

**Illinois NEPA/404 Merger Meeting
February 22, 2017
Day 1 – District 1 Projects**

**USEPA – Region 5
77 West Jackson Blvd.
Chicago, IL**

12th Floor – Lake Ontario Room

**Federal Highway
Administration
3250 Executive Park Drive
Springfield, IL 62703
Training Room**

9:30 am – 12 noon

- Interstate 80 from Ridge Road to US 30 (District 1, Will County) (60 min)
 - Concurrence – alternatives to be carried forward
- Interstate 88 and IL 47 Interchange (District 1, Kane County) (60 min)
 - Concurrence – alternatives to be carried forward
- Quentin Road from Dundee Road (IL Route 68) to Lake Cook Road (District 1, Cook County) (30 min)
 - Information – alternatives to be carried forward

12 noon - 1:30 pm

LUNCH

1:30 pm – 3:00 pm

- Deerfield Road (IL 21 to Saunders Road), District 1, Lake County (30 min)
 - Information – project introduction
- North Lake Shore Drive (District 1, Cook County) (60 min)
 - Information – Lake shore protection

Sign-in Sheet
NEPA-404 Merger Meeting
February 22, 2017

District 1 - Interstate 80 from Ridge Road to US 30 (District 1, Will County)
Concurrence - Alternatives to be carried forward

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NEPA/404 Merger Meeting Summary
February 22, 2017

IDOT District 1, Will County
Interstate 80 from Ridge Road to US 30
Environmental Assessment
Concurrence – alternatives to be carried forward

DECISIONS:

The following agencies concurred with the alternatives to be carried forward as presented by the project team: USACE, USEPA, IDNR, and IHPA.

NOTE: The USFWS provided concurrence by e-mail on March 2, 2017.

NEXT STEPS:

A request for a preferred alternative concurrence is planned for September 2017.

DISCUSSION:

This was the fifth presentation for the I-80, Ridge Road to US Route 30 project. The purpose of this meeting was to seek concurrence on the Alternatives to be Carried Forward. Matt Fuller of the Federal Highway Administration (FHWA) facilitated the meeting and prompted self-introductions. The Illinois Department of Transportation's consultant HBP Illinois Partners (HBP), a joint venture comprised of HNTB, Bowman, Barrett, and Patrick Engineering, presented the PowerPoint (PPT).

Before beginning the presentation, HBP distributed a packet of information including an updated Impact Matrix and updated Environmental Impact Exhibits to replace those previously provided to participants as part of the Alternatives Document. HBP acknowledged the receipt of two questions from the USACE. The first inquired about the details of the wetland impact associated with the pavement replacement alternative. HBP stated that these details would be discussed in the presentation. The second question asked about the lack of environmental impact exhibits. HBP provided the exhibits at the onset of the meeting.

The agenda for the presentation included review of the study area, the approved Purpose & Need Statement, a Project Update, the No-Build Alternative, the Build Alternatives, and request for Concurrence on Alternatives to be Carried Forward. The project study area is 16 miles along I-80 from Ridge Road on the west to US Route 30 on the east. The project resides within Will, Kendall, and Grundy Counties and traverses six municipalities (City of Joliet and the Villages of Minooka, Channahon, Shorewood, Rockdale, and New Lenox). The Ridge Road interchange was recently reconstructed and is a major interchange with a heavily traveled north-south highway and the US Route 30 interchange was the subject of a separate recently completed study. As such, this project has logical termini and independent utility.

The Purpose & Need for this study is to provide an improved transportation system along Interstate 80 from Ridge Road to US Route 30. This will be accomplished by improving

regional and local travel and access, improving facility condition and design, and improving safety for all users. Improving regional and local travel and access includes improving levels of service on mainline I-80, in ramp merge, diverge and weave sections and at ramp intersections with cross streets. Improving facility condition and design will address the pavement age, the outdated design, and geometric issues. Improving safety will address the high amount of rear-end and sideswipe crashes due to traffic congestion on the mainline and in merge, diverge and weave areas. NEPA concurrence on the Purpose & Need was given on March 1, 2012. There was a NEPA presentation on the project alternatives for information only on June 25, 2013.

Stakeholder involvement for this study has been comprised of two public meetings in 2010 and 2011 centered on corridor issues and transportation problems and project alternatives, as well as five Project Working Group meetings from 2010 to 2013 that included topics from the transportation issues and project goals, to the draft Problem Statement, to a toolbox of improvement alternatives and an alternatives workshop.

The No-Build Alternative includes routine maintenance, but no capital projects or improvements beyond those already committed or planned and programmed. This includes the new Houbolt Road Bridge that includes a new Diverging Diamond Interchange (DDI) for I-80 and Houbolt Road, as well as near-term bridge improvements that includes some bridge repair, rehabilitation, and reconstruction within the study area. The No-Build Alternative does not meet any of the three tenets of the project's approved Purpose & Need (improve regional and local travel, facility condition and design, and safety). The No-Build Alternative will be used as a basis for comparison for the Build Alternatives for benefits and impacts.

We also developed project Build Alternatives that include mainline, bridges including the Des Plaines River Bridge, and interchange alternatives. Due to the age and condition of the I-80 mainline pavement, the project team evaluated a pavement replacement alternative. This addresses the pavement age and general condition. It also improves the vertical layout of I-80 in several locations and provides shoulders that meet current design standards, which will improve safety. There is 0.9 acres of wetland impacts due to pavement replacement beneath the bridge just west of the Des Plaines River. Pavement replacement is recommended to be carried forward.

Another mainline alternative is the Additional Through Lanes Alternative, which adds a single through lane in each direction throughout the length of the corridor. Large projects such as this are called Major Capital Projects (MCP's). The cost of MCP's cannot exceed the expected funds that are available to the year 2040. Currently, I-80 add-lanes is an MCP and is not included in the region's Transportation Improvement Program (TIP). Therefore, this alternative is dismissed from further study.

The third mainline alternative is the Add Auxiliary Lanes Alternative. An auxiliary lane in each direction already exists between Center Street and Richards Street. As part of this alternative, these auxiliary lanes would be extended from Center Street west to Larkin Avenue and from Richards street east to Briggs Street. The USEPA asked if the existing auxiliary lanes are for capacity or for the close spacing of the existing interchanges. The Add Auxiliary Lane Alternative does not add through lanes, but rather an extra freeway lane that connects

interchanges where traffic enters and exits the freeway. It is especially needed in this situation where we have 5 interchanges within approximately 5 miles, where IDOT's preferred minimum interchange spacing is 2 miles. Auxiliary lanes improve traffic flow and safety in these existing weave areas. This, in turn, reduces the potential for crashes and improves safety. Therefore, this alternative is recommended to be carried forward.

Bridges are another component of the alternatives investigated for the I-80 Study. Different scopes of work are proposed for different bridges due to their age, condition, and geometric features. These range from no work, to minor repairs, to replacement of decks, widening, major rehabilitation and total replacement. Some bridge work has been advanced as part of the Near-Term Phase I Study, which received design approval on December 21, 2015. Any work proposed as part of either study has been designed not to preclude future widening for additional lanes. The Mainline Bridge Alternative, consists of various bridge scopes for different bridges as described in Exhibit A3 of the Alternatives Document, is recommended to be carried forward. The Mainline Bridge Alternative involves floodplains as follows: 100 feet of the DuPage River, 125 feet of Rock Run Creek, and 180 feet of Hickory Creek. The mainline bridge over the Joliet Junction Trail impacts a Section 4(f) resource. Any potential floodplain impacts would be compensated for with commensurate excavation and the trail would be maintained and re-established as part of this project. USACE asked about the Waters of the United States (WOUS) impacts for these bridges. WOUS impacts were discussed during the presentation. It was noted that these impacts are due to bridge rehabilitations, widening, or replacements over them, and that impacts, if any, would be minimal to due work on specific piers in the waterways. .

The Des Plaines River Bridge Alternatives were developed to address geometric issues, improve horizontal and vertical alignment, maintain 2 open lanes in each direction during construction, and accommodate future widening. This is the only location along the project corridor where the centerline alignment is shifted. Both a north and south alignment shift were evaluated. The north alignment shift requires 4.3 acres of proposed ROW and results in 20 residential and 2 commercial displacements in an area with a minority population ranging from 54-96%. The south alignment shift requires 4.5 acres of proposed ROW and results in 8 residential displacements in an area with a minority population of 70%. The south alignment shift avoids impacts to the Joliet Water Treatment Facility on the east bank and the quarry/landfill on the west bank. Both options have similar in-stream work and floodplain involvement. A Bridge Type Study was completed for this crossing that was approved by the IDOT Bridge Office. The USEPA asked which bridge type was selected. Two bridge types were studied further that included a steel girder and a tied arch. The steel girder bridge was selected as the preferred option.

Interchange alternatives were developed to address geometric issues, improve local travel and access, enhance safety, and accommodate existing and projected travel demand. Interchange improvements were evaluated at I-55, Houbolt Road, Larkin Avenue (IL 7), Center Street, Chicago Street (US 52), Richards Street, and Briggs Street.

No improvements are planned at the Ridge Road and US 30 interchanges. Ridge Road recently underwent a complete reconstruction and US 30 was part of the recently completed study to the

east. Proposed improvement alternatives at the other interchanges listed above range from minor ramp and turn lane improvements to complete interchange reconfigurations.

At I-55, current operational issues include poor weaving in the eastbound and southbound directions and a high-volume loop ramp in the southwest quadrant. I-55 Interchange Alternative 1 creates a road parallel to I-80 that separates eastbound traffic traveling to and from I-55 from the I-80 mainline, also called a collector-distributor, or C-D road. The C-D road improves traffic flow on I-80 in the eastbound weave area. The southbound to eastbound loop ramp requires two lanes, but it cannot be widened because there is not enough space to provide two lanes on the ramp and then merge both lanes onto I-80. Alternative 1 also does not address issues with the southbound weave on I-55 or the entrance and exit areas on I-80. Because it only addresses one of the several needs identified for the I-55 interchange, Alternative 1 is not recommended to be carried forward and dismissed from further study.

I-55 Interchange Alternative 2 creates a new ramp connecting southbound I-55 directly to eastbound I-80 (called a turbine ramp) and removes the existing loop ramp in the southwest quadrant. The new ramp combines with a rebuilt northbound to eastbound two-lane ramp before merging onto I-80. This two-lane ramp requires an auxiliary lane to Houbolt Road. Alternative 2 eliminates weave areas and improves traffic flow on I-55 and I-80. Safety will be improved by reducing the potential for crashes caused by traffic congestion and weaving movements. Alternative 2 impacts wetlands and Rock Run Creek. Based on the benefits that it provides; this alternative is recommended to be carried forward.

At Houbolt Road, current operational issues include poor approach level-of-service (LOS) at both ramp intersections along Houbolt Road. Improvements include adding turn lanes at the ramp intersections. The proposed intersection improvements provide acceptable LOS and will improve safety by reducing the potential for congestion-related crashes. The roadways and ramps can be widened within the existing right-of-way with minimal impacts. The improvements may have minor impacts during construction to the Rock Run Trail, which parallels Houbolt Road to the west and crosses the ramps, and is a 4(f) resource. This alternative is recommended to be carried forward. USACE asked if a roundabout was studied for this interchange. Roundabouts typically work well with similar traffic volumes on each leg, which is not the situation we have here. Further, roundabouts are commonly evaluated for stop-controlled intersections before converting them to traffic signal control. Both of these ramp intersections are already under traffic signal control, and as such, roundabouts were not evaluated at these ramp intersections.

At Larkin Avenue (IL 7), current operational issues include poor weaving in the eastbound direction on I-80, along Larkin Avenue north of the interchange (due to the close proximity of the McDonough Street intersection to the north), and poor LOS for some of the ramp merge and diverge locations. Larkin Avenue Alternative 1 shifts the westbound to northbound ramp south to increase the distance to McDonough Street. It provides acceptable operations and provides additional room for northbound vehicles to stack at McDonough Street. Furthermore, beginning the new/extended eastbound auxiliary lane on I-80 at the southbound to eastbound loop ramp improves traffic flow in the eastbound weave area. Safety will be improved by reducing the potential for congestion and weave-related crashes. Alternative 1 meets several of the identified

needs and can be built within the existing right-of-way with minimal impacts (0.3 acres of wetland impacts). Therefore, it is recommended to be carried forward.

Larkin Avenue Alternative 2 eliminates the westbound to southbound loop ramp and adds left turn lanes to the westbound exit ramp, which is shifted south and tees into Larkin Avenue with a traffic signal. Like Alternative 1, Alternative 2 improves traffic flow at the ramp intersection and provides enough room for northbound vehicles to stack at McDonough Street. Removing the westbound to southbound loop ramp removes the weave section on southbound Larkin Avenue, improving traffic flow. Also this Alternative is similar to Alternative 1 by beginning the new/extended eastbound auxiliary lane on I-80 at the southbound to eastbound loop ramp. Safety will be improved by reducing the potential for congestion and weave-related crashes. Alternative 2 meets several of the identified needs and can be built within the existing right-of-way with minimal impacts (0.2 acres of wetland impacts). Therefore, it is recommended to be carried forward.

Currently at Center Street, eastbound to southbound and northbound to westbound access does not exist. I-80 is also proposed to be realigned at this location for the Des Plaines River Bridge Alternatives, requiring at least some level of reconstruction of this interchange. Lastly, due to the relatively low volumes present at this interchange, the complex directional ramps and tri-level interchange are not needed and can be simplified in the proposed design. Given these conditions, 12 alternatives were developed for the improvement of the Center Street interchange. Three of the alternatives developed did not provide for all movements, which is not allowed for reconstructed interchanges based on a 2009 FHWA Policy Statement. Two more alternatives included a two-lane loop ramp in the SW quadrant, which cannot be designed to meet design standards due to the proximity of the Des Plaines River and the excessive cost that would be required. Five other alternatives were removed from further study because the property impacts and/or construction costs were too great when compared other alternatives that provided similar benefits.

Center Street Alternative #6 is a $\frac{3}{4}$ diamond with a loop ramp in the SW quadrant. It includes three diamond-style type ramps and one loop ramp. This introduces an off-ramp for the westbound exit to the east of Center Street. Center Street Alternative #12 is a partial cloverleaf interchange or a parclo. It includes two diamond-style type ramps and two loop ramps with all ramps to the west of Center Street. Under all options the current three-level interchange will become a two-level interchange. Alternative #12 results in 4 residential displacements in an area with a minority population of 54%. Both Alternatives #6 and 12 are recommended to be carried forward for further study.

The needs identified at the Chicago Street interchange include poor weaving operations in both directions along I-80 and at diverge areas. Also, many features of the existing interchange do not meet current design standards such as tight curves on ramps and pavement slopes on curves. Traffic volumes are also very high at this interchange, among the highest throughout the entire corridor. Eight alternatives were developed for the improvement of the Chicago Street interchange. Four of these alternatives did not address the need to provide acceptable LOS at the ramp intersections or in the weave areas and as such, they were removed from further study.

Chicago Street Alternative #2 shifts Chicago Street to the east and builds a parclo interchange to the west. Alternative #2 improves safety by addressing traffic congestion, weaving movements and substandard features. It requires additional land to build and has 4 residential displacements in an area with a minority population ranging from 70-96%, as well as affecting 190' of Hickory Creek to the south. This alternative is recommended to be carried forward.

Chicago Street Alternative #6 replaces the Chicago Street interchange with a DDI. Alternative #6 eliminates the short weaves but requires longer ramps to the east, reducing the distance between the Chicago Street and Richards Street ramps. An auxiliary lane helps address this issue. This alternative addresses traffic congestion and weaving movements and improves safety. It requires additional land to build, including 2 residential displacements in an area with a minority population ranging from 74-98%, and requires two new bridges over a railroad. This alternative is recommended to be carried forward. USACE asked if all existing bridges were over Chicago Street as part of Alternative #6 and they are.

Chicago Street Alternative #7 shifts Chicago Street east and builds a parclo interchange with a directional ramp for the high northbound to westbound movement, requiring two new bridges for this ramp. Safety will be improved by addressing traffic congestion, weaving movements and substandard features. Alternative #7 requires additional land, including 4 residential displacements in an area with a minority population ranging from 70-96%, as well as affecting 190' of Hickory Creek to the south. This alternative is recommended to be carried forward.

Chicago Street Alternative #8 proposes a combination of a parclo interchange with a jughandle slip ramp for the northbound to westbound movement. The jughandle allows northbound to westbound traffic to "slip around" Chicago Street and go straight through the traffic signal without requiring a left turn to get to westbound I-80. This alternative meets current design standards, provides acceptable LOS at the ramp intersections, and eliminates the weaves within the immediate interchange area. Safety will be improved by addressing traffic congestion, weaving movements and substandard features in the interchange area. Alternative #8 requires additional land including 4 residential displacements in an area with a minority population ranging from 70-96%, as well as affecting 190' of Hickory Creek. This alternative is recommended to be carried forward.

At Richards Street, current issues include poor operations at the ramp junctions along I-80 and short turn lanes at the ramp intersections along Richards Street. The proposed improvements at Richards Street include widening the four ramps to provide longer turn lanes at the intersections and bringing merge and diverge areas up to current standards. The improvements provide acceptable LOS and meet current standards. The upgraded auxiliary lanes improve operations in the entrance and exit areas on I-80. USEPA asked if the traffic signals shown are existing and they are. The improvements have minimal impacts on adjacent properties and therefore, are recommended to be carried forward.

At Briggs Street, current operational issues include the south intersections along Briggs Street (south ramps and Haven Lane) being too close to each other, poor LOS at ramp merge and diverge areas, and poor LOS at south ramps intersection with Briggs. The proposed improvements at Briggs Street include shifting the eastbound ramps north to increase the

distance to Haven Lane, lengthening turn lanes and adding new turn lanes at the ramp intersections. The improvements meet current design standards and provide acceptable LOS. Safety will be improved by reducing the potential for crashes resulting from traffic congestion and the short distance between the ramps and Haven Lane. The improvements can be built within the existing right-of-way with minimal impacts. The north intersection was recently improved by IDOT so no changes are proposed. Therefore, these improvements are recommended to be carried forward.

In summary, the alternatives for the I-80 study that are recommended to be carried forward by the study team for the mainline, bridges, and interchanges are as follows:

Mainline

Pavement Replacement and Extend Existing Auxiliary Lanes

Bridges

Mainline Bridges (Long-Term Improvements) and Des Plaines River Bridge North & South

Interchanges

- I-55 Interchange Alternative #2
- Houbolt Road Intersection and Ramp Improvements
- Larkin Interchange Alternatives #1 & 2
- Center Street Interchange Alternative #6 & 12
- Chicago Street Interchange Alternative #2, 6, 7, & 8
- Richards Street Ramp Improvements
- Briggs Street Interchange Improvements

The USEPA asked if the additional through lanes would be a value to the corridor since they are only being dismissed since they are not included the capital plan. The project team is proposing the reconstruction of the mainline pavement to be shifted towards the center median so a future additional lane would be further widened to the median to add the lane. This also allows the outside reconstructed lanes to remain in the same location so ramp tie-ins will not need to be changes when a lane is added in the future. The bridges will also be built to accommodate widening to them for a future add lane.

The range of impacts associates with the above alternatives to be carried forward are depicted in the table below:

Environmental Resource Area	Build Alternatives (Range of Impacts)
Social / Economic Resources	
Residential Displacements	10 - 28
Business Displacements	0 - 2
Total ROW Acquisition (acres)	5.9 - 8.5
Potential EJ Impacts - Minority	Y

Potential EJ Impacts - Low-Income	N
Special Lands/Section 4(f)/Section 6(f) Lands	
Section 4(f) Sites Potentially Impacted	2 Trails
Natural Resources	
T&E Species	N
Waters of the U.S.	
In-Stream Work (name - length)	Des Plaines River: 170' (2.8 ac) DuPage River: 100' (0.42 ac) Rock Run Creek: 30' (0.05 ac) Hickory Creek: 180' (0.1 ac) - 370' (0.6 ac)
Wetland Impacts (# and acres)	7 (1.8 ac) - 11 (2.3 ac)
High Quality Wetland Impacts	0
ADID Wetland Impacts	0
Floodplain Impacts	Y

The next steps are presenting the alternatives to the Project Working Group followed by a Public Meeting in mid to late summer.

Concurrence on the alternatives to be carried forward was granted by the USACE, the USEPA, the IDNR, and the IHPA. The FHWA will follow up with agencies not on the call for their concurrence.

Sign-in Sheet
NEPA-404 Merger Meeting
February 22, 2017

District 1 - Interstate 88 and IL 47 Interchange (Kane Co)
Concurrence - Alternatives to be carried forward

Name	Agency	e-mail address	Participation Location
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**IDOT District 1, Kane County
Interstate 88 and IL 47 Interchange
Environmental Assessment
Concurrence – alternatives to be carried forward**

DECISIONS:

Concurrence to the Alternatives to be Carried Forward was obtained by all agencies at the meeting. Agencies in concurrence include: U.S. Army Corps of Engineers (USACE), U.S. Environmental Protection Agency (USEPA), Illinois Department of Natural Resources (IDNR) and Illinois Historic Preservation Agency (IHPA).

NOTE: The USFWS provided concurrence by e-mail on March 2, 2017.

NEXT STEPS:

Public Meeting No. 3 will occur on March 28, 2017 to present the Alternatives to be Carried Forward. CAG Meeting No. 5 will identify the Preferred Alternative in Spring 2017.

DISCUSSION:

Steve Schilke of the Illinois Department of Transportation (IDOT) led the Power Point presentation of the proposed Alternatives to be Carried Forward.

The Village of Sugar Grove is the lead agency for the project. The Project Study Group includes the IDOT, Illinois Tollway, Kane County, the Federal Highway Administration, and the Village of Sugar Grove.

The Phase I consultant team includes the Prime Consultant of GRAEF, and their sub-consultants Quigg Engineering, Kimley Horn, Lin Engineering, and Crawford Murphy Tilly. The purpose of this project is to improve system linkage and accommodate land use and future economic development. P&N received concurrence on April 7, 2016.

Environmental resources and existing conditions of the project area were summarized.

Four alignment configurations (M-1, M-2, M-3, and M-4), and three typical section configurations (A, B and C) along IL 47 were considered. Exhibits illustrating these configurations and resulting eight design alternatives were presented.

The Round 1 Screening process evaluated the IL 47 Alternatives based on expected Level of Service, ROW needs, Environmental Concerns, and Stakeholder Input. Two alignment alternatives (M-3, and M-4) were eliminated from Round 1 Screening based on these factors.

The Round 2 Screening process evaluated the IL 47 Alternatives based on expected Level of Service, ROW needs, Environmental Concerns, Stakeholder Input, and Conceptual Cost. Of the 6 remaining alignment and typical section alternative combinations, four passed Round 2 Screening: M-1A, M-1C, M-2C, and the No-Build option (for comparison purposes only).

Seven proposed interchange alternatives at I-88 and IL 47 were illustrated in exhibits. The Interchange Alternatives Screening Process analyzed impacts on ROW, Conceptual Cost, Bridge Impacts, and Environmental Impacts. Four proposed interchange designs (Conventional Diamond, Conventional Diamond with Roundabout, Diverging Diamond, and Partial Cloverleaf, NE Quadrant) and the No-Build option passed the screening process.

Steve concluded the formal presentation and an open discussion took place.

U.S. Army Corps of Engineers (USACE) inquired how the project will be let. IDOT is currently funding Phase I. No agreement has been made on how the design and construction will be funded. The Tollway may fund the Interchange portion of the project.

Soren Hall of USACE commented that the impact acreage on the exhibits doesn't match the tables.

IDOT discussed wildlife crossing considerations; IL 47 will be raised approx. 3 feet to provide for a wildlife crossing at the Hannaford Woods Forest Preserve. A typical benching section with a 10 foot flat shelf will be provided.

The Public Hearing for the project will be held in the Fall of 2017. The Environmental Assessment for the project will be issued at the end of the 2017 calendar year.

USACE inquired which environmental groups were represented within the Community Advisory Group (CAG). IDOT indicated that a person representing Blackberry Creek Watershed attended prior CAG meetings.

Post Meeting Notes

As a follow-up to the meeting, the following was confirmed:

The tables in the Alternatives to be Carried Forward document provide wetland impacts based on an offset from the existing edge of shoulder. At this point, the offset is developed based on anticipated construction limits. This is more conservative than the wetland impacts shown on the exhibits. These impacts will be recalculated as the geometries are refined.

Represented on the CAG are:

- Candice Jacobs with Kane-DuPage Soil and Water Conservation District (Ms. Jacobs left her position at KDSWCD and now Ashley Curran is a member of the CAG representing KDSWCD)
- Dan Lobbes with the Conservation Foundation (representing the Fox River Ecosystem Partnership – Blackberry Creek Watershed)

Sign-in Sheet
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February 22, 2017

District 1 - Quentin Road from Dundee Road to Lake Cook Road (Cook County)
Information: alternatives to be carried forward

Name	Agency	e-mail address	Participation Location
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**IDOT District 1, Cook County
Quentin Road from Dundee Road (IL Route 68) to Lake Cook Road
Environmental Assessment
Information – alternatives to be carried forward**

DECISIONS:

No concurrence was sought as the presentation was for informational purposes.

NEXT STEPS:

TranSystems (Project Team) will provide electronic and PDF files of the draft Alternatives Analysis Results for Evaluation Rounds 1 – 3 memo to submit to FHWA for distribution to the resource agencies. (Subsequent to the meeting, the files were transmitted to IDOT).

Comments from the resource agencies on the draft memos were requested by March 10, 2017.

Concurrence on the Alternatives Analysis will likely be requested in September 2017 with concurrence on the Preferred Alternative planned for the February 2018 meeting.

DISCUSSION:

A PowerPoint presentation was given by the Project Team. The presentation included an overview of the project, a recap of Public Meeting #2, a discussion of the results from Evaluation Round 3, and an updated study timeline.

The project study limits are from Illinois Route 68 (Dundee Road) to Lake Cook Road. Quentin Road is designated as an Other Principal Arterial within the project study limits and extends from Illinois Route 68 (Algonquin Road) in the Village of Schaumburg to Old McHenry Road in the Village of Hawthorn Woods for a total distance of 10 miles.

The Project Needs in order of importance are: 1) Improve Facility Condition and Design, 2) Improve Safety, 3) Improve Mobility, and 4) Enhance System Linkage. The project Purpose and Need received concurrence at the June 2016 meeting.

Public Meeting #2 was held on November 15, 2016 and was attended by 150 people. The purpose was to present the project's purpose and need statement, introduce the alternative analysis results for Evaluation Rounds 1 and 2, and gather input and information. A total of 143 comments were received and came from residents, local communities, bicyclists and motorists who frequently use the Quentin Road corridor. Approximately eighty percent of the comments received indicated support for widening along Quentin Road with roughly two-thirds of these comments being in support of the 4/5 lane cross section. The majority of those in support of the 4/5 lane cross section lived within the project area (60%) and surrounding communities (80%).

The results from Evaluation Rounds 1 and 2 along with the criteria used to evaluate the alternatives in each round were reviewed. Evaluation Round 1 considered an alternative's ability to meet the Purpose and Need as well its impact on the natural environment. The two-lane Quentin Road alternative and parallel route alternatives were dropped from further considered

after Evaluation Round 1. Evaluation Round 2 included carrying forward each alternative's impact to the natural environment. This round included a refined Purpose and Need Screening and added impacts to the human environment. The four-lane Quentin Road alternative and combination alternatives were dropped from further consideration after Evaluation Round 2.

The results from Evaluation Round 3 along with criteria used to evaluate each alternative were discussed. Evaluation Round 3 introduces design details to the remaining alternatives along with an expanded analysis of an alternatives' effect on the natural environment and other environmental components. This criteria includes the following:

Natural Environmental Criteria:

- Property acquisition
 - Forest Preserves of Cook County property
 - Non-Forest Preserves of Cook County property
- Tree removal
- Wetlands
 - All wetland impacts
 - High-quality wetlands (Floristic Quality Index >20)
- Floodplain impacts

Environmental Components:

- Noise levels for Camp Reinberg
- Water quality
- Stormwater detention

Each of the remaining alternatives were evaluated based on a rural or urban cross section (curb and gutter versus shoulders and ditches) and lane width (12-foot versus 11-foot). These included a roadway with 12-foot lanes and curb and gutter, a roadway with 12-foot lanes and shoulder and ditches, a roadway with 11-foot lanes and curb and gutter, and a roadway with 11-foot lanes and shoulder and ditches. It was assumed that all design alternatives included a 10-foot multi-use path on the east side of the roadway. The multi-use path is located 5 feet from the face of curb for the urban cross section and 1 foot off the proposed right-of-way for the rural cross section. These assumptions were used to establish the proposed right-of-way for the four potential build alternatives listed below.

The proposed right-of-way widths established for each of the build alternatives were as follows:

- Alternative 2, Two-lanes with left turn lanes
 - Alternative 2A, 12-foot lanes with curb and gutter: 90-foot to 100-foot right-of-way
 - Alternative 2B, 12-foot lanes with shoulder and ditches: 129-foot to 139-foot right-of-way
 - Alternative 2C, 11-foot lanes with curb and gutter: 90-foot to 96-foot right-of-way
 - Alternative 2D, 11-foot lanes with shoulder and ditches: 129-foot to 136-foot right-of-way
- Alternative 3, Three-lanes

- Alternative 3A, 12-foot lanes with curb and gutter: 100-foot right-of-way
- Alternative 3B, 12-foot lanes with shoulder and ditches: 139-foot right-of-way
- Alternative 3C, 11-foot lanes with curb and gutter: 96-foot right-of-way
- Alternative 3D, 11-foot lanes with shoulder and ditches: 136-foot right-of-way
- Alternative 5, Four-lanes with left turn lanes
 - Alternative 5A, 12-foot lanes with curb and gutter: 110-foot to 120-foot right-of-way
 - Alternative 5B, 12-foot lanes with shoulder and ditches: 155-foot to 163-foot right-of-way
 - Alternative 5C, 11-foot lanes with curb and gutter: 108-foot to 114-foot right-of-way
 - Alternative 5D, 11-foot lanes with shoulder and ditches: 151-foot to 157-foot right-of-way
- Alternative 6, Five-lanes
 - Alternative 6A, 12-foot lanes with curb and gutter: 120-foot right-of-way
 - Alternative 6B, 12-foot lanes with shoulder and ditches: 163-foot right-of-way
 - Alternative 6C, 11-foot lanes with curb and gutter: 114-foot right-of-way
 - Alternative 6D, 11-foot lanes with shoulder and ditches: 157-foot right-of-way

The evaluation of the Purpose and Need criteria remained the same as in Round 3. The effect of each alternative on the natural environment is a function of the alternatives' right-of-way footprint. Each criteria was evaluated with a five-color scale ranging from green-light green-yellow-orange-red. The sub-alternatives with an "A" or "C" are better than those that are "B" or "D" based on narrower right-of-way. The "C" sub-alternatives are better than the "A" versions based on narrower lane widths.

Preliminary predicted noise levels for Camp Reinberg were evaluated per the Illinois Department of Transportation Traffic Assessment Manual; June 2011. The noise level results are all shown as grey, meaning there is no significant difference. The results show the noise levels as varying between 62 and 64 dBA. IDOT's manual, states that "a change of 3 dBA is barely perceivable change in noise". This criteria was given a grey rating of no discernable difference between alternatives for all remaining alternatives.

The effect of an alternative on water quality was evaluated based on the cross-section elements and number of lanes. For example, the analysis assumes that shoulder sections provide a greater water quality benefit than those with curb and gutter, while 3-lane sections require less water quality measures than those with 5 lanes. An alternatives ability to provide stormwater detention was evaluated in relation to the proposed roadway footprint and the volume of stormwater runoff that would need to be detained due to the increase in impervious area. For instance, a 5-lane roadway with curb and gutter would require more stormwater detention than a 3-lane roadway with curb and gutter, while a shoulder section would require more stormwater detention than a curb and gutter section.

Based on the results of the Round 3 analysis, Alternatives 3C and 5C were recommended to carry forward to Round 4 for further study. Alternative 5C (four-lanes with left turn lanes, 11-foot lanes with curb and gutter) fully meets the Purpose and Need criteria while striving for a

smaller amount of impacts on the natural environment. Alternative 3C (three-lanes, 11-foot lanes with curb and gutter) meets half of the Purpose and Need criteria while having a much smaller impact on the natural environment.

This concluded the formal presentation.

The Project Team requested comments on the draft Alternatives Analysis Results for Evaluation Rounds 1 – 3 memo by March 10, 2017.

Sign-in Sheet
NEPA-404 Merger Meeting
February 22, 2017

District 1 - Deerfield Road from IL 21 to Saunders Road (Lake County)
Information: project introduction

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**IDOT District 1, Lake County
Deerfield Road (CH 11) from Milwaukee Ave (US 45/IL 21) to Saunders/Riverwoods Road
(CH 58)
Environmental Assessment
Information – project introduction**

DECISIONS:

No decisions were requested. This was the introductory presentation of the project.

NEXT STEPS:

- 3/2/2017 – Stakeholder Involvement Group (SIG) Meeting #1. Workshop will be held to obtain SIG input on the preliminary Purpose and Need.
- 3/17/2017 – Submit Preliminary Purpose and Need Statement to IDOT and FHWA for concurrent review.
- 6/2017 – NEPA/404 Merger meeting. Request Purpose and Need concurrence.
- 2/2018 – Alternatives Carried Forward concurrence.
- 9/2018 – Preferred Alternative concurrence.

DISCUSSION:

This was the first presentation of the project to the NEPA/404 Merger team. The purpose of the presentation was to introduce the project and provide a discussion of the preliminary Purpose and Need, environmental setting, and public involvement program. An initial Public Information Meeting was held on November 30, 2016, and SIG Meeting #1 is planned for March 2, 2017 to introduce the project and elicit stakeholder input on issues and concerns, as well as the project Purpose and Need. The Purpose and Need will be submitted to FHWA/ BDE shortly after SIG Meeting #1. The Purpose and Need concurrence is anticipated to be requested at the June 2017 NEPA/404 Merger meeting.

The Lake County Division of Transportation (LCDOT) is the lead agency for this project since Deerfield Road is a county highway (CH 11). The presentation was conducted by the Phase I consultant, Christopher B. Burke Engineering, Ltd. (CBBEL). Printed copies of the presentation slides were distributed to attendees. Additional copies of the information packet provided prior to the meeting were made available to interested attendees. The information packet distributed in advance and provided at the meeting included the following project information:

- Information Sheet
- Project Location Map
- Average Daily Traffic Map
- Environmental Resources Map
- Public Information Meeting #1 Newsletter
- Preliminary Purpose and Need

Mike Matkovic of CBBEL started with general introductions, the meeting agenda, and a general overview of the project area and preliminary Purpose and Need. Phase I Engineering

and Environmental studies will evaluate capacity improvements for this two-mile section of Deerfield Road. The existing roadway consists of two lanes (1 in each direction) undivided with narrow shoulders and open drainage. This section of Deerfield Road is bordered by 5-lane sections west of Milwaukee Avenue and east of Saunders/ Riverwoods Road. Deerfield Road is included in the Lake County 2040 Transportation Plan as a route widening project. The roadway has a TIP #10-03-0005, and is to be conformed in the future as the construction year is beyond the current FFY 2014-2019 TIP.

The preliminary Purpose and Need document is included in the information package. Traffic volumes along Deerfield Road have increased considerably over the years due to regional growth in population and employment. A comparison between the 2010 census data and 2040 CMAP projections indicate that the population and employment growth will continue to grow up to 30 percent by the year 2040 in the surrounding communities. The design capacity of the roadway has been exceeded since the 1990's based on the BLRS geometric design criteria for urban two-way arterials. The result is severe congestion along this section of Deerfield Road, which also results in poor accessibility. Based on CMAP population and employment projections for Lake County and the larger Chicago Metropolitan Region, increases in travel demand are expected to continue out to the year 2040 which was shown on a graph in the presentation.

The crash data was obtained from the LCDOT online crash database, and included a total of 355 crashes within the study area from 2010 to 2014. The high incidence of rear-end and turning crashes (49 percent of all crashes) is an indication of general congestion, excessive queueing at signalized intersections, absence of turning lanes, and lack of adequate gaps for mainline and side road left turns.

An existing multi-use path was recently completed by LCDOT to connect the Des Plaines River Trail (DPRT) to Thornmeadow Lane. There are proposed multi-use paths along this section of Deerfield Road that will connect to existing facilities east and west of the study area. Completing this gap in non-motorized accommodations along Deerfield Road is included in the Lake County 2040 Non-Motorized Plan. The corridor has heavy bike usage as it is the only east-west crossing of the Des Plaines River from Half Day Road (north) to Lake-Cook Road (south), a distance of approximately 3.3 miles.

Pete Knysz of CBBEL briefly explained the Environmental Resource Inventory Map (previously provided to attendees and posted on the wall of the meeting room) and described the known environmental resources along the project corridor based on data collection efforts completed to date. The Lake County Forest Preserve District (LCFPD) has two holdings adjacent to Deerfield Road near the Des Plaines River: the Edward L. Ryerson Conservation Area to the north and Cahokia Flatwoods to the south. Within the Edward L. Ryerson Conservation Area, there is a designated Illinois Nature Preserve and a National Registered Historic District. Separately located further east at the northwest corner of Deerfield Road and Portwine Road is the privately-owned Herrmann Wildflower Farm Nature Preserve Buffer. Both the Nature Preserve and Buffer boundaries reach to the Deerfield Road north right-of-way line. Adjacent to the LCFPD holdings, the Village of Riverwoods is a wooded community.

Lake County ADID wetlands are mapped just north of the project area within the Edward L. Ryerson Conservation Area along the Des Plaines River. The ADID wetlands were mapped

in the 1990's. Wetland delineation fieldwork was performed for the project area in July 2016 as a lead project task. Field delineated wetlands/waters of the US are depicted on the Environmental Resources Inventory Map (along with floristic inventory summary data). Wetlands with relatively high floristic quality were identified near the Des Plaines River and at the northeast corner of Deerfield Road and Hoffman Lane. A request for a Preliminary Jurisdictional Determination (PJD) has been submitted to the Lake County Stormwater Management Commission (LCSMC). The segment of the Des Plaines River at Deerfield Road is included on the Illinois Environmental Protection Agency (IEPA) 303(d) list as impaired for fecal coliform, mercury, total phosphorus, and PCBs. Mapped 100-year floodplain and floodway are associated with the Des Plaines River at the study area. Mapped 100-year floodplain is also associated with Thorngate Creek at the study area.

Emily Anderson of CBBEL described the likely range of alternatives, stakeholder coordination and next steps. A full range of alternatives will be evaluated including No-Build and variations of 3-, 4-, and 5-lane sections. The initial range of alternatives will be screened and finalist alternatives will be identified that meet the project Purpose and Need. A detailed comparison will be completed for the finalist alternatives and a preferred alternative will be selected. The preferred alternative will be refined and documented in the final engineering and environmental reports.

Context Sensitive Solutions (CSS) project development principles are being followed. In addition to the NEPA/404 Merger process, a Stakeholder Involvement Group (SIG) was formed for this project to facilitate frequent and strategic stakeholder coordination at critical project development milestones. A project website has been established at www.DeerfieldRoadCorridor.com. The Stakeholder Involvement Plan (SIP) which describes the public involvement in greater detail is included on the project website. An initial Public Information Meeting (PIM) was held on November 30, 2016 and the SIG #1 Meeting will be held on March 2, 2017 to gain stakeholder input on the preliminary Purpose and Need.

The next steps in the project development process were discussed as noted above.

At the end of the presentation, the following additional topics were discussed:

- 1) The agencies asked about status of the cooperating agency letters. The project team indicated that they are being prepared and will be coordinated with FHWA for distribution in the near future.
- 2) USACE (Rimbault) requested the status of the PJD. CBBEL stated that the original PJD was submitted to LCSMC in September 2016. CBBEL recently requested the status from LCSMC. Additional coordination is necessary.
- 3) IDNR (Fairfield) asked if the mercury impairment was based on fish tissue samples. Post meeting, CBBEL reviewed the IEPA Integrated Water Quality Report and Section 303(d) List. The segment of the Des Plaines River at the Deerfield Road crossing is impaired for mercury and does not meet the "Fish Consumption" designated use. "The assessment of fish consumption use is based on (1) water body-specific fish-tissue data and (2) fish-consumption advisories issued by the Illinois Fish Contaminant Monitoring Program."
- 4) USEPA (Westlake) asked if the residents along the corridor were on well and septic. CBBEL is still collecting data, but believes that the residents along the corridor are on

well and septic.

- 5) USACE (Rimbault) asked for additional information on the Historic District. CBBEL explained that the portion of the Historic District located near the proposed improvements is open space (e.g., wooded area). The historic structures are located to the north and are not in the vicinity of the proposed improvements.

Sign-in Sheet
NEPA-404 Merger Meeting
February 22, 2017

District 1 - North Lake Shore Drive - Cook County
Information: Lake shore protection

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**IDOT District 1, Cook County
North Lake Shore Drive
Environmental Impact Statement
Information: Lake shore protection**

DECISIONS:

No decisions were requested or received.

NEXT STEPS:

The project consultant will arrange a separate meeting with USACE and IDNR to discuss shoreline protection.

The project consultant will continue the development of alternatives with the intent to present Context Tailored Treatments of the whole corridor and Level 2 screening criteria at the June 2017 NEPA/404 merger meeting.

DISCUSSION:

This was the eighth presentation of the project to the NEPA/404 merger team. The purpose of this meeting was to present a review of the fifth Task Force meeting and to present the preliminary shoreline alternatives.

The meeting was led by Mary Young (Young) of Civiltech Engineering, and Dave Anglin (Anglin) and Rory Agnew (Agnew) of Baird Engineering, the project consultants.

The project consultant (Young) provided a project update since the last NEPA-404 merger meeting in September 2016. The Task Force Meeting #5 was held on December 1, 2016, and there were 72 members in attendance. The presentation was the same presentation from the last NEPA/404 merger meeting. Topics included:

- Initial Range of Alternatives
- Level 1 Screening
- Preview of Level 2 Screening
- Alternative Concepts from Grand to Diversey

The initial range of alternatives was presented organized by the five categories: no-action, Context Tailored Treatments, Transitways, Managed Lanes, and Tunnels and Causeways. The presentation also explained the Level 1 screening analysis that showed which alternatives that were dropped either because of extraordinary cost or the alternative did not meet the project Purpose and Need. Light rail and all three tunnels and causeways were dropped.

The alternatives under consideration are considering several Context Tailored Treatments: non-motorized, transit advantage, shoreline protection and roadway. These treatments recognize the varying needs on the corridor at various locations and can be combined to form many different alternatives. One of those treatments is shoreline protection, which is the focus of this presentation.

Young then turned over the presentation to Anglin to discuss the shoreline protection & flooding analysis and alternatives.

Shoreline protection is using both natural and built structures to create safe, stable and functional shorelines that protect the shoreline from dynamic environmental forces of wind and waves that cause over-topping, flooding, erosion, and damage to site improvements.

The project consultant (Anglin) described the coastal analysis that was performed. The analysis consisted of numerical modeling that assessed the historical direction and intensity of the wind and the water depth, which are two critical factors in evaluating the wave height and potential impact on the shoreline. The analysis found that the biggest waves happen when the wind comes from the north-northwest, as the fetch of the lake is biggest to the north. Over the last fifteen years, the lake water height has been below average but it has recently risen. It is unknown if that trend will continue.

There are three shoreline protection options. The first option is the stepped concrete revetment, which is typical in Chicago. It requires about 100 feet of distance and has a stone bench under the water that protects the toe of the concrete structure and lowers the maximum wave heights at the shoreline. The sand beach option offers good protection, but it requires roughly 400 feet of distance. The rubblemound breakwater, which is similar to the breakwater at the 31st Street Harbor requires about 150 feet of distance.

The alternatives took into consideration several key design challenges including: overtopping & flooding, safety, site improvements, setback requirements, crest elevation, views, and costs. The design needs to limit the frequency of overtopping. The most cost effective way to do that is to raise the shoreline elevation, but that has aesthetic implications. Another option is to create a larger setback to accommodate more overtopping.

Overtopping occurs during storm events when waves crash against the shoreline and water floods over the edge of the barrier. When the water depth in front of the structure is lower, the waves are smaller and overtopping is less likely. When the water level goes up, the structure becomes lower relative to the water level and the waves are bigger and these two factors compound the overtopping. With a stepped structure and a shoreline that is moved lake ward, there is a swale area (potentially programmable green space) that can accommodate the water from overtopping with a backshore berm to prevent the water from reaching North Lake Shore Drive. The swale would drain back to the lake.

The project consultant (Anglin) then showed a simulation of waves overtopping against a stepped concrete barrier that currently exists from Diversey to Fullerton.

There are several design variables to consider when developing shoreline protection alternatives. These include: water level, waves, crest elevation, view sheds, structure type and width, water depth, storm event design year (20-100 year), setback width, and level of protection and risk. Seasonal and long-term fluctuations in water level make it difficult to pick the appropriate elevation. Steps can help to resist overtopping where a smooth surface will get a lot more water. When you push the improvement out to deeper water the waves get higher, the water is deeper, which can increase project cost and can make it more difficult to prevent overtopping.

There are two types of tools used for shoreline protection projects: computer models and physical models. Computer models can predict wave action and look at the impact. Baird used on site sensors to get site specific measurements. However, computer models often cannot provide site specific resolution that is very difficult to replicate with a computer. Therefore physical models are used to illustrate the detailed interaction with structures.

Other factors that influence shoreline design include: goals and objectives, range of roadway and trail options, programmable park space, regulatory constraints, lake fill, constructability, and cost. For this project the main goals are safety and functionality. The range of options developed include four spatial framework plans that help to determine how to protect the shoreline and allow for the various programmable spaces.

Project consultant Anglin then handed the presentation off to project consultant Agnew who went through the four concepts.

Concept I is called the minimalist concept and it uses perpendicular groin or jetty structures within beaches. This concept also features a vertical shoreline revetment between beaches. There would be a submerged stone bench to reduce wave height and this concept maintains the sizes of Ohio Street and Oak Street beaches similar to existing conditions.

Concept II is similar to Concept I south of Oak Street beach and north of North Avenue beach. In this concept there is a south facing beach made possible by extending the headland. This would require more analysis for the details, but it is possible. Patches of submerged stone would be placed between the headlands to break up waves and also provide habitat.

Concept III focuses on offshore breakwater structures to create a continuous beach as opposed to the the perpendicular groin structures used in the previous concepts. This concept has more lake bed impact and gets slightly less beach area than the previous two concepts.

Concept IV works differently to create beach cells. The concept uses larger overlook headlands to increase the size of protection and creates larger beach coves. Also, the area between Oak Street and North Avenue could possibly be a cobble beach which has advantage to shoreline protection.

The project consultant (Agnew) then went through typical cross-sections of Concept I. The first cross-section is of the area north of Ohio Street beach. In this area, the roadway at Chicago Avenue is depressed so the backshore berm requires significant protection because getting flood water out of the depressed roadway would be difficult. The elevation of the backshore berm is +17 feet [Chicago City Datum (CCD)] compared to existing ground elevation of +12 feet CCD and there is 150 feet for flooding and drainage, which can have a lot of programmable components. Jutting out along the bottom of the lake bed is 200 feet of a submerged stone bench with an elevation of -8 feet CCD. The water depth would still allow swimming between the Ohio Street beach and the Oak Street beach.

The second cross-section illustrated a location north of the Oak Street beach with a revetment

wall. The third cross-section illustrated an alternative with a perched beach. The berm elevation drops to +16 feet CCD and the perched beach also has a habitat reef area on the submerged stone bench. This helps to lower the incoming wave height and thus, helps lower the back shore berm height. The fourth cross-section is an example of an emergent island feature out in the lake which could help lower the backshore berm elevation. The fifth cross-section illustrated the North Avenue beach.

The project consultant then presented a table that broke down the various concepts by lake bed fill and above water usable space. The amount of fill is not directly related to the amount of beach area for the different concepts. USEPA (Westlake) asked if there is artificial drainage in the locations where the roadway is depressed. Project consultant (Agnew) responded that there would have to be some natural outfalls going back to the lake in those areas to drain the swale areas.

Next, the presentation illustrated the difference between the existing and the proposed view sheds. The project consultant (Agnew) explained that the shoreline protection options limit the views of the lake where views currently exist. However, these are the areas that experience overtopping currently. The goal is to find a balance between protection and view sheds. USACE (Hall) asked about the metric that used to determine whether or not a view is obstructed. The project consultant answered that 4-5 feet is used to account for pedestrians walking along the roadway and for drivers in their vehicles on the road, any berm height above 5 feet is considered to obstruct views. USEPA (Westlake) asked if the view was blocked because the road was depressed. The project consultant answered that only in some alternatives was that the case, but mostly it is the landscaped berm that blocks the views. He then continued that there will be opportunities to have the berm and swales adjusted to account for the views during the design, but also other factors including trees and landscaped vegetation will impact the view shed. Project consultant (Andres) noted that you can raise the profile of the Outer Drive, but you also need to consider the nearby buildings.

Project consultant (Agnew) then continued the presentation by discussing the project implementation. The lakebed fill is a major challenge. There is a lot to consider including the source of the fill and the regulatory requirements. Lakebed fill would require over 200 acres of lake bottom coverage. However, considering the history of the shoreline in Chicago, the entire stretch here was man made at one time. The project consultant detailed the history of fill in Chicago.

The logistics and source of the fill pose challenges as well. The project consultant outlined some possible sources of the fill and associated logistics.

The shoreline construction between Grand Avenue and LaSalle could be done in four phases. Phase I includes creating a vertical wall or rubblemound fill from the Ohio Street beach to near the Oak Street beach. In Phase II, a similar containment for the fill is made for Oak Street beach. The project can salvage materials from the current beach as well, and they can build a berth off of the North Avenue headland for a ship to come in with fill material. In Phase III the fill for Phase I & II can be finished. In Phase IV the work north of the North Avenue beach can all be done at the same time.

Lastly, the project consultant described the challenges the project will face. Cost and constructability are major hurdles and the regulatory issues will be difficult. The project also involves many stakeholders.

USACE (Hall) asked if the shoreline protections are based off a preferred transportation alternative. The project consultant (Andres) explained these alternatives can work with most of the transportation alternatives as all concepts being considered have the same shoreline protection elements. Baird used an edge of lake bed that worked for most alternatives.

USACE (Hall) stated that he felt that IDNR will want to have input and they should hold a separate meeting. Project consultant (Young) stated that it was the intent to present the project at today's meeting and then follow-up with IDNR and USACE afterwards. UASCE (Hall) asked to be included in that meeting.

An audience member asked if a smooth shoreline was considered instead of all of the proposed alternatives with elements that come out into the lake because that might cause more erosion. The project consultant Agnew explained that some current elements already stick out, and if you want to introduce beach space, structures need to contain the beach and protect it. Project Consultant (Andres) stated the roadway alternatives also influenced the shoreline, especially considering the need to soften the Oak Street curve.

Project consultant (Young) closed out the meeting explaining that they will be back in June for another information meeting to talk about Context Tailored Treatments and a recap of Task Force Meeting #6.