proposed path along the north leg of Stearns School Road and desired to extend the path further east. The LCDOT 2040 Non-Motorized Plan does not indicate a LCDOT regional path along Sand Lake Road or Stearns School Road, however, LCDOT would allow another agency to own and maintain a non-motorized facility in the LCDOT right-of-way in this area.

Lake County Division of Transportation asked if they would have the opportunity to comment on the geometric design prior to Phase I being completed. IDOT (Glynn) stated that CBBEL will send over the latest South Section design plans which recently received comments on its second submittal. There were questions regarding the proposed retaining wall at the northwest quadrant of the intersection of Sand Lake Road and U.S. Route 45. IDOT (Glynn) indicated that the cost and maintenance of the wall would likely be IDOT's responsibility since only a small portion wraps around on the Sand Lake Road right-of-way.

The meeting concluded at approximately 3:00 p.m.

Meeting summary prepared by:

Matt Huffman - Christopher B. Burke Engineering, Ltd.





Attendance Roster

Bureau: Programming Section: Hydraulics
 Project/Topic: US Route 45 – IL 132 to IL 173 (Excluding Millburn Bypass) Drainage Coordinating Meeting
Lake County Forest Preserve District, Lake County SMC, Lake County DOT
 Date: October 30, 2014
 Time: 1:00 p.m.
 Location: Lake County Division of Transportation

	Attendees	Representing	Phone Number	Email Address
1.	JOHN NELSON	LCFPD	847-968-3407	jenelson@LCFPD.ORG.
2.	RANDY SEEBACH	LCFPD	847-968-3262	rseebach@LCFPD.org
3.	Bob Gardiner	LC SMC	847-377-7704	rgardiner@lakecounty.il.gov
4.	Glen Westman	LC SMC	847-377-7708	gwestman@lakecounty.il.gov
5.	MARIE GLYNN	IDOT Program CH2M Hill	847-705-4073	marie.glynn@illinois.gov
6.	Lynn Hobbs	IDOT Hydraulics	847 705-4783	lynn.hobbs@illinois.gov
7.	Ilene Dailly	CBBEL	847-823-0500	idailey@cbbel.com
8.	MATT HUFFMAN	CBBEL	847-823-0500	M.HUFFMAN@CBBEL.COM
9.	EMILY KARRY	LC DOT	847.377.7400	eKarry@lakecounty.il.gov
10.	CHUCK GLEASON	LC DOT	847-377-7447	C.GLEASON@LAKECOUNTYIL.GOV
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Meeting Minutes

Re: Millennium Trail-U.S. Route 45 Coordination **Date:** 9/6/2018

Location: IDOT – Land Acquisition Conference Room **Time:** 10:00 am

Attending: See attached roster

This coordination meeting was held between IDOT, Christopher B. Burke Engineering (CBBEL), the Lake County Forest Preserve District (LCFPD), and Civiltech Engineering. The purpose of the meeting was to coordinate the Phase I studies for the two intersecting projects. Below is a summary of the meeting:

- The Millennium Trail U.S. Route 45 Underpass project will construct a 12-foot aggregate shared-use path connecting Raven Glen Forest Preserve with Ethel's Woods Forest Preserve. The trail will feature grass shoulders and ditches or swale where necessary. The path will cross beneath U.S. Route 45 via a pedestrian underpass. The pedestrian underpass will be 18 feet wide, wall to wall. The underpass will be drained by a storm sewer that will be located within the Raven Glen Forest Preserve. The headwalls for the pedestrian underpass will be located outside the existing IDOT right-of-way and also outside the U.S. Route 45 widening project's proposed right-of-way. The underpass will be maintained by the LCFPD.
- The drainage review for the U.S. Route 45 Phase I is near complete. IDOT Hydraulics will be reviewing the Millennium Trail drainage submittal as well. The Millennium Trail drainage submittal is anticipated in the next few weeks through BLRS.
- Civiltech and CBBEL will send each other the designs to confirm alignments, right-of-way, profile, etc.
- The LCFPD would like to investigate in Phase II of the U.S. Route 45 widening the possibility of locating the shared-use path within the Raven Glen Forest Preserve and maintaining the path. The shared-use path would be aligned closer towards U.S. Route 45 at all culvert crossings. IDOT will follow up via e-mail after discussing internally.
- U.S. Route 45 Phase I anticipating design approval in 2018. The project is not programmed for construction.
- Millennium Trail U.S. Route 45 Underpass Phase I anticipating design approval in early spring 2019. LCFPD seeking federal funding. The underpass likely to be constructed prior to U.S. Route 45 widening.

By: James R. Tibble, P.E.

Date: 9/19/2018

ATTENDANCE ROSTER
ILLINOIS DEPARTMENT OF TRANSPORTATION
PROJECT & ENVIRONMENTAL STUDIES

PROJECT: US 45: IL 132 to IL 173

TOPIC: Coordination w/Lake County Forest Preserve on Pedestrian Underpass

DATE: 9/6/2018

TIME: 10:00 a.m.

LOCATION: Land Acquisition Conference Room

	NAME (Please Print)	REPRESENTING	PHONE NUMBER	E-MAIL ADDRESS
1	Cary D. Lewis <i>CDL</i>	P&ES/CSU	847/705/4724	cary.lewis@illinois.gov
2	Corey Smith <i>CS</i>	P&ES/CSU	847/705/4103	corey.smith@illinois.gov
3	Jim Tibble	civiltech	630-735-3949	jtibble@civiltechinc.com
4	Joel Christell	Civiltech	630-735-3941	JChristell@civiltechinc.com
5	PHIL SANTOS	CBBEL	847-823-0500	psantos@cbbel.com
6	Jeff Sloat	LCFPD	847-968-3270	jsloat@lcfpd.org
7	Susan Hall	" "	-3270	shall@lcfpd.org
8				
9	Lynn Hubbs	IDOT /Hydraulics	(847)705-4782	lynn.hubbs@illinois.gov
10	<i>Corey</i>			
11	PERRY MASOURIDIS	IDOT/Prog/H&A	847 705-4479	eleftherios.masouridis@illinois.gov
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VILLAGE OF LINDENHURST PARK DISTRICT

COORDINATION MEETING SUMMARY – 09/22/2011



MEETING MINUTES

Meeting Date: September 22, 2011
Date Issued: October 6, 2011
Location: Lindenhurst Village Hall
Project: U.S. 45 – IL 132 to IL 173 and Millburn Bypass
Purpose: Lindenhurst Coordination Meeting

<u>Attendees</u>	<u>Representing</u>	<u>Phone</u>
Susan Lahr	Mayor - Lindenhurst	847-356-8252
Matt Formica	Village Administrator - Lindenhurst	847-356-8252
Wes Welsh	Village Engineer/Public Works Director - Lindenhurst	847-356-8252
Tom Lippert	Executive Director - Lindenhurst Park District	847-356-6011
Chuck Gleason	LCDOT	847-377-7447
Paula Trigg	LCDOT	847-377-7400
Mike Matkovic	Christopher B. Burke Engineering (CBBEL)	847-823-0500
Matt Huffman	Christopher B. Burke Engineering (CBBEL)	847-823-0500

The meeting began at 1:00 pm. The purpose of this meeting was to provide an update on project status to the Village of Lindenhurst following the selection of the preferred bypass alternative A4 by the Project Study Group (Lake County Division of Transportation (LCDOT), Illinois Department of Transportation (IDOT), and Federal Highway Administration (FHWA)). Feedback was also being sought from the Village of Lindenhurst regarding design details for the preferred bypass Alternative A4.

A meeting agenda was distributed and several exhibits were displayed including an overall exhibit of the preferred bypass Alternative A4, an environmental resource exhibit, the U.S. 45 proposed typical cross section, and larger scale exhibits of the preferred bypass Alternative A4 near the Haven Lane Subdivision, Heritage Trail Subdivision, and Millburn Historic District. The Village of Lindenhurst began the discussion with questions regarding the selection process of the preferred bypass Alternative A4. CBBEL provided an overview of factors considered by the Project Study Group.

- **Transportation Performance:** Based on the analysis of the three finalist alternatives for projected year 2040 traffic during the evening peak travel period, bypass Alternative A4 provides the best overall transportation performance within the Millburn Bypass area roadway network. The network includes the U.S. 45 bypass, Grass Lake Road, Millburn Road, old U.S. 45, Independence Blvd., Heritage Drive, and Haven Lane intersections. The results of the network analysis show that bypass Alternative A4 would result in 99 hours of total travel time (cumulative for all vehicles traveling through the network during the peak hour) as compared to 116 hours for bypass Alternative C4, a 17 hour or 15 percent difference in total travel time through the network. The total travel delay (travel time above free flow travel) would be 32 hours for bypass Alternative A4 as compared to 39 hours for bypass Alternative C4, an 18 percent difference. The main intersection for each finalist alternative was also analyzed for the year 2040 evening peak period. The intersection of U.S. 45 at Grass Lake Road with bypass Alternative A4 was the best performing at level of service (LOS) C with 31.7 seconds of average delay per vehicle. The main intersection of U.S. 45 at Millburn Road with bypass Alternative C4, would be LOS D with 37.6 seconds of average delay per vehicle, a 15 percent difference. These differences also correlate to differences in user costs, emissions, and energy consumption.

- Compatibility with regional travel patterns: As part of early development of the project Purpose and Need statement, which is available on the project website, the project team conducted origin/destination traffic studies, and consulted with the Chicago Metropolitan Agency for Planning (CMAP) to perform a "select link" analysis to evaluate travel patterns in the study area. The results of this analysis showed the predominant travel patterns in the study area are oriented in a northwest/southeast direction. The western bypass supports this more effectively than an eastern bypass where traffic will be pulled through or past the historic district, which is one of the likely reasons for the performance differences. Correspondingly, CMAP's traffic projections show higher anticipated traffic on Millburn Road for bypass Alternative C4 (17,000) than bypass Alternative A4 (14,000).
- SRA Design Criteria: The roadway alignment of bypass Alternative C4 is less desirable than bypass Alternative A4 due to the minimum radius reverse curves. This alignment was developed to avoid the known archeological sensitive site, and surveyed wetlands to the north, which resulted in a less desirable design as compared to bypass Alternative A4. This is an even greater issue since U.S. Route 45 is designated a Strategic Regional Arterial (SRA) roadway by IDOT and FHWA. Another design issue is the proximity of the main intersection to the old U.S. Route 45 and Grass Lake Road, which poses turn lane storage and taper deficiencies.
- Lake County Forest Preserve: The Lake County Forest Preserve District (LCFPD) supported the western bypass as being most compatible with their regional trail objectives. Coordination occurred with LCFPD during the IDOT 1995 SRA study which identified a western bypass which was concurred to by LCFPD at that time. Planning efforts have occurred since then and the current preferred bypass Alternative A4 coincides best with the LCFPD Preliminary Trail Alignment as shown in their March 1, 2011 exhibit connecting Mill Creek holdings, Millennium Trail, McDonald Woods, Ethel's Woods, and Raven Glen. LCFPD concurred with a *de minimis* finding regarding the impact to their property, which was approved by FHWA. The *de minimis* finding indicates that there are no adverse effects to McDonald Woods as a result of the proposed improvement.
- Impact on the Millburn Historic District: Alternative C4 bisects the Millburn Historic District, a National Register Historic Place, and disconnects the most historically significant structure, the Strang House, from the remainder of the historic district. Bypass Alternative A4 avoids any impact to the Millburn Historic District.

LCDOT indicated that all evaluation criteria were considered as a whole. Some of the evaluation criteria are based on established Federal laws such as Section 404 of Clean Water Act protecting wetlands, and Section 106 of the National Historic Preservation Act protecting historic resources. Therefore the avoidance of wetlands and impacts to the Millburn Historic District are important considerations.

The Village of Lindenhurst asked specific questions about the noise analysis, safety, differences in transportation performance between bypass Alternative A4 and C4, landscaping, speed limits, the Federal project development process, and involvement of the Lake County Board. CBBEL and LCDOT provided the following responses:

- Noise analysis: As standard practice for transportation projects, noise analysis and modeling is typically conducted when a preferred alternative is selected due to the design details and information required to perform the modeling. The FHWA Traffic Noise Model (TNM) is required to be used to evaluate the existing condition and for the preferred alternative. The noise modeling for this project is not yet finalized. An initial part of the modeling process is to take field noise readings to validate the model. The field noise readings have no bearing on the results of the noise analysis, but are simply to establish that the model is accurate based on real life conditions, and for this project, that was so. Once the model is validated by this method, the model can then be used to predict noise levels for existing conditions and proposed improvement. The noise analysis process was also explained. If noise abatement is warranted and feasible, it must still meet the IDOT cost per benefitted resident criteria to be implemented with the project.

- **Safety:** Safety concerns were expressed by the Village regarding the Haven Lane intersection and the ability of vehicles to safely ingress and egress from Haven Lane to U.S. Route 45. It was explained that it is expected there will be adequate gaps for vehicles to make an eastbound left turn due to the proximity of the traffic signal at the Grass Lake Road and U.S. 45 intersection. Pedestrian access would not be provided across U.S. Route 45 at Haven Lane. As a part of this project, an area of flat ground behind the curb line will be provided to accommodate a sidewalk on the east side of U.S. Route 45 up to Grass Lake Road which will be connected to the proposed multiuse path along the west side of U.S. Route 45 at the new signalized intersection of Grass Lake Road and U.S. Route 45. The project team is looking into whether a southbound right turn lane into the Forest Trails Subdivision can fit within the existing bypass right-of-way. A northbound left turn lane will be provided to Haven Lane. The east leg of Haven Lane is recommended to become a cul de sac per the Homeowners Associations Declarations. A southbound left turn lane is not feasible due to the northbound dual left turn lanes at the Grass Lake Road intersection to the north, which disallows a southbound left turn lane without considerable additional pavement widening.
- There was discussion about the possible connection of Haven Lane to Grass Lake Road to form a 4-way intersection with Heritage Drive. There is currently a ROW stub off of Haven Lane that appeared it would line up with a future road to Grass Lake Road. The Village indicated that this is a 50 foot ROW and was intended for a future short road that led to a cul-de-sac. A future road could be built at a later date by the Village of Lindenhurst, but is not being considered for this project.
- **Landscaping:** The proposed improvement has a barrier median in the roadway which will be grassed at a minimum. For any barrier medians that are within the Village's municipal boundary there is the opportunity for additional landscaping if the Village agrees to maintenance. This would need to be discussed with IDOT. LCDOT does anticipate there to be potential for landscaping in buffer areas near Haven Lane. There is another buffer area adjacent to the Heritage Trails subdivision.
- **Speed Limits:** The Village of Lindenhurst expressed some concern over the speed limits on U.S. Route 45 and Grass Lake Road. The speed limit on U.S. Route 45 is proposed to be 45 mph. The proposed speed limit on Grass Lake Road was not provided at the time of the meeting but will be looked into by LCDOT. LCDOT indicated that they perform speed studies to establish the proposed speed limits on their County Highways, so the speed limits could change based on these studies at a future date after the project is constructed.
- **Federal Project Development Process:** LCDOT is funding the engineering and construction of this project based on results of 2006 Lake County Transportation Summit. U.S. Route 45 is a State Route, and the County has some Federal funds allocated for the construction of this project. Based on Federal funding and following IDOT procedures, this project is proceeding through the Federal project development process. FHWA is the agency that oversees the Federal project development process for the project and ensures that all Federal laws and processes are followed. IDOT and LCDOT act on behalf of FHWA to carry out the day to day project management of the project. Throughout the project development process the project is presented to FHWA and other Federal resource agencies for their comments and concurrence.
- **Lake County Board involvement:** The transportation decisions are made by the Lake County Division of Transportation with concurrence from IDOT and FHWA depending on the roads involved and source of funding. The Lake County Board will vote on release of the funding for Phase II Engineering and Phase III (construction), as they did for Phase I.

The Village of Lindenhurst Park District provided comments on the compatibility of bypass Alternative A4 with the Village's Pedestrian and Bicycle Plan. The Village of Lindenhurst Park District and the LCFPD have been working in cooperation to provide pedestrian connectivity north and south through the Village of Lindenhurst and LCFPD holdings. The improvement of U.S. Route 45 from IL 132 to IL 173, including the Millburn Bypass area, will include a graded area for a bike path along the west side of the roadway. As a part of the IDOT Complete Streets law, pedestrian and bicycle facilities must be planned for in any project. The policy states that IDOT will contribute 80 percent of the cost and the local governing body must contribute 20 percent along state routes. LCDOT has similar cost participation for County routes and also a

pedestrian/bicycle accommodation policy. LCDOT indicated that the LCFPD expressed possible interest in providing the cost participation for the multi-use path along the west side of U.S. Route 45. The concern of the Park District is that the LCFPD will contribute the 20 percent of the cost share for the bike path adjacent to the proposed bypass and will abandon potential funding and participation for the proposed underpass of Grass Lake Road connecting McDonald Woods to the Park District property. It was agreed that LCDOT, Lindenhurst Park District, and LCFPD will work on setting up a coordination meeting to discuss the pedestrian and bicycle accommodations for this project.

The meeting proceeded following the distributed agenda beginning with discussion of the bypass project limits from Country Place on the south to just north to Independence Boulevard and the typical cross section of the bypass. It was discussed that space will be provided for a multi-use path on the west side of the bypass and a sidewalk on the east side. Grass Lake Road will have space for a multi-use path on the north side from Heritage Drive to old U.S. Route 45. The Village of Lindenhurst will need to cost share and provide maintenance for portions of the pedestrian facilities within their municipal boundary contingent upon the extent of potential LCFPD participation. If the Village wanted roadway lighting to be incorporated it would be 100 percent Village cost. The north segment of Old U.S. 45 is intended to become a cul de sac and not tie into the bypass at Independence Boulevard, which would remain a safer three leg intersection design.

Through coordination meetings with the Village of Old Mill Creek they have indicated that they would like jurisdiction of old U.S. Route 45 and a portion of old Grass Lake Road. The jurisdictional transfer of old U.S. Route 45 would occur with IDOT and old Grass Lake Road with LCDOT. The signals would be removed at both the existing locations.

The Village provided utility atlases and Planning Commission meeting minutes from 1996 and 1997 regarding the Haven Lane subdivision. The Village indicated that Wes Welsh should be contacted for any additional information the project team needed.

The next steps in the project development process will be completion of the noise analysis and review by IDOT and LCDOT, development of the preliminary engineering plans for the bypass, concept level engineering plans for the segments north and south of the bypass area to IL 132 and IL 173, and preparation of the Draft Environmental Assessment. CAG#6 is anticipated for Fall 2011 with a Public Hearing anticipated in early 2012. The Village and LCDOT also discussed LCDOT attendance at small group meetings that would be setup by the Village to discuss the project and address questions, which the County was agreeable to.

The meeting adjourned at approximately 4:00 p.m.

Submitted by:



Matthew Huffman, P.E.
Christopher B. Burke Engineering, Ltd.

**LAKE COUNTY STORMWATER MANAGEMENT
COMMISSION**

INITIAL PROJECT COORDINATION MEETING SUMMARY – 03/26/2010

DRAINAGE COORDINATION MEETING SUMMARY 10/30/2014

US Route 45/Millburn Bypass
IL Route 132 to IL Route 173
Section No. 05-00262-02-RP
Lake County Division of Transportation

**3/26/2010 LCSMC
Meeting Minutes**

DATE: March 31, 2010

TO: Attendees
Chuck Gleason – LCDOT
Mike Matkovic – CBBEL
Ryan Westrom – Patrick Engineering Inc.
CBBEL Project File (08-0677)

FROM: Matt Huffman – CBBEL
Pete Knysz – CBBEL

MEETING DATE: March 26, 2010
TIME: 9:00 am

SUBJECT: Initial Project Coordination Meeting

LOCATION: Lake County Stormwater Management Commission
Libertyville, Illinois

ATTENDEES: Bob Gardiner – LCSMC
Glenn Westman – LCSMC
Pete Knysz – CBBEL
Matt Huffman – CBBEL

An initial project coordination meeting with the Lake County Stormwater Management Commission (LCSMC) was held on March 26, 2010. The purpose of the meeting was to:

- introduce the US Route 45/Millburn Bypass project
- summarize the alternative development process
- review the environmental analysis performed (GIS based) and preliminary results
- review the evaluation matrix content, relative comparison of alternatives, grading, and presentation
- discuss next steps
- provide an opportunity for LCSMC to comment on the project

The Lake County Division of Transportation (LCDOT) is the lead agency for the project, which includes improvements to US Route 45. The project limits (i.e., logical termini) extend from IL Route 132 north to IL Route 173. The project also includes evaluating east bypass, west bypass, and on-alignment alternatives for US Route 45 where it intersects with Grass Lake Road and Millburn Road. Existing US Route 45 in this area traverses the Millburn Historic District. This bypass location was previously studied by the Illinois Department of Transportation (IDOT) as part of the US Route 45 Strategic Regional Arterial (SRA) studies. In the mid 1990s, IDOT recorded a west



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bypass alignment in this area, which was the consensus realignment choice based on coordination with local municipalities, the Lake County Board, the Lake County Forest Preserve District, and LCDOT.

An Environmental Assessment (EA) is being prepared for this project. The project kicked off in December 2008, followed by a public information meeting in February 2009, and formation of the Community Advisory Group (CAG). Based on information received from the CAG, a range of eighteen initial alternatives was developed, nine of which were later discarded based on LCDOT, IDOT, and CAG input.

The logical termini and purpose and need statement for the project have been approved by the Federal Highway Administration (FHWA), IDOT, and other resource agencies (as part of the National Environmental Policy Act [NEPA]/404 merger process). FHWA and the other resource agencies also agreed with the elimination of nine alternatives - leaving nine alternatives to be carried forward for further analysis. The nine remaining alternatives include three west bypass options, three US Route 45 on-alignment options, and three east bypass options.

Preliminary conceptual plan view drawings depicting the nine remaining alternatives were presented to LCSMC and briefly discussed, particularly as the project relates to potential wetland, floodplain, and floodway impacts. All alternatives assumed basic IDOT geometric standards and attempted to minimize environmental impacts. It is anticipated that Glenn Westman (LCSMC) would review the project as it pertains to wetlands and Bob Gardiner (LCSMC) would review the project as it pertains to floodplains and stormwater.

A draft impact evaluation matrix for the nine remaining alternatives was also presented to LCSMC. Matrix content, relative comparison of alternatives, grading, and presentation were discussed. The impact criteria listed on the matrix is based on NEPA/IDOT policy – consistent with topics that will be evaluated in the EA. Potential impacts were calculated using available GIS information and field collected data (as available). The impact matrix quantifies impacts within the proposed project right-of-way, which is typically a 150 foot corridor; all resources within this right-of-way “footprint” were considered impacted. Avoidance of resources due to bridging (e.g., floodway) was not included at this point in the alternative evaluation process. The impact matrix will be presented at the next CAG meeting. CAG members will receive a packet of information prior to the upcoming CAG meeting. It is anticipated that this packet of information will include conceptual plan view drawings of the nine alternatives and the impact matrix.

Christopher B. Burke Engineering, Ltd. (CBBEL) explained that the Illinois Natural History Survey (INHS) completed wetland and biological surveys for this project. Cultural surveys are ongoing. IDOT – Bureau of Design and Environment (BDE) cleared this project with respect to biological resources; the Illinois Department of



Natural Resources (IDNR) also terminated consultation with respect to state listed threatened and endangered species. At the request of the U.S. Fish and Wildlife Service (USFWS), INHS conducted searches for the Eastern Prairie Fringed Orchid (*Platanthera leucophaea*). INHS followed USFWS guidelines for evaluating Eastern Prairie Fringed Orchid habitat in northeastern Illinois with searches conducted on three non-consecutive days during the period between June 28 and July 11. No Eastern Prairie Fringed Orchids were identified during the field searches.

CBBEL stated that INHS completed the wetland delineation for the study area. The wetland delineation report prepared by INHS was submitted to LCSMC prior to the meeting. LCSMC acknowledged receipt of the report.

CBBEL stated that the INHS field identified wetlands are different from those that are mapped; there is more mapped wetland within the study area than identified by INHS. LCSMC said that field identified wetlands often vary from those that are mapped on the Lake County Wetland Inventory (including mapped ADID polygons). CBBEL stated that based on the preliminary alternative footprints, four wetlands may be directly impacted. Preliminary potential wetland impacts total less than 0.1 acre. CBBEL stated that based on the INHS delineation report, three of the potentially impacted wetlands are low quality and one is fair quality (based on floristic inventories). The direct wetland impacts do not include impacts to mapped ADID wetland polygons. CBBEL explained that only wetland areas identified by INHS are shown on the exhibits within the study area – resulting in less mapped ADID wetland within the study area. Portions of mapped ADID polygons were removed from field verified upland/non-wetland areas on the exhibits. LCSMC will review the wetland delineation report and notify CBBEL of any concerns – particularly with respect to the farmed wetland determination.

LCSMC recommended that a wetland jurisdictional determination be completed – at a minimum for the wetlands that are within or immediately adjacent to the alternative footprints (i.e., for wetlands that could potentially be impacted by the project). The request could be processed through the U.S. Army Corps of Engineers or through LCSMC. CBBEL explained that the formal request for a jurisdictional determination is anticipated during Phase II (final design and permitting) – after a preferred alternative is selected. LCSMC recommended an informal field meeting in late May/early June to review potentially impacted wetlands. During the informal field meeting, LCSMC would provide a cursory opinion regarding jurisdictional status, wetland boundary, and quality (e.g., is the wetland a High Quality Aquatic Resource – such as a vernal pool). LCSMC concurred with the wetland methodology approach discussed at the meeting.

LCSMC recommended that existing drain tiles be considered in design/engineering for the project (in accordance with the Lake County Watershed Development Ordinance). LCSMC provided CBBEL with a GIS exhibit showing the approximate location of known drain tiles for the bypass study area. LCSMC recommended that if a drain tile



will be impacted by the project then it should be reconnected and an observation structure should be installed at the right-of-way.

LCSMC recommended that Best Management Practices (BMPs) be considered in project development. For example, consider incorporating porous pavement into the project design to assist with mitigating noise impacts, limiting salt spray, and increasing infiltration of stormwater run-off. There are AASHTO standards that can be reviewed with respect to this topic. LCSMC can be contacted for additional BMP information and/or consulted as needed regarding other topics. LCSMC is interested in meeting again following selection of a preferred alternative.

CBBEL summarized the next steps for the project. These include finalizing the preliminary impact analysis of the nine remaining alternatives for the upcoming CAG meeting on April 27, 2010. It is anticipated that additional alternatives will be dropped following a review of the impact analysis and consideration of LCDOT, IDOT and CAG input. A public meeting to present the alternatives being carried forward is anticipated in Summer 2010. Tentatively, the project team anticipates a September 2010 NEPA/404 merger meeting to present the alternatives being carried forward for detailed review and to obtain concurrence. Based on the current schedule, CBBEL anticipates Phase I completion in December 2011.

Action Items

- LCSMC to review the INHS wetland delineation report – particularly as it pertains to the farmed wetland determination, and comment on sufficiency.
- CBBEL to coordinate informal field visit with LCSMC to view potentially impacted wetlands. Field visit is to be scheduled for late May/early June.
- LCSMC to review their files and provide floodway and/or Base Flood Elevation (BFE) applicable to the project (e.g., Millburn Creek), if available. When no BFE exists, it will have to be determined by the project team.

The meeting concluded at approximately 10:00 am.



U.S. Route 45

IL Route 132 to IL Route 173

Section No. 05-00262-02-RP

P-91-666-09

Illinois Department of Transportation

**Drainage Coordination
Meeting Summary**

MEETING DATE: October 30, 2014

MEETING TIME: 1:00 p.m.

SUBJECT: Drainage Coordination Meeting

LOCATION: Lake County Division of Transportation
600 W. Winchester Road, Libertyville, IL

ATTENDEES: Bob Gardiner – Lake County SMC
Glenn Westman – Lake County SMC
Emily Karry – LCDOT
Chuck Gleason - LCDOT
Randy Seebach - Lake County Forest Preserve District
John Nelson - Lake County Forest Preserve District
Marie Glynn – IDOT
Lynn Hobbs – IDOT
Ilene Dailey - CBBEL
Matt Huffman – CBBEL

The purpose of this meeting was to discuss the proposed drainage plan for the U.S. Route 45 project from IL 132 to IL 173 Phase I Study, excluding the Millburn Bypass which was completed in 2013. A public hearing was held in March 2013 for the entire EA project limits from IL 132 to IL 173 which showed preliminary geometrics, detention facilities, and environmental footprint. An Environmental Assessment was prepared for the project and received a Finding of No Significant Impact (FONSI) in September 2013. The sections of U.S. Route 45 from 1000 ft north of IL 132 to Country Place (South Section), and 600 feet north of Independence Boulevard to 1,500 feet north of IL Route 173 (North Section) are currently in the process of completing Phase I Engineering and the subject of discussion for the meeting. The South and North Sections are currently funded only for Phase I Engineering. The Millburn Bypass is currently in Phase II Engineering and is programmed for construction.

A general overview of the design for the U.S. Route 45 project was provided. U.S. Route 45 will be two lanes in each direction, with a 22 foot grassed median, barrier curb and gutter, closed drainage system, space for a ten foot hot mix asphalt bike path on the west side, and space for a five foot sidewalk on the east side. The conceptual drainage design consists of storm sewer systems which typically drain all roadway pavement to detention facilities prior to release to the natural course of drainage. Any offsite tributary areas draining towards the roadway are controlled via ditches and conveyed via roadway cross culverts to maintain existing drainage patterns. The detention basins are designed per IDOT standards and typically provide the volume required to detain the 100-year critical storm duration runoff for added impervious area and release it at the 10-year



U.S. Route 45

IL Route 132 to IL Route 173

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**Drainage Coordination
Meeting Summary**

existing rate. Per IDOT policy, detention facilities for roadway purposes must be independent from other adjacent detention facilities; no sharing of detention is permitted. The detention basins also act as Best Management Practice (BMP) design features, which help to naturally filter roadway storm water prior to being released to the natural drainage path. All basins are planned to detain approximately 6 inches of water below the outlet elevation to promote growth of various vegetation and wetland characteristics. The preliminary detention design shown in the Phase I plans assume standard side slopes (3:1) and shapes. Refinements to the basin including overall shape, variable side slopes, bottom elevations, are performed as part of Phase II engineering. These items will be noted in the Combined Design Report narrative under the Special Design and Construction Considerations section.

Lake County Stormwater Management Commission (LCSMC) asked if there would be any treatments for impacts to ADID wetlands. Mitigation of wetlands would occur according to the proper mitigation ratio depending on jurisdiction of the wetland. Lake County Forest Preserve District (LCFPD) and LCSMC confirmed that they would prefer varying sideslopes and vegetated wetland bottom detention basins. LCSMC recommended that the distance between the inlet and outlet of each detention basin be maximized so water had the maximum amount of time to infiltrate. If placing the inlet and outlet at opposite ends of the detention basin is not possible it was recommended that the topography of the bottom of the basin be such that water would flow indirectly to the outlet. LCSMC asked about how field tiles would be treated; CBBEL (Dailey) stated that field tiles will be handled in accordance with IDOT guidance and observation structures would be placed at the right-of-way to connect the filed tiles appropriately. LCSMC indicated they would provide the drain tile survey to the project team for the Village Green Development.

It was confirmed that Lake County Division of Transportation (LCDOT), LCFPD, and LCSMC are not aware of any pavement flooding conditions within the South or North Sections.

A presentation of the proposed drainage design was made starting at the southern limit and progressing north. An exhibit was distributed, which shows the existing drainage crossing locations and culvert sizes. LCDOT has jurisdiction of Sand Lake Road and Stearns School Road. LCFPD has two holdings along the North Section, Raven Glen and Ethel's Woods Forest Preserves, and has other holdings west along Stearns School Road. LCSMC has no technical jurisdiction in this project because it is an IDOT project, however, their input and recommendations are considered during project development.

The South Section extends from 1,000 feet north of the IL Route 132 intersection to Country Place. The IL 132 intersection was evaluated as part of a separate IDOT project to widen U.S. Route 45 south to IL Route 176. Near Country Place, this project would connect into the Millburn Bypass which is currently funded for construction. A short



U.S. Route 45

IL Route 132 to IL Route 173

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**Drainage Coordination
Meeting Summary**

segment of the Millburn Bypass project would be modified to tie to the proposed four lane section (instead of existing two lanes). Improvements to Sand Lake Road and Stearns School Road are included with this project resulting from the intersection improvement at U.S. Route 45.

The drainage design for the southern section does not involve any flood plains or floodways. Subsequently no hydraulic reports were required for any of the drainage crossings per IDOT standards. There are eight existing cross road culverts and six proposed detention facilities. All existing culverts are being removed and replaced, with exception of the culvert of Dodge School Creek under Stearns School Road and the culvert at Station 104+80, which are extended. All detention basins are located in open space and there are no impacts to existing structures.

Dodge School Creek crosses under U.S. Route 45 south of Falling Waters (Sta. 69+00) and the Tributary to Dodge School Creek crosses U.S. Route 45 just north of Sand Lake Road (Sta. 83+50). Dodge School Creek crosses Stearns School Road (Sta. 6+50) and converges with the Tributary, and then flows east to North Mill Creek. The Tributary to Dodge School Creek currently flows through a roadside ditch, which is re-located with the improvement adjacent to the proposed bike path. Sand Lake Road and Stearns School Road, both LCDOT jurisdiction facilities, drain from west to east and have proposed storm sewer systems to collect pavement drainage. A small portion of Stearns School Road does not drain to a detention facility and releases to a vegetated ditch for water quality benefit prior to discharging to Dodge School Creek. The proposed detention basins upstream of Stearns School Road are sized to provide the IDOT required volume for the roadway improvements.

The North Section was presented, starting from the south, which is the location of the north limit of the Millburn Bypass improvement approximately 600 feet north of Independence Boulevard, to north of IL Route 173, which includes the intersection. Improvements to Miller Road are included with this project resulting from the intersection improvement at U.S. Route 45. IDOT currently has an ongoing Phase I Study of IL Route 173 from IL Route 59 to U.S. Route 41. Coordination has occurred regarding the improvements of this project at the intersection of U.S. Route 45 with IL Route 173. A portion of the Millburn Bypass project will need to be widened to accommodate the proposed typical section.

The drainage design for the northern section involves two major waterways, Hastings Creek and Tributary to Hastings Creek. Hastings Creek involves floodway and floodplain, while the Tributary to Hastings Creek only involves floodplain. LCSMC asked if there would be floodway and floodplain storage provided. Regulatory floodway and floodplain compensatory storage will be provided in accordance with IDOT requirements. The project team will look into the provision of 'floodplain' storage for local waterways that drain over 100 acres. Pavement flooding was reported at Tributary to Hastings Creek



U.S. Route 45

IL Route 132 to IL Route 173

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**Drainage Coordination
Meeting Summary**

and the proposed profile of the roadway was raised to meet IDOT's freeboard requirements. Hydraulic Reports were prepared for both waterways. There are seven roadway culverts and seven proposed detention facilities. All existing culverts are proposed to be removed and replaced. It was noted that the proposed right-of-way will be modified on the plans displayed where previously proposed detention facilities were located. LCSMC asked about avoidance of wetland and floodplain impacts. CBBEL (Huffman) explained that the widening locations are varied up to 15 feet within the corridor to minimize impacts.

A pedestrian underpass is shown on the plans north of Miller Road connecting Ravens Glen and Ethel's Woods Forest Preserves. Preliminary culvert design and anticipated path connection alignment is shown. The LCFPD indicated that they may pursue this project ahead of the implementation of the North Section improvement. The underpass costs would be 100 percent LCFPD, but conceptual design will be included in the Phase I Engineering plans to demonstrate compatibility with the U.S. Route 45 improvement. LCFPD also stated they have a proposed parking facility off of the east leg of Miller Road. LCFPD also stated they preferred 45 degree angle wing walls for the proposed culvert.

No specific comments were provided on the proposed drainage design during the meeting. In general LCSMC indicated that they support the conceptual design of detaining and infiltrating water prior to discharge. Half size sets of the proposed drainage plans were left with the agencies and PDFs of the plans will be emailed to meeting attendees for comment subsequent to the meeting. It was stated that IDOT is aiming for Design Approval of the South Section by the end of this year and the North Section early in 2015, so comments are requested within three weeks.

Additional, non-drainage topics were also discussed. As previously relayed, IDOT requires local agencies whose jurisdiction is adjacent to the roadway to cost participate (80/20) and maintain any pedestrian or multi-use facilities that they agree to have constructed in their jurisdiction. If they choose to not cost participate, a shelf will be provided, and the municipality would be responsible for 100 percent of the cost and maintenance of these facilities if implemented in the future. Along US 45, a multi-use trail is proposed along the west side, and a sidewalk on the east. The local communities would continue to be responsible for maintaining the multi-use trail within their jurisdiction, and not LCFPD. All other locations would require cost participation from local municipalities or townships. LCFPD and LCDOT will be receiving a Letter of Intent to communicate the location and cost share of the pedestrian and bicycle facilities. In some instances a local agency may opt not to cost participate, but another local agency could step in and fulfill the local cost obligations for construction of the sidewalk or bike path with the project.



U.S. Route 45

IL Route 132 to IL Route 173

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**Drainage Coordination
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LCFPD has their planned Millennium Trail along the west side of the Millburn Bypass connecting to McDonald Woods Forest Preserve on the south and running north to Raven Glenn Forest Preserve in the location of the underpass north of Miller Road. LCFPD asked if a pedestrian crossing could be located across Cross Creek Road along the north side of Sand Lake Road; CBBEL will incorporate this into the design. LCFPD also expressed interest in the proposed path along the north leg of Stearns School Road and desired to extend the path further east. The LCDOT 2040 Non-Motorized Plan does not indicate a LCDOT regional path along Sand Lake Road or Stearns School Road, however, LCDOT would allow another agency to own and maintain a non-motorized facility in the LCDOT right-of-way in this area.

Lake County Division of Transportation asked if they would have the opportunity to comment on the geometric design prior to Phase I being completed. IDOT (Glynn) stated that CBBEL will send over the latest South Section design plans which recently received comments on its second submittal. There were questions regarding the proposed retaining wall at the northwest quadrant of the intersection of Sand Lake Road and U.S. Route 45. IDOT (Glynn) indicated that the cost and maintenance of the wall would likely be IDOT's responsibility since only a small portion wraps around on the Sand Lake Road right-of-way.

The meeting concluded at approximately 3:00 p.m.

Meeting summary prepared by:

Matt Huffman - Christopher B. Burke Engineering, Ltd.





Attendance Roster

Bureau: Programming Section: Hydraulics
 Project/Topic: US Route 45 – IL 132 to IL 173 (Excluding Millburn Bypass) Drainage Coordinating Meeting
Lake County Forest Preserve District, Lake County SMC, Lake County DOT
 Date: October 30, 2014
 Time: 1:00 p.m.
 Location: Lake County Division of Transportation

	Attendees	Representing	Phone Number	Email Address
1.	JOHN NELSON	LCFPD	847-968-3407	jenelson@LCFPD.ORG.
2.	RANDY SEEBACH	LCFPD	847-968-3262	rseebach@LCFPD.org
3.	Bob Gardiner	LC SMC	847-377-7704	rgardiner@lakecounty.il.gov
4.	Glen Westman	LC SMC	847-377-7708	gwestman@lakecounty.il.gov
5.	MARIE GLYNN	IDOT Program CH2M Hill	847-705-4073	marie.glynn@illinois.gov
6.	Lynn Hobbs	IDOT Hydraulics	847 705-4783	lynn.hobbs@illinois.gov
7.	Ilene Dailly	CBBEL	847-823-0500	idailey@cbbel.com
8.	MATT HUFFMAN	CBBEL	847-823-0500	M.HUFFMAN@CBBEL.COM
9.	EMILY KARRY	LC DOT	847.377.7400	ekarry@lakecounty.il.gov
10.	CHUCK GLEASON	LC DOT	847-377-7447	CGLEASON@LAKECOUNTYIL.GOV
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				

UTILITY COORDINATION

UTILITY COMPANY COORDINATION SPREADSHEET

DESIGN STAGE REQUEST LETTERS

LAKE COUNTY DIVISION OF TRANSPORTATION – 08/18/2010

BUCKEYE PARTNERS – 08/18/2010

AT&T – 09/01/2009

COMED – 09/01/2009

COMCAST CABLE COMMUNICATIONS, INC. – 09/01/2009

LAKE COUNTY PUBLIC WORKS – 09/01/2009 AND 08/18/2010

NORTH SHORE GAS – 09/01/2009

NICOR GAS – 09/01/2009

NICOR EMAIL REQUEST – 09/01/2009

NICOR EMAIL REQUEST RESPONSE – 09/03/2009

LAKE COUNTY PUBLIC WORKS (WATER AND SEWER) EMAIL –
08/26/2009

LAKE COUNTY PUBLIC WORKS EMAIL (EXISTING UTILITIES FOR
MILLER ROAD) – 07/31/2009

BUCKEYE PARTNERS RESPONSE LETTER – 10/01/2010

AT&T RESPONSE LETTER – 02/08/2010

BUCKEYE PARTNERS PIPELINE CONFIRMATION LETTER – 08/27/2009

COMCAST RESPONSE LETTER – 09/24/2009

COMED RESPONSE LETTER – 11/18/2009

KINDER MORGAN REPOSENSE LETTER – 09/24/2009

NORTH SHORE GAS EMAIL – 09/08/2009

UTILITY COMPANY	AT&T (DISTRIBUTION)	BUCKEYE PARTNERS (WEST SHORE PIPELINE)	COMED	COMCAST
Address:	1000 COMMERCE DR. FLOOR 2 OAK BROOK, IL 60523	5 TEK PARK 9999 HAMILTON BLVD. BREINGSVILLE, PA 18031	1500 FRANKLIN BLVD. LIBERTYVILLE, IL 60048	688 INDUSTRIAL DR. ELMHURST, IL 60126
Contact Person:	DAVID PHELPS	Ms. JoMARIE JENKINS	TERRI BLECK	MARTHA GIERAS
Phone #	630-573-6464	610-904-4138	847-816-5239	630-600-6352
RESPONDING CONTACT				
Address:	SAME ADDRESS	3823 INDIANAPOLIS BLVD. EAST CHICAGO, INDIANA 46312		SAME ADDRESS
Contact Person:	DON VIRMOND	MICHAEL NORRIS		ROBERT SCHULTER / TED WYMAN
Phone #	630-573-6473	219-397-3656 X-2118		630-600-6349
Email address		MRNorris@buckeye.com		
		BUCKEYE PARTNERS & WEST SHORE "DO HAVE" FACILITIES IN THE AREA AS STATED ON FAX RECEIVED BY CBBEL. HOWEVER, NO OTHER INFO WAS EVER RECEIVED. ALSO, NO ANSWER AT 708-563-6372.		
Design Stage Letter (Atlas)	REQUEST SENT BY: K.C. SCHLENKER	NEW REQUEST SENT BY: JIM SCHMIEDER	REQUEST SENT BY: K.C. SCHLENKER	REQUEST SENT BY: K.C. SCHLENKER
Sent Date	9/1/2009	8/18/2010	9/1/2009	9/1/2009
Response Date	2/8/2010	10/28/2010	11/18/2009	9/24/2009
Potential Impact/Clear	ATLAS INFORMATION RECEIVED INCLUDING AERIAL AND UNDERGROUND FACILITIES.	ATLAS RECEIVED, HOWEVER THERE ARE NO DIMENSIONS PROVIDED.UNLESS HAVE ANY JULIE MARKS, THIS MAY BE UNDRAFTABLE. BUCKEYE ER#2010-0368 PROVIDED AS A PROJECT REFERENCE NUMBER. FOR USE ON ALL FUTURE CORRESPONDENCE.	ATLAS INFORMATION RECEIVED INCLUDING OVERHEAD AND UNDERGROUND FACILITIES. NOTE: DEPTH OF ALL COMED UNDERGROUND IS ASSUMED TO BE 30 INCHES +/- 12 INCHES.	ATLAS INFORMATION RECEIVED INCLUDING AERIAL AND UNDERGROUND FACILITIES
Atlas Received (Y/N)	YES	YES	YES	YES
Atlas Drafted (Date)	HOLD FOR SURVEY, R.O.W.	NOT DRAFTABLE FROM INFO RECEIVED	HOLD FOR SURVEY, R.O.W.	HOLD FOR SURVEY, R.O.W.
Preliminary Plans (2 sets)				
Sent Date				
Response Date				
Impact/Clear				
Returned Marked-up Set (Y/N)				
Marked-up Set Drafted (Date)				
Pre-Final Plans (1 set)				
Sent Date				
Relocation or Adjustment Design Request (Y/N)				
Additions or Corrections Received Date				
Additions or Corrections Drafted (Date)				
Final Plans (1 set)				
Sent Date				
Proceed with Relocation or Adjustment Request (Y/N)				
Additions or Corrections Received Date				
Additions or Corrections Drafted (Date)				
COMMENTS:				

UTILITY COMPANY	KINDER MORGAN (NATURAL GAS PIPELINE CO)	LAKE COUNTY DIVISION OF TRANS.	LAKE COUNTY PUBLIC WORKS	LINDENHURST (VILLAGE OF)
Address:	23725 W. COUNTY FARM ROAD SHOREWOOD ILLINOIS		650 W. WINCHESTER RD. LIBERTYVILLE, IL 60048	2301 E. SAND LAKE ROAD LINDENHURST, IL 60046
Contact Person:	CRAIG HOWARD-NATURAL GAS PIPELINE CO		GREGORY GOLDBOGEN	ROBERT GARCIA
Phone #	815-272-9110		847-377-7141	847-356-8252
RESPONDING CONTACT				
Address:	KINDER MORGAN ENERGY PARTNERS, LP 370 VAN GORDON STREET LAKEWOOD, COLORADO 80228-8304			SAME ADDRESS
Contact Person:	GREGORY SMITH, PROJECT MGR.			
Phone #	303-914-7848			
Email address				
		ALL CLEAR OF STORM SEWER FAXES RECEIVED FOR ALL DIG TICKETS LISTING "LDOT0A"	ALL CLEAR EMAIL RECEIVED ON 8-26-09 FOR WATER AND SEWER ON 2 OF 4 DIG TICKETS.	
Design Stage Letter (Atlas)	REQUEST SENT BY: K.C. SCHLENKER	NO LETTER SENT	REQUEST SENT BY: K.C. SCHLENKER	REQUEST SENT BY: K.C. SCHLENKER
Sent Date	9/1/2009		9/1/2009	9/1/2009
Response Date	9/24/2009			
Potential Impact/Clear	ATLAS INFORMATION RECEIVED FOR UNDERGROUND FACILITIES. 20" MORaine PIPELINE CROSSES MILBURN ROAD EAST OF CRAWFORD, ALSO CROSSES SAND LAKE ROAD JUST E. OF U.S. 45, & CROSSING U.S. 45 APPROX 1000 FEET SOUTH OF SAND LAKE ROAD THEN CONTINUING SOUTHERELY ON THE WEST SIDE OF U.S. 45 APPROX 500' THEN MEANDERS SOUTHWESTERLY AWAY FROM U.S. 45.			
Atlas Received (Y/N)	YES		NO	NO
Atlas Drafted (Date)	HOLD FOR SURVEY, R.O.W.			
Preliminary Plans (2 sets)				
Sent Date				
Response Date				
Impact/Clear				
Returned Marked-up Set (Y/N)				
Marked-up Set Drafted (Date)				
Pre-Final Plans (1 set)				
Sent Date				
Relocation or Adjustment Design Request (Y/N)				
Additions or Corrections Received Date				
Additions or Corrections Drafted (Date)				
Final Plans (1 set)				
Sent Date				
Proceed with Relocation or Adjustment Request (Y/N)				
Additions or Corrections Received Date				
Additions or Corrections Drafted (Date)				
COMMENTS:				

UTILITY COMPANY	NATURAL GAS PIPELINE COOMPANY	NICOR GAS	NORTHSHORE GAS COMPANY	TDS METROCOM
Address:	23725 W. COUNTY FARM ROAD SHOREWOOD ILLINOIS	1844 FERRY RD. NAPERVILLE, IL. 60563-9600	3001 GRAND AVE. WAUKEGAN, IL 60085	20875 CROSSROADS CIRCLE SUITE 800 WAUKESHA, WI 53186
Contact Person:	CRAIG HOWARD	CONSTANCE LANE	STEVE WARMINGTON	MICHAEL JOHNSON
Phone #	815-272-9110	630-388-3830	847-263-4666	262-754-3052
RESPONDING CONTACT	(SEE KINDER MORGAN)			
Address:			SAME ADDRESS	SAME ADDRESS
Contact Person:		CONSTANCE LANE	THERESA A. STINSKI, GIS TECHNICIAN	SAME
Phone #		630-388-3830	SAME	
Email address				
		ALL CLEAR		
Design Stage Letter (Atlas)	REQUEST SENT BY: K.C. SCHLENKER	EMAIL REQUEST SENT BY: K.C. SCHLENKER	REQUEST SENT BY: K.C. SCHLENKER	REQUEST SENT BY: K.C. SCHLENKER
Sent Date	9/1/2009	9/1/2009	9/1/2009	9/1/2009
Response Date				9/8/2009
Potential Impact/Clear			ATLASES (PDF) SENT VIA EMAIL BY THERESA A. STINSKI, GIS TECHNICIAN. UNDERGROUND GAS FACILITIES ARE PRESENT THROUGHOUT THE PROJECT.	ATLAS INFORMATION RECEIVED FOR UNDERGROUND FACILITIES LOCATED BOTH SOUTH AND EAST OF THE U.S. 45 AND IL. 132 INTERSECTION.
Atlas Received (Y/N)			YES	YES
Atlas Drafted (Date)			HOLD FOR SURVEY, R.O.W.	HOLD FOR SURVEY, R.O.W.
Preliminary Plans (2 sets)				
Sent Date				
Response Date				
Impact/Clear				
Returned Marked-up Set (Y/N)				
Marked-up Set Drafted (Date)				
Pre-Final Plans (1 set)				
Sent Date				
Relocation or Adjustment Design Request (Y/N)				
Additions or Corrections Received Date				
Additions or Corrections Drafted (Date)				
Final Plans (1 set)				
Sent Date				
Proceed with Relocation or Adjustment Request (Y/N)				
Additions or Corrections Received Date				
Additions or Corrections Drafted (Date)				
COMMENTS:				

UTILITY COMPANY	WARREN TWP HIGHWAY DEPT	WEST SHORE PIPELINE
Address:		3400 S. BADGER DRIVE ARLINGTON HEIGHTS, IL 60005
Contact Person:		BILL O'MALLEY
Phone #		847-878-3428
RESPONDING CONTACT		(SEE BUCKEYE PARTNERS)
Address:		
Contact Person:	GERALD RUDD	
Phone #	847-244-1101 X-301	
Email address		
	ALL CLEAR RESPONDED ON 8-31-2009 VIA TELEPHONE CALL TO K.C. SCHLENKER. PER MR. RUDD, WARREN TWP DOES NOT HAVE ANY FACILITIES ALONG ROUTE 45.	
Design Stage Letter (Atlas)	NO LETTER SENT	REQUEST SENT BY: K.C. SCHLENKER
Sent Date		9/1/2009
Response Date		
Potential Impact/Clear		
Atlas Received (Y/N)		
Atlas Drafted (Date)		
Preliminary Plans (2 sets)		
Sent Date		
Response Date		
Impact/Clear		
Returned Marked-up Set (Y/N)		
Marked-up Set Drafted (Date)		
Pre-Final Plans (1 set)		
Sent Date		
Relocation or Adjustment Design Request (Y/N)		
Additions or Corrections Received Date		
Additions or Corrections Drafted (Date)		
Final Plans (1 set)		
Sent Date		
Proceed with Relocation or Adjustment Request (Y/N)		
Additions or Corrections Received Date		
Additions or Corrections Drafted (Date)		
COMMENTS:		



DESIGN STAGE REQUEST

CHRISTOPHER B. BURKE ENGINEERING, LTD

9575 West Higgins Rd. • Suite 600 • Rosemont, Illinois 60018-4920 • Tel (847) 823-0500 • FAX (847) 823-0520

August 18, 2010

Gordon White
Chief Engineer
Lake County Public Works Dept.
650 Winchester Road
Libertyville, IL 60048

CBBEL PROJECT REFERENCE NO.: 080677

J.U.L.I.E. DIG TICKET NO.: A-2382078, A-2382089, A-2382099, A-2382104,
A-2382112, A-2382122

VILLAGE OR CITY: Lake County

PROJECT LIMITS AND SCOPE: The project will consist of the relocation of Route 45, around the Town of Milburn. The work will be done between IL Route 132 and IL Route 173. This project is in the Study/Design phase.

Dear Mr. White:

I, James Schmieder, on behalf of Christopher B. Burke Engineering, Ltd. (CBBEL), am requesting the location of your utilities that may be within the project limits as per J.U.L.I.E. Design Stage Request Dig Ticket No's A-2382078, A-2382089, A-2382099, A-2382104, A-2382112, A-2382122.

Enclosed is a map of the project limits. Please incorporate and/or identify your existing utilities via atlas or plans, and provide dimensions if necessary. Information that you provide will be incorporated in the project plans as they are developed.

Thank you for your assistance on this project. Please contact me at 847-823-0500, ext. 316 with any questions. Please send all correspondence to the address on the letterhead.

PLEASE INCLUDE CBBEL PROJECT REFERENCE NO. AND J.U.L.I.E. DIG TICKET NUMBER ON ALL CORRESPONDENCE.

Sincerely,


James T. Schmieder
Assistant CADD Manager



DESIGN STAGE REQUEST

CHRISTOPHER B. BURKE ENGINEERING, LTD

9575 West Higgins Rd. • Suite 600 • Rosemont, Illinois 60018-4920 • Tel (847) 823-0500 • FAX (847) 823-0520

August 18, 2010

JoMarie Jenkins
Buckeye Partners
5 Tek Park
9999 Hamilton Boulevard
Breingsville, PA 18031

CBBEL PROJECT REFERENCE NO.: 080677

J.U.L.I.E. DIG TICKET NO.: A-2382078, A-2382089, A-2382099, A-2382104,
A-2382112, A-2382122

VILLAGE OR CITY: Lake County

PROJECT LIMITS AND SCOPE: The project will consist of the relocation of Route 45, around the Town of Milburn. The work will be done between IL Route 132 and IL Route 173. This project is in the Study/Design phase.

Dear Ms. Jenkins:

I, James Schmieder, on behalf of Christopher B. Burke Engineering, Ltd. (CBBEL), am requesting the location of your utilities that may be within the project limits as per J.U.L.I.E. Design Stage Request Dig Ticket No's A-2382078, A-2382089, A-2382099, A-2382104, A-2382112, A-2382122.

Enclosed is a map of the project limits. Please incorporate and/or identify your existing utilities via atlas or plans, and provide dimensions if necessary. Information that you provide will be incorporated in the project plans as they are developed.

Thank you for your assistance on this project. Please contact me at 847-823-0500, ext. 316 with any questions. Please send all correspondence to the address on the letterhead.

PLEASE INCLUDE CBBEL PROJECT REFERENCE NO. AND J.U.L.I.E. DIG TICKET NUMBER ON ALL CORRESPONDENCE.

Sincerely,

A handwritten signature in black ink that reads 'James T. Schmieder'. The signature is fluid and cursive, with the first name 'James' being the most prominent.

James T. Schmieder
Assistant CADD Manager



DESIGN STAGE REQUEST

CHRISTOPHER B. BURKE ENGINEERING, LTD

9575 West Higgins Rd. • Suite 600 • Rosemont, Illinois 60018-4920 • Tel (847) 823-0500 • FAX (847) 823-0520

September 1, 2009

David Phelps
AT&T
1000 Commerce Drive, Floor 2
Oak Brook, IL 60523

CBBEL PROJECT REFERENCE NO.: 080677

J.U.L.I.E. DIG TICKET NO.: A-2382078, A-2382089, A-2382099, A-2382104,
A-2382112, A-2382122

VILLAGE OR CITY: Lake County

PROJECT LIMITS AND SCOPE: The project will consist of the relocation of Route 45, around the Town of Milburn. The work will be done between IL Route 132 and IL Route 173. This project is in the Study/Design phase.

Dear Mr. Phelps:

I, K.C. Schlenker, on behalf of Christopher B. Burke Engineering, Ltd. (CBBEL), am requesting the location of your utilities that may be within the project limits as per J.U.L.I.E. Design Stage Request Dig Ticket No's A-2382078, A-2382089, A-2382099, A-2382104, A-2382112, A-2382122.

Enclosed is a map of the project limits. Please incorporate and/or identify your existing utilities via atlas or plans, and provide dimensions if necessary. Information that you provide will be incorporated in the project plans as they are developed.

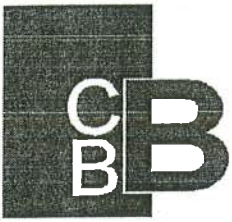
Thank you for your assistance on this project. Please contact me at 847-823-0500, ext. 316 with any questions. Please send all correspondence to the address on the letterhead.

PLEASE INCLUDE CBBEL PROJECT REFERENCE NO. AND J.U.L.I.E. DIG TICKET NUMBER ON ALL CORRESPONDENCE.

Sincerely,

A handwritten signature in black ink, appearing to read 'K.C. Schlenker', written in a cursive style.

K.C. Schlenker
Project Surveyor



DESIGN STAGE REQUEST

CHRISTOPHER B. BURKE ENGINEERING, LTD

9575 West Higgins Rd. • Suite 600 • Rosemont, Illinois 60018-4920 • Tel (847) 823-0500 • FAX (847) 823-0520

September 1, 2009

Terri Bleck
ComEd
1500 Franklin Boulevard
Libertyville, IL 60048

CBBEL PROJECT REFERENCE NO.: 080677

J.U.L.I.E. DIG TICKET NO.: A-2382078, A-2382089, A-2382099, A-2382104,
A-2382112, A-2382122

VILLAGE OR CITY: Lake County

PROJECT LIMITS AND SCOPE: The project will consist of the relocation of Route 45, around the Town of Milburn. The work will be done between IL Route 132 and IL Route 173. This project is in the Study/Design phase.

Dear Terri Bleck:

I, K.C. Schlenker, on behalf of Christopher B. Burke Engineering, Ltd. (CBBEL), am requesting the location of your utilities that may be within the project limits as per J.U.L.I.E. Design Stage Request Dig Ticket No's A-2382078, A-2382089, A-2382099, A-2382104, A-2382112, A-2382122.

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Thank you for your assistance on this project. Please contact me at 847-823-0500, ext. 316 with any questions. Please send all correspondence to the address on the letterhead.

PLEASE INCLUDE CBBEL PROJECT REFERENCE NO. AND J.U.L.I.E. DIG TICKET NUMBER ON ALL CORRESPONDENCE.

Sincerely,

A handwritten signature in black ink, appearing to read 'K.C. Schlenker'.

K.C. Schlenker
Project Surveyor



DESIGN STAGE REQUEST

CHRISTOPHER B. BURKE ENGINEERING, LTD

9575 West Higgins Rd. • Suite 600 • Rosemont, Illinois 60018-4920 • Tel (847) 823-0500 • FAX (847) 823-0520

September 1, 2009

Martha Gieras
Comcast Cable Communications, Inc.
688 Industrial Drive
Elmhurst, IL 60126

CBBEL PROJECT REFERENCE NO.: 080677

J.U.L.I.E. DIG TICKET NO.: A-2382078, A-2382089, A-2382099, A-2382104,
A-2382112, A-2382122

VILLAGE OR CITY: Lake County

PROJECT LIMITS AND SCOPE: The project will consist of the relocation of Route 45, around the Town of Milburn. The work will be done between IL Route 132 and IL Route 173. This project is in the Study/Design phase.

Dear Ms. Gieras:

I, K.C. Schlenker, on behalf of Christopher B. Burke Engineering, Ltd. (CBBEL), am requesting the location of your utilities that may be within the project limits as per J.U.L.I.E. Design Stage Request Dig Ticket No's A-2382078, A-2382089, A-2382099, A-2382104, A-2382112, A-2382122.

Enclosed is a map of the project limits. Please incorporate and/or identify your existing utilities via atlas or plans, and provide dimensions if necessary. Information that you provide will be incorporated in the project plans as they are developed.

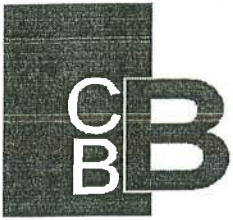
Thank you for your assistance on this project. Please contact me at 847-823-0500, ext. 316 with any questions. Please send all correspondence to the address on the letterhead.

PLEASE INCLUDE CBBEL PROJECT REFERENCE NO. AND J.U.L.I.E. DIG TICKET NUMBER ON ALL CORRESPONDENCE.

Sincerely,

A handwritten signature in black ink, appearing to read 'K.C. Schlenker', written in a cursive style.

K.C. Schlenker
Project Surveyor



DESIGN STAGE REQUEST

CHRISTOPHER B. BURKE ENGINEERING, LTD

9575 West Higgins Rd. • Suite 600 • Rosemont, Illinois 60018-4920 • Tel (847) 823-0500 • FAX (847) 823-0520

September 1, 2009

Gregory Goldbogen
Lake County Public Works
650 W. Winchester Road
Libertyville, IL 60048

CBBEL PROJECT REFERENCE NO.:	080677
J.U.L.I.E. DIG TICKET NO.:	A-2382078, A-2382089, A-2382099, A-2382104, A-2382112, A-2382122
VILLAGE OR CITY:	Lake County
PROJECT LIMITS AND SCOPE:	The project will consist of the relocation of Route 45, around the Town of Milburn. The work will be done between IL Route 132 and IL Route 173. This project is in the Study/Design phase.

Dear Mr. Goldbogen:

I, K.C. Schlenker, on behalf of Christopher B. Burke Engineering, Ltd. (CBBEL), am requesting the location of your utilities that may be within the project limits as per J.U.L.I.E. Design Stage Request Dig Ticket No's A-2382078, A-2382089, A-2382099, A-2382104, A-2382112, A-2382122.

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PLEASE INCLUDE CBBEL PROJECT REFERENCE NO. AND J.U.L.I.E. DIG TICKET NUMBER ON ALL CORRESPONDENCE.

Sincerely,

A handwritten signature in black ink, appearing to read 'K.C. Schlenker', written over a horizontal line.

K.C. Schlenker
Project Surveyor



DESIGN STAGE REQUEST

CHRISTOPHER B. BURKE ENGINEERING, LTD

9575 West Higgins Rd. • Suite 600 • Rosemont, Illinois 60018-4920 • Tel (847) 823-0500 • FAX (847) 823-0520

August 18, 2010

Gordon White
Chief Engineer
Lake County Public Works Dept.
650 Winchester Road
Libertyville, IL 60048

CBBEL PROJECT REFERENCE NO.: 080677

J.U.L.I.E. DIG TICKET NO.: A-2382078, A-2382089, A-2382099, A-2382104,
A-2382112, A-2382122

VILLAGE OR CITY: Lake County

PROJECT LIMITS AND SCOPE: The project will consist of the relocation of Route 45, around the Town of Milburn. The work will be done between IL Route 132 and IL Route 173. This project is in the Study/Design phase.

Dear Mr. White:

I, James Schmieder, on behalf of Christopher B. Burke Engineering, Ltd. (CBBEL), am requesting the location of your utilities that may be within the project limits as per J.U.L.I.E. Design Stage Request Dig Ticket No's A-2382078, A-2382089, A-2382099, A-2382104, A-2382112, A-2382122.

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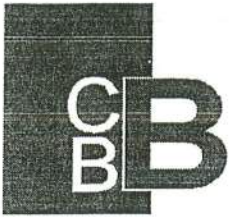
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Sincerely,

A handwritten signature in black ink that reads 'James T. Schmieder'. The signature is fluid and cursive, with the first name 'James' being the most prominent.

James T. Schmieder
Assistant CADD Manager



DESIGN STAGE REQUEST

CHRISTOPHER B. BURKE ENGINEERING, LTD

9575 West Higgins Rd. • Suite 600 • Rosemont, Illinois 60018-4920 • Tel (847) 823-0500 • FAX (847) 823-0520

September 1, 2009

Steve Warmington
North Shore Gas Co. / Peoples Energy
3001 Grand Avenue
Waukegan, IL 60085

CBBEL PROJECT REFERENCE NO.:	080677
J.U.L.I.E. DIG TICKET NO.:	A-2382078, A-2382089, A-2382099, A-2382104, A-2382112, A-2382122
VILLAGE OR CITY:	Lake County
PROJECT LIMITS AND SCOPE:	The project will consist of the relocation of Route 45, around the Town of Milburn. The work will be done between IL Route 132 and IL Route 173. This project is in the Study/Design phase.

Dear Mr. Warmington:

I, K.C. Schlenker, on behalf of Christopher B. Burke Engineering, Ltd. (CBBEL), am requesting the location of your utilities that may be within the project limits as per J.U.L.I.E. Design Stage Request Dig Ticket No's A-2382078, A-2382089, A-2382099, A-2382104, A-2382112, A-2382122.

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Sincerely,

A handwritten signature in black ink, appearing to read 'K.C. Schlenker', written in a cursive style.

K.C. Schlenker
Project Surveyor



DESIGN STAGE REQUEST

CHRISTOPHER B. BURKE ENGINEERING, LTD

9575 West Higgins Rd. • Suite 600 • Rosemont, Illinois 60018-4920 • Tel (847) 823-0500 • FAX (847) 823-0520

September 1, 2009

Constance Lane
Nicor Gas
1844 Ferry Road
Naperville, Illinois 60563

CBBEL PROJECT REFERENCE NO.: 080677

J.U.L.I.E. DIG TICKET NO.: A-2382078, A-2382089, A-2382099, A-2382104,
A-2382112, A-2382122

VILLAGE OR CITY: Lake County

PROJECT LIMITS AND SCOPE: The project will consist of the relocation of Route 45, around the Town of Milburn. The work will be done between IL Route 132 and IL Route 173. This project is in the Study/Design phase.

Dear Ms. Lane:

I, K.C. Schlenker, on behalf of Christopher B. Burke Engineering, Ltd. (CBBEL), am requesting the location of your utilities that may be within the project limits as per J.U.L.I.E. Design Stage Request Dig Ticket No's A-2382078, A-2382089, A-2382099, A-2382104, A-2382112, A-2382122.

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PLEASE INCLUDE CBBEL PROJECT REFERENCE NO. AND J.U.L.I.E. DIG TICKET NUMBER ON ALL CORRESPONDENCE.

Sincerely,

A handwritten signature in cursive script, appearing to read 'K.C. Schlenker'.

K.C. Schlenker
Project Surveyor

NICOR: EMAIL REQUEST

K.C. Schlenker

From: K.C. Schlenker [kschlenker@cbbel.com]
Sent: Tuesday, September 01, 2009 10:35 AM
To: 'gasmaps'
Subject: ROUTE 45 - LAKE COUNTY
Attachments: ROUTE45.pdf

To whom it may concern,
Attached is a letter and map of our project limits for numerous JULIE design stage tickets. If there are any questions, please feel free to ask.

Thanks,
KC

Karl C. Schlenker

Project Surveyor

Christopher B. Burke Engineering, Ltd.

9575 W. Higgins Road, Suite 600 Rosemont, IL 60018

Phone: (847) 823-0500 Fax: (847) 823-1029

E-Mail: kschlenker@cbbel.com

The information contained in this e-mail is intended only for the individual or entity to whom it is addressed and should not be opened, read or utilized by any other party. This message shall not be construed as official project information or as direction except as expressly provided in the contract document. Its contents (including any attachments) may contain confidential and/or privileged information. If you are not an intended recipient you must not use, disclose, disseminate, copy or print its contents. If you receive this e-mail in error, please notify the sender by reply e-mail and delete and destroy the message.

Principal Contact Persons

(E.P. Rev. 6.26.09)

Alphabetical by company name

**ELIZABETH PLA FACILITATES COORDINATION WITH DRY UTILITY FIRMS
WITH WHICH THE COUNTY HAS A FRANCHISE AGREEMENT (PLUS A FEW
OTHER SELECT AGENCIES):**

1. Mr. Timothy Payment
Abovenet Communications, Inc.
820 Oak Creek Drive
Lombard, IL 60148
Office: (630) 203-8003 Fax: (630) 261-9190
Cell: (312) 446-2812
Email: TPayment@above.net

2. Mr. Chris Roberts, Project Manager
Adesta
1428 Sherman Road
Romeoville, IL 60446
Office: (630) 343-2806 Fax: (630) 739-6346
Cell: (815) 405-1358
E-mail: croberts@adestagroup.com

3. Mr. Hector Garcia, Legal Mandate Engineer
AT&T Corp. (formerly SBC)
255 East Chicago Street, Floor 2
Elgin, IL. 60120
Office: (847) 888-3647 Fax: (847) 742-1631
Cell: (630)-639-8372
E-mail: hg2929@att.com,

4. Mr. Bobby Akhter, Engineer
AT&T Local Network Services
4513 Western Ave.
Lisle, IL 60532
Office: (630) 810-6274 Fax: (630) 968-2927
E-mail: bobbyakhter@ems.att.com

5. Mr. Carl B. Donahue, Jr., Outside Plant Engineering Supervisor
AT&T Long Distance & Data (On Union Pacific Railroad)
[Please do not call unless the project is located near railroad along 41, east side of the county. Thanks]
4962 Red Pine Ave.
Gurnee, IL 60031
Office: (847)-420-9115 Fax: (847) 244-9597
E-mail: cdonahue@att.com

6. Mr. Robert Schuler, Manager
Comcast
688 Industrial Drive
Elmhurst, IL 60126
Office: (630) 600-6347 Fax: (630) 600-6390
E-mail: bob_schuler@cable.comcast.com
Contact first Adm. Assistant: Martha Gieras
Office: (630) 600-6352
E-mail: martha_gieras@cable.comcast.com

7. Ms. Terri J. Bleck, Manager, Public Relocation Group - Northeast Region
ComEd
1500 Franklin Blvd.
Libertyville, IL 60048
Office: (847) 816-5239 Fax: (847) 816-5348
E-mail: terri.bleck@exeloncorp.com

8. Mr. Raymond Lam, Director, Network Operations and Performance
Extenet Systems
303 Warrenville Rd.
Lisle, IL 60532
Office: (312) 933-8880
E-mail: rlam@extenetsystems.com

9. Mr. Paul Baumann
PAETEC (old name McLeodUSA)
1815 S. Meyers Road Suite 900
Oak Brook Terrace, Illinois 60181
Office: (630) 925-4751 Fax: (630) 570-5848
Cell: (312) 296-4825
E-mail: pbaumann@mcleodusa.com

10. Mr. Craig Howard, Engineer
Natural Gas Pipeline Co./Kinder Morgan
23725 W. County Farm Rd.
Shorewood, IL 60436
Office: (815) 272-9110 Fax: (815) 272-9124
E-mail: craig_howard@kindermorgan.com

11. Ms. Constance Lane, Utility Consultant
Nicor Gas Company
1844 Ferry Rd.
Naperville, IL 60563
Office: (630) 388-3830 Fax: (630) 983-4028
E-mail: clane@nicor.com

12. Mr. Jay R. Hammer, Senior Operations Specialist-Gas Engineering
North Shore Gas Co.
3001 Grand Ave.
Waukegan, IL 60085
Office: (847) 263-4678 Fax: (847) 263-3226
Cell: (847) 489-6305
E-mail: jrhammer@integrysgroup.com

13. Mr. Kevin Huff
Qwest Communications
13057 Monitor Dr.
Palos Heights, IL 60463
Office: (708) 837-7927 Fax: (708) 371-8674
E-mail: kevin.huff@qwest.com

14. Mr. Jim Burton, Cable Projects Engineer – North Central Region
Sprint
5600 N. River Rd.
Rosemont, IL 60018
Office: (847) 318-3437 Fax: (847) 318-3199
E-mail: james.m.burton@sprint.com

15. Mr. Michael Johnson, Associate Manager – Network Implementation
TDS Metrocom (only on Grand Ave.)
20875 Crossroads Circle, Suite 800
Waukesha, WI 53186
Office: (262) 754-3052 Fax: (262) 727-6002
Cell: (262) 939-6355
E-mail: michael.johnson@tdstelecom.com

16. Mr. James T. Lewis, Implementation Engineer - Central Region Engineering
Verizon (formerly MCI)
Continental Towers
1701 E. Golf Rd. - Tower 3, Suite 109
Rolling Meadows, IL 60008
Office: (847) 631-4461 Ext. 228 Fax: (847) 631-4476
E-mail: jim.t.lewis@verizonbusiness.com
17. Dan Sande
Project Manager CO Regulatory/Utility Accommodations
We Energies - Electric Operations
333 W. Everett Street
Milwaukee, WI 53203
Office: (414) 221-4578 Fax: (414) 221-2336
E-mail: Dan.Sande@we-energies.com
Assistant: Angela Bajdan (414) 221-3967

ELIZABETH PLA ALSO FACILITATES COORDINATION WITH THE FOLLOWING WATER, STORM, SANITARY AND "PIPELINE" AGENCIES:

1. Ms. Maria Leschinskaya, Engineering Technician
Central Lake County Joint Action Water Agency ("JAWA")
200 Rockland Rd.
Lake Bluff, IL 60044
Office: (847) 295-7788 Fax: (847) 295-6853
E-mail: maria@clcjawa.com

2. Mr. Jeff Williams
West Shore Pipe Line Co.
Office: (918) 495-5416 Fax:

3. Mr. M. Gregory Goldbogen, P.E.
Lake County Public Works
650 W. Winchester Rd.
Libertyville, IL 60048
Office: (847) 377-7141 Fax: (847) 377-7173
E-mail: ggoldbogen@co.lake.il.us

4. Mr. Kevin R. Hausherr, Operation & Maintenance Manager
Lakes Region Sanitary District
25700 W. Old Grand Ave.
Ingleside, IL 60041-8524
Office: (847) 973-8940 Fax: (847) 973-2985
E-mail: kevin.hausherr@lrsanitary.com

5. Mr. Bill Stoltz, Supervisor of Design and Construction
North Shore Sanitary District
P.O. Box 750
Gurnee, IL 60031
Office: (847) 623-6060
E-mail: bistoltz@northshoresanitary.org

6. Mr. Mark Higby, Superintendent
Northern Moraine Wastewater Reclamation District
420 Timber Trail
Island Lake, IL 60042-0240
Contact first Adm. Assistant: Maria Carrera
Main Office: (847) 526-3300 Fax: (847) 526-3349
E-mail: nmwrld@ameritech.net

7. **Mr. John J. Castillo**
Utilities, Inc.
5509 Highland Dr.
McHenry, IL 60050
Office: (847) 497-3919
Cell: (847) 366-1671
E-Mail: jjcastillo@uiwater.com

K.C. Schlenker

From: gasmaps [gasmaps@NICOR.COM]
Sent: Thursday, September 03, 2009 10:21 AM
Subject: RE: ROUTE 45 - LAKE COUNTY; N7193

Your request is not within Nicor Gas territory.

Constance (Connie) Lane
Engineering Administrator
Nicor Gas - Engineering
1844 Ferry Road
Naperville, IL 60563
(630) 388-3830 direct
(630) 983-0639 fax

The information contained in this e-mail message and accompanying documents is intended for the confidential use of the recipient only and is the property of Nicor Gas Company. If the reader of this e-mail message is not the intended recipient, or an employee or agent responsible for delivery of this e-mail message to the intended recipient, you are hereby notified that any dissemination, distribution, copying or forwarding of this e-mail message is strictly prohibited. If you received the e-mail in error, please notify me immediately at (630) 388-3830. Thank you.

From: K.C. Schlenker [mailto:kschlenker@cbbel.com]
Sent: Tuesday, September 01, 2009 10:35 AM
To: gasmaps
Subject: ROUTE 45 - LAKE COUNTY

To whom it may concern,
Attached is a letter and map of our project limits for numerous JULIE design stage tickets. If there are any questions, please feel free to ask.

Thanks,
KC

Karl C. Schlenker
Project Surveyor
Christopher B. Burke Engineering, Ltd.
9575 W. Higgins Road, Suite 600 Rosemont, IL 60018
Phone: (847) 823-0500 Fax: (847) 823-1029
E-Mail: kschlenker@cbbel.com

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K.C. Schlenker

From: PWAdmin [PWAdmin@lakecountyil.gov]
Sent: Wednesday, August 26, 2009 4:34 PM
To: 'kschlenker@cbbel.com'
Subject: FW: JULIE LCPW0A 2009/08/26 #00016 A2382122-00A NORM NEW

LAKE COUNTY PUBLIC WORKS IS ALL CLEAR FOR WATER & SEWER,

IF YOU HAVE ANY QUESTIONS, PLEASE CALL 847-377-7500 -----Original Message-----

From: PWLocates
Sent: Wednesday, August 26, 2009 4:17 PM
To: PWAdmin
Subject: FW: JULIE LCPW0A 2009/08/26 #00016 A2382122-00A NORM NEW

-----Original Message-----

From: OCARS_Pro@Julie1Call.com [mailto:OCARS_Pro@Julie1Call.com]
Sent: Wednesday, August 26, 2009 3:33 PM
To: PWLocates
Subject: JULIE LCPW0A 2009/08/26 #00016 A2382122-00A NORM NEW

LCPW0A 00016 JULIEa 08/26/09 15:33:25 A2382122-00A DESIGN GRID

Dig No : A2382122 Priority: 2 Digstart: 02/26/10 Time: 15:31
Rcvd : 08/26/09 15:30 Operator: FLB Rev : 00A
Org Dig: A2382122 Rcvd: 08/26/09 15:30 Oper: FLB
Firm : CHRISTOPHER BURKE ENGINEERING Caller: K.C. SCHLENKER
Address: 9575 W. HIGGINS RD., STE. 600
City,St: ROSEMONT, IL Zip : 60018
Phone : 847-823-0500 Ext : Fax: 847-823-0520
Call Bk: Done For : LAKE COUNTY DEPT OF TRANSPORTATION
SiteCnt: SAME
Email : KSCHLENKER@CBBEL.COM
:
County : LAKE
Address: Subdivsn:
Place : ANTIOCH Cross :
:
Grids : T46NR10E13SE T46NR10E24**
:
Locat : IN THE TOWNSHIP OF ANTIOCH, JUST EAST OF ANTIOCH, IL
:
:
Type : DESIGN STAGE--ROAD CONSTRUCTION
Extent : WORK BEING DONE IN THE ABOVE SECTION AND QUARTERS
: Planning purpose message only. Retain for potential future locate.
Remarks: DIRECTIONAL BORING=YES. DEPTH EXCEEDS 7 FEET=YES.
: CALLER EMAIL: KSCHLENKER@CBBEL.COM
: TICKET EXPIRES AFTER 01/01/00

Members: ATT51A CEC00A COMC4A LCPW0A NICR0A NSGC0A SMP3A WSPL0A

From: Pla, Elizabeth [EPla@lakecountyil.gov]
Sent: Friday, July 31, 2009 12:00 PM
To: 'mhuffman@cbbel.com'
Subject: Miller Road
Attachments: Comcast Atlast.pdf

Good Morning Matthew,

Find the information of Comcast Atlas attached.

Bellow the Permit history of utility companies that have been granted permission to work in Lake County R.O.W.:

History of Utility Permits issued on Miller Road Section 118 (Station 85+00 to 108+00)	
Utility Company Name (past)	Utility Company owner if different (present time)
Ameritech	AT&T
Centel Communications	Sprint
Comcast	
Com Ed	
IL Bell Telephone Company	AT&T
Nicor Gas	
Northern Illinois Gas Company	Nicor Gas

Elizabeth Pla

Lake County Utility Coordinator
 600 West Winchester Road
 Libertyville, IL 60048-1381
 Phone: (847) 377-7452
 Fax: (847) 362-5290
 E-mail: epla@lakecountyil.gov

From: Matt Huffman [mailto:mhuffman@cbbel.com]
Sent: Thursday, July 30, 2009 3:37 PM
To: Pla, Elizabeth
Subject: RE: US 45 - Millburn

Elizabeth,

Thank you very much for the information. I am also curious if you have any utility information for Miller Road.

Thanks,

Matthew J. Huffman, E.I.
Civil Engineer
Christopher B. Burke Engineering, Ltd.
 9575 W. Higgins Road, Suite 600 Rosemont, IL 60018
 Phone: (847) 823-0500 Fax: (847) 823-0520
 E-Mail: mhuffman@cbbel.com

"You cannot escape the responsibility of tomorrow by evading it today."

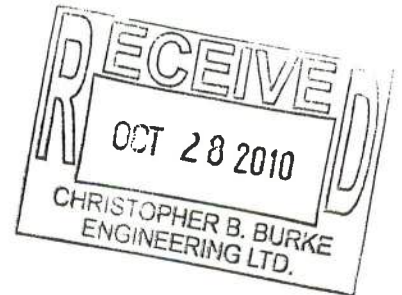
080677 U.S. RT 45 BYPASS

BUCKEYE PARTNERS

October 1, 2010

Mr. James Schmieder
Christopher B. Buke Engineering, LTD
9575 West Higgins Rd
Suite 600
Rosemont, Illinois 60018-4920

Buckeye ER# 2010-0368



RE:

Antioch, Lake Villa, Warren and Newport Twp.
Lake County

Dear Mr. Schmieder,

This letter is in response to your request for Buckeye Partners L.P.'s involvement with the proposed construction of the above mentioned project.

Upon review of your information provided, it has been determined that Buckeye Partners L.P. **does have** pipeline in the above mentioned municipality in Lake County. A drawing has been included for your reference of the approximate location of the pipeline facility.

Before any preliminary field work or construction begins in the vicinity of Buckeye's pipeline, a determination of the exact location and elevation of the pipeline must be made. To coordinate this procedure, please contact our local Buckeye facility nearest to your proposed project, see page 12 of 20 of the attached Buckeye Right of Way Use Restriction Specifications for a listing of the Buckeye Facilities and telephone numbers. Enclosed, please find a brochure entitled *Pipelines in Your Community*, which is part of Buckeye's Public Awareness / Damage Prevention Program.

All proposed drawings/plans must be submitted to Buckeye Right of Way Department, Breinigsville, PA (see page 13 of 20) for review to determine to what extent the pipeline right-of-way will be affected by the proposed construction. Your project has been assigned **Buckeye ER # 2010-0368**. **Please include this in all future correspondence to Buckeye Partners L.P.**

Should you have any questions or need any additional information, please do not hesitate to contact me at (610) 904-4504 or you can email me at JJenkins@buckeye.com.

Regards,

A handwritten signature in cursive script that reads "JoMarie Jenkins".

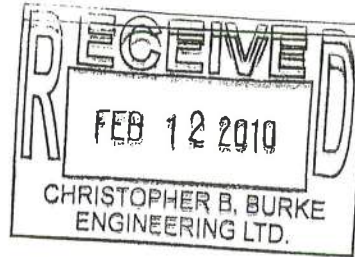
JoMarie
Jenkins
Right -of -Way Agent

CFord



Mon. Feb. 8, 2010

Michael J. Matkovic P.E.
Christopher B. Burke Engineering, Ltd.
9575 Higgins Road
Suite 600
Rosemont, Il. 60018-4920



RE: US Rte. 45 / Rte.173 to Rte. 132(was – US 45 Bypass at Millburn)

Good Day!

Enclosed is a drawing of the AT&T facilities that are in the area of the above project. These are approximate locations, so, please call J.U.L.I.E. before doing any digging. Please keep us in the loop as the project progresses

As always, please don't hesitate to call with any question or concerns.

Thanks,
Don Virmond
Contract Eng.
630-573-6473

* INVOLVED CONFIRMATION LETTER *

080677
U.S. RTE 45

FROM: Buckeye Pipeline Argo
FOR CDC: WSPL0A

TO: K.C. SCHLENKER
COMPANY: CHRISTOPHER BURKE ENGINEERING
ADDRESS: 9575 W. HIGGINS RD., STE. 600
City,State,Zip: ROSEMONT, IL 60018

SERIAL#: A2382122
COUNTY: LAKE TOWN:ANTIOCH
ADDRESS GIVEN: SEE REMARKS

RE: This message is in response to a locate request made by you to your ONE-CALL center. This is to notify you that Buckeye Partners and West Shore Pipe Line Company "DO HAVE" Facilities in the general vicinity of your proposed excavation as listed above with the specified serial number. We may have a possible conflict with your work, but need to investigate further. We request that no trenching, boring, or plowing equipment be operated on our right-of-way.

Your notification will be presented to one of our representatives who will be in contact with you to assist in protecting your safety and the integrity of our pipeline(s). This message does not mean that other utilities are clear! If you have any questions about this message, we can be reached at: (708)563-6372.

Thank you for using the One Call System.

Sincerely,
Buckeye Partners, L.P.
West Shore Pipe Line CO



Comcast Cable
688 Industrial Drive
Elmhurst, IL 60126

September 24, 2009

Christopher B. Burke Engineering, Ltd.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018-4920
Attention: K.C. Schlenker, Project Surveyor



Re: Utility atlas request

**J.U.L.I.E. Dig No.: A-2382078, A-2382089, A-2382099, A-2382104, A-2382112
& A-2382122
Rte. 45 – Rte. 132 to Rte. 173
Milburn, IL**

Dear Mr. Schlenker:

In regards to the above project, we have no underground cable within the area of work. Therefore, no underground conflicts are anticipated.

However, we have aerial cable attached to ComEd power poles within or near the project limits. It does not appear pole relocation will be needed. But in the event ComEd feels it is necessary to relocate their power poles, in which we have cable attached, we will reposition our aerial accordingly.

For your reference, we have enclosed one of our system drawings indicating the aforementioned Comcast aerial cable facilities, which are highlighted in yellow.

If you have any questions relevant to this information, please feel free to call.

Very truly yours,

Robert L. Schulner Jr.
Right-of-way Manager
Greater Chicago Market

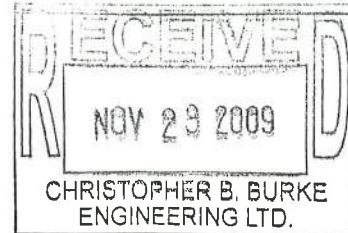
By:

Ted Wyman
Right-of-Way Engineer
(630) 600-6349

Enc. (9) system drawings

November 18, 2009

Mr. K.C. Schlenker
Christopher B. Burke Engineering, Ltd.
9575 West Higgins Rd. – Suite 600
Rosemont, Illinois 60018



**Re: Route 45 around the Town of Milburn
Between IL Route 132 and IL Route 173
JULIE Ticket No.s: A-2382078, A-2382089, A-2382099,
A-2382104, A-2382112, A-2382122 Lake County
CBBEL Project No. 080677
(ComEd Ref.# H9497LIB) Map Request**

Per your request, enclosed are copies of our maps depicting ComEd facilities in the subject area. I highlighted the underground areas in green. This should assist you in locating these facilities and comparing with J.U.L.I.E. locates.

Please be aware that these maps are a functional representation only and are not intended to show exact locations. It is imperative that underground locates be made prior to any excavation. Please contact J.U.L.I.E. at 1-800-892-0123 to make arrangements. These maps are confidential and are not for redistribution to the general public. They are a representation of the electrical system as of the title block date, which is subject to change without notification.

Please send all future correspondence pertaining to this project to Ms. Terri Bleck Public Relocation and please include ComEd Ref# stated above.
If you have any questions, please contact me at 847-816-5521.

Respectfully,

Tim Tamason, Sr.Eng.Tech.
ComEd – Public Relocation
Cc: T. Bleck

Commonwealth Edison Company www.exeloncorp.com
Libertyville Business Office
1500 Franklin Boulevard
Libertyville, Illinois 60048

November 18, 2009

Mr. K.C. Schlenker
Christopher B. Burke Engineering, Ltd.
9575 West Higgins Rd. – Suite 600
Rosemont, Illinois 60018

**Re: Route 45 around the Town of Milburn
Between IL Route 132 and IL Route 173
JULIE Ticket No.s: A-2382078, A-2382089, A-2382099,
A-2382104, A-2382112, A-2382122 Lake County
CBBEL Project No. 080677
(ComEd Ref.# H9497LIB) Map Request**

This letter is to notify you that we have received your request dated September 1, for ComEd to review the subject area and provide a response. ComEd will review the project area, research existing facilities and easements to determine potential conflict and associated costs to the requestor, if applicable.

In an effort to support your project successfully the following will be required prior to beginning Engineering Design:

1. Letter from requesting agency stating expected relocation completion date and your direction for ComEd to proceed with engineering design.
2. Stamped Pre-final or Final Plans submitted with your letter of direction.
3. Agencies anticipated construction start and finish date.

Upon receiving the above-mentioned letter and plans, the following timelines are required to relocate our facilities:

1. 4 to 10 weeks for engineering design, then
2. 10 to 12 weeks prior to ComEd construction start for scheduling, ordering materials, securing resources, coordinating customer outages and attaining permits.
3. Construction duration depends on amount of relocation required. Typically 3 to 4 weeks for 7 poles or less. However, overall timeline may vary based upon scope and complexity of work required.

Upon review of your submitted pre-final or final plans and your letter of direction to have ComEd proceed with relocation, I will work with you to schedule and coordinate our activities. If you have any questions please do not hesitate to contact me.

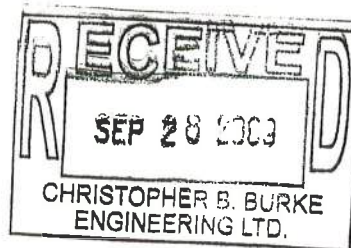
Thank you,

Terri Bleck
Public Relocation Department
(847) 816-5239
terri.bleck@ComEd.com

KINDER MORGAN
NGPL PIPECO LLC

September 24, 2009

Mr. K. C. Schlenker, Project Surveyor,
Christopher B. Burke Engineering, Ltd.
9575 West Higgins Road, Suite 600
Rosemont, IL 60018-4920



RE: CBBEL Project Reference No.: 080677, JULIE Dig Ticket No.: A-2382078,
A-2382089, A-2382099, A-2382104, A-2382112, A-2382122
Natural Gas Pipeline Company of America Encroachment Number 2009.117

Dear Mr. Schlenker:

Natural Gas Pipeline Company of America, LLC (NGPL) has reviewed the location information provided by Christopher B. Burke Engineering, Ltd. (CBBEL). NGPL has one odorized, cathodically protected, high pressure natural gas pipelines in the project area.

NGPL has a pipeline that crosses US 45 south of Falling Waters Drive south of Milburn, IL. NGPL has a 20 inch pipeline at that location. Enclosed is a copy of NGPL's Inventory Sheet AMIL-IS-G90 for CBBEL's reference.

Please keep NGPL informed as this project proceeds so that the people working on the project and the pipeline can be protected. If you have any questions about NGPL pipelines, please call the number listed below.

Very truly yours,

A handwritten signature in black ink that reads "Gregory E. Smith". The signature is written in a cursive style with a large, prominent "G" and "S".

Gregory E. Smith, PE
Project Manager – Encroachments
Kinder Morgan Energy Partners, LP
370 Van Gordon Street
Lakewood, CO 80228-8304
O: 303-914-7848

NOTE: PRINTS ARE BLURRED. OPEN PDF'S & ZOOM TO NOTE!
K.C. Schlenker DMS. → H:\LCNOT\080677\PI\UTIL\EMAIL\NORTH SHORE GAS

From: Stinski, Theresa A [TASTinski@integrysgroup.com]
Sent: Tuesday, September 08, 2009 3:43 PM
To: kschlenker@cbbel.com
Cc: Hammer, Jay R
Subject: Route 45 Relocation (CBBEL Project 080677)
Attachments: ROUTE45PG5.pdf; ROUTE45PG6.pdf; ROUTE45PG7.pdf; ROUTE45PG8.pdf;
ROUTE45PG9.pdf; ROUTE45PG1.pdf; ROUTE45PG2.pdf; ROUTE45PG3.pdf;
ROUTE45PG4.pdf

Dear Karl Schlenker;

Find attached copies of the approximate North Shore Gas Company facilities locations of the area you requested. Dimensions are from records and have not been field verified.

If we can be of further assistance, please contact us at (847)263-4666.

UtilityMapRequest@northshoregasdelivery.com

CBBEL Project # 080677

NORTH SHORE GAS

NATURAL GAS DELIVERY

<<ROUTE45PG5.pdf>> <<ROUTE45PG6.pdf>> <<ROUTE45PG7.pdf>> <<ROUTE45PG8.pdf>>
<<ROUTE45PG9.pdf>> <<ROUTE45PG1.pdf>> <<ROUTE45PG2.pdf>> <<ROUTE45PG3.pdf>>
<<ROUTE45PG4.pdf>>

Theresa A. Stinski
GIS Technician
Integrys Business Support, LLC
Email: TASTinski@integrysgroup.com
Office: 920-433-1712

Providing support for:

- o Integrys Energy Services
- o Michigan Gas Utilities
- o Minnesota Energy Resources
- o North Shore Gas
- o Peoples Gas
- o Upper Peninsula Power
- o Wisconsin Public Service