

APPENDIX D

ENVIRONMENTAL SURVEYS/ CORRESPONDENCE

APPENDIX D-1

ENVIRONMENTAL SURVEYS/ CORRESPONDENCE

CULTURAL RESOURCE REVIEW/CLEARANCE

resources but in the coordination of this project with the Illinois State Historic Preservation Officer.

This memorandum is not a project clearance. As the project is in its early stages and has a possibility of widening the existing two-lane roadway and its bridges, it has the potential to greatly affect these historic resources. Efforts must be taken to avoid impacting these historic properties. Trees and/or right-of-way should not be taken at these locations if at all possible.

Please submit the project's preliminary plans and verify each property's avoidance or impacts with the Cultural Resources Unit and we will then begin coordination with the State Historic Preservation Officer.

If there are any questions concerning this project review, please contact Emilie Land at Emilie.Land@illinois.gov or 618-346-3824.

Brad H. Koldehoff, RPA
Cultural Resources Unit
Bureau of Design and Environment

BK:el



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

RECEIVED
SEP - 1 2017
008090117
Preservation Services

September 1, 2017

Lake County
Buffalo Grove, Riverwoods, Deerfield
FAU 1257 (Deerfield Road)
Roadway Improvements/Widening
Section: 15-00038-07-WR
Sequence #20261
ISAS Log #16157

IHPA REVIEW

H/A _____
AC Comer P
AR _____
File _____

9/1/17

FEDERAL 106 PROJECT

CONDITIONAL NO ADVERSE EFFECT

Dr. Rachel Leibowitz
Deputy State Historic Preservation Officer
Illinois Department of Natural Resources
Office of Land Management
Illinois State Historic Preservation Office
1 Natural Resources Way
Springfield, IL 62702



Dear Dr. Leibowitz:

The enclosed Environmental Survey Request concerns a roadway improvement undertaking along Deerfield Road between Milwaukee Avenue and Saunders/Riverwoods Road in Buffalo Grove, Riverwoods, and Deerfield. A review of potential impacts to historical, archaeological, and architectural properties within the Area of Potential Effects (APE) has been completed by IDOT's Cultural Resources staff. The APE for this undertaking is defined as the parcels bordering the proposed work area.

Enclosed are copies of the survey report completed by Illinois State Archaeological Survey personnel concerning archaeological and historical resources potentially impacted by the above referenced undertaking. Survey of the 117.21-acre APE resulted in the identification of no archaeological sites. One previously recorded site (11L9) may fall within the APE, but the site could not be relocated. The site, recorded in 1957 as a "campsite," has been significantly impacted by development.

Within the APE there is one architectural property listed on the National Register of Historic Places: Edward L. Ryerson Area Historic District at 21950 N. Riverwoods Road in Deerfield. Other architectural resources within and adjacent to the APE warrant NRHP consideration (see attached memo). However, potential impacts to these resources cannot be fully assessed until preliminary plans have been developed.

In coordination with the Federal Highway Administration (FHWA) and in accordance with the *Programmatic Agreement for Minor Projects of the Federal Aid Highway Program in Illinois*, IDOT requests the concurrence of the State Historic Preservation Officer in our determination that the proposed project will not adversely affect historic properties subject to protection under Section 106 of the National Historic Preservation Act of 1966 provided that the preliminary plans will be reviewed and approved by the State

Historic Preservation Officer to ensure adherence to the Secretary of the Interior's
Standards for Rehabilitation.

In accordance with 36 CFR Part 800.3(c)(4), the FHWA will proceed to the next step in the
Section 106 process if we do not receive a response from your office within 30 days.

Sincerely,



Brad H. Koldehoff, RPA
Cultural Resources Unit
Bureau of Design & Environment

BK:el

CONCUR

By: Rachel Leibowitz
Deputy State Historic Preservation Officer

Date: 9-20-17



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

RECEIVED
JUL 30 2020

July 30, 2020

Lake County
Buffalo Grove, Riverwoods, Deerfield
FAU 1257, Deerfield Road
Roadway Improvements / Widening
Section # 15-0038-07-WR
IDOT Sequence # 20261
SHPO Log # 008090117

Preservation Services

IHPA REVIEW

H/A _____
AC _____
AR _____
File _____

FEDERAL – SECTION 106 PROJECT

No Adverse Effect

Ms. Carol J. Wallace
Cultural Resources Coordinator
Illinois State Historic Preservation Office
Illinois Department of Natural Resources
1 Old State Capitol Plaza
Springfield, IL 62701

RB
8/28/2020
concur

Dear Ms. Wallace:

In continuing consultation with your office for the above referenced undertaking, please find attached the Phase I / Preliminary Plans for the proposed widening of Deerfield Road by the Lake County Transportation Agency, the Illinois Department of Transportation (IDOT), and the Federal Highway Administration (FHWA). Identification efforts were completed in 2017 and coordinated with your office in September 2017. One archaeological site and eight historic architectural properties were identified in the Area of Potential Effect (APE). On September 1, 2017, your office concurred that the undertaking would have no effect to archaeological sites and no adverse effect to architectural historic properties, conditioned on your review of the design preliminary plans. Please note that one historic property, the House at 2 Big Oak Lane, is no longer in the APE because work along this roadway is no longer proposed.

As shown on the attached preliminary plans annotated with the locations of identified historic properties, the design has been minimized to avoid any right-of-way (ROW), easements, or tree removal from the seven historic properties in the APE. The roadway will be widened, and a new multi-use path constructed along its south edge. The APE is located along a suburban roadway (Deerfield Road) in which the non-commercial properties are large, wooded lots with deep building setbacks from the street. Because Deerfield Road will be widened principally within its current ROW, the proposed work will cause no alterations in the character or use of features within the setting of historic properties in the APE.

In coordination with the FHWA, we request the concurrence of the State Historic Preservation Officer (SHPO) in our finding that the proposed undertaking will not adversely affect historic resources subject to protection under Section 106 of the National Historic Preservation Act of 1966.

If the SHPO does not object to this "No Adverse Effect" finding in writing within 30 days, FHWA's responsibilities under Section 106 are fulfilled (36 CFR 800.4 (d)(1)(i)).

Sincerely,



Brad H. Koldehoff, RPA
Cultural Resources Unit Chief
Bureau of Design & Environment

BK:br

CONCUR

By: Robert Appleman
Deputy State Historic Preservation Officer

Date: 8/28/2020

APPENDIX D-2

ENVIRONMENTAL SURVEYS/ CORRESPONDENCE

**AIR QUALITY ANALYSIS
(COSIM 4.0 PRE-SCREEN RESULTS)**

Deerfield Road Phase I Study

Air Quality Assessment

Air quality is protected by the Clean Air Act and air quality standards established by the U.S. Environmental Protection Agency (USEPA).

Information included in this section was obtained from:

- National Ambient Air Quality Standards
- IDOT Bureau of Design and Environment (BDE) Manual Chapter 26

A. Will carbon monoxide build-up from vehicles waiting at signalized intersections in the project study area be a health hazard?

The build-up of carbon monoxide from vehicle exhaust can be a potential health hazard at signalized intersections, especially in areas having high traffic volumes. In accordance with the IDOT-Illinois Environmental Protection Agency (IEPA) "Agreement on Microscale Air Quality Assessments for IDOT Sponsored Transportation Projects," this project is exempt from a project-level carbon monoxide air quality analysis because the highest design year approach volume on the busiest leg of the intersection is less than 5,000 vehicles per hour or 62,500 Average Daily Traffic (see the COSIM Attachment at the end of this Air Quality Assessment). Thus, no measurable health hazard due to carbon monoxide would be expected.

B. Does the project study area meet current air quality standards set by the USEPA?

The National Ambient Air Quality Standards (NAAQS), established by the USEPA, set maximum allowable concentration limits for six criteria air pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter (PM_{2.5} and PM₁₀), and sulfur dioxide. Areas in which air pollution levels persistently exceed the NAAQS may be designated as "nonattainment." States where a nonattainment area is located must develop and implement a State (air quality) Implementation Plan (SIP) containing policies and regulations that will bring about attainment of the NAAQS. Areas that had been designated as nonattainment, but that have attained the NAAQS for the criteria pollutant(s) associated with the nonattainment designation, will be designated as maintenance areas.

What are PM_{2.5} and PM₁₀?

The size of solid particles and liquid droplets found in the air is directly linked to their potential for causing health problems. USEPA is concerned about particulate matter that is 10 micrometers or smaller in diameter (PM₁₀) because these particles have the potential to be inhaled, reach deep into the lungs, and cause serious health problems.

"Fine inhalable particles," such as those found in smoke and haze, are 2.5 micrometers in diameter or smaller (PM_{2.5}). These particles can form when gases emitted from power plants, industries, and automobiles react in the air.

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

For the eight-hour ozone, Cook, DuPage, Kane, Lake, McHenry, and Will Counties, as well as Aux Sable and Goose Lake Townships in Grundy County and Oswego Township in Kendall County, have been designated as marginal nonattainment areas. Jersey, Madison, Monroe, and St. Clair Counties in the St. Louis area also have been designated as marginal nonattainment areas for the eight-hour ozone standard.

This project is included in the Fiscal Year (FY) 2019-2024 Transportation Improvement Program (TIP) endorsed by the Metropolitan Planning Organization Policy Committee of CMAP for the region in which the project is located. Projects in the TIP are considered to be consistent with the 2050 regional transportation plan endorsed by CMAP. The project is within the fiscally constrained portion of the plan.

On October 24, 2018, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) determined that the 2050 regional transportation plan conforms with the SIP and the transportation-related requirements of the 1990 Clean Air Act Amendments. On October 24, 2018, the FHWA and the FTA determined that the TIP also conforms with the SIP and the Clean Air Act Amendments. These findings were in accordance with 40 CFR Part 93, *Determining Conformity of Federal Actions to State or Federal Implementation Plans*.

The project's design concept and scope are consistent with the project information used for the TIP conformity analysis. Therefore, this project conforms to the existing SIP and the transportation-related requirements of the 1990 Clean Air Act Amendments.

The TIP number for this project is 10-03-0005.

C. Will an increase in diesel emissions be an air quality concern as a result of this project?

The exhaust from diesel engines (e.g., trucks) contains a mixture of gases and very small particles that can create a health hazard when not properly controlled.

This project is not an air quality concern under 40 CFR 93.123(b)(1). Based on 2016 traffic counts, the percentage of truck traffic utilizing Deerfield Road within the project limits, as a combination of single unit (SU) and multi-unit (MU) trucks, ranges from approximately 3.3 percent to 4.7 percent depending on the time of day and the location. The annual average daily traffic (AADT) volume along Deerfield Road within the project limits is projected to increase from approximately 19,550 vehicles per day (vpd) (based on 2016 traffic counts) to 23,000 vpd for the year 2050 under the preferred alternative.

The proposed project will add additional turn lanes at Milwaukee Avenue. Traffic along Milwaukee Avenue is greater than Deerfield Road for both existing and year 2050 conditions. The north leg of the Milwaukee Avenue/Deerfield Road intersection has an existing (2016) AADT of 39,800 vpd. The projected traffic for the 2050 No-Build and 2050

Build alternative are both 42,000 vpd – an increase in 2,200 vpd. Because the No-Build and Build traffic volumes are the same, the increase in traffic along the north leg of Milwaukee Avenue is not directly attributed to the proposed improvements. The existing AADT along the south leg of the Milwaukee Avenue/ Deerfield Road intersection decreases by 3,200 vpd from 38,200 vpd to 35,000 vpd under the 2050 Build alternative. When comparing existing AADT to the 2050 Build AADT, a net increase in traffic volume along Milwaukee Avenue in the vicinity of Deerfield Road is not anticipated.

Since this project is absent any site-specific truck traffic growth factors (e.g., new intermodal site within the project limits or industrial developments), the percentage of truck traffic along Deerfield Road within the project limits is anticipated to remain at less than five percent. Because this project does not have a significant number of, or a significant increase in diesel vehicles, it was determined that the project will not cause or contribute to any new localized PM_{2.5} or PM₁₀ violations.

Furthermore, on December 27, 2018, the USEPA approved Illinois' request to revise the state's designation for PM_{2.5} from unclassifiable to unclassifiable/attainment. Illinois is also in attainment for the PM₁₀ 1987 standard. Therefore, transportation conformity project-level qualitative Hot-Spot analysis is not required.

What is a Hot-Spot Analysis?

A Hot-Spot analysis is defined in 40 CFR 93.101 as an estimation of likely future localized PM_{2.5} or PM₁₀ pollutant concentrations, and a comparison of those concentrations to the relevant air quality standards. A Hot-Spot analysis assesses the air quality impacts on a scale smaller than an entire nonattainment or maintenance area. The analysis is a means of demonstrating that a transportation project meets Clean Air Act conformity requirements to support State and local air quality goals with respect to potential localized air quality impacts.

D. Will the project result in an increase of hazardous air pollutants or Mobile Source Air Toxics?

Mobile Source Air Toxics (MSATs) are a subset of the 188 air toxics (also known as hazardous air pollutants) defined by the Clean Air Act. MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

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

USEPA Role

The USEPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The USEPA continually assesses human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is “a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects.” IRIS can be accessed through the USEPA website. Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Role of Other Organizations

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

Problems with Modeling Methodologies

The methodologies for forecasting health impacts include emissions modeling, dispersion modeling, exposure modeling, and then final determination of health impacts. Each step in the process builds on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70-year) assessments, particularly because unsupported assumptions would have to be made regarding changes in travel patterns and vehicle technology, which affects emissions rates over that time frame because such information is not available.

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

MSAT Toxicity Estimates

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

Level of Risk

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by USEPA, as provided by the Clean Air Act, to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards (e.g., benzene emissions from refineries). The decision framework is a two-step process. The first step requires USEPA to determine an “acceptable” level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million. In some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the US Court of Appeals for the District of Columbia Circuit upheld USEPA’s approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than safe or acceptable.

Conclusions

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

Qualitative Analysis

For the Build Alternative carried forward in this Environmental Assessment, the amount of MSAT emitted would be proportional to the vehicle miles traveled (VMT). The VMT estimated for the Build Alternative carried forward is slightly higher than that for the No-Build Alternative because the additional capacity increases the efficiency of the roadway and attracts re-routed trips from elsewhere in the transportation network. This increase in VMT would lead to higher MSAT emissions for the preferred action alternative along the highway corridor and a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds. According to USEPA’s MOVES 2014 model, emissions of all of the priority MSAT decrease as speed increases.

Regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of USEPA’s national control programs that are projected to reduce annual MSAT emissions by more than 90 percent between 2010 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the USEPA-projected reductions is so great, even after accounting for VMT growth, that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

The additional travel lanes contemplated as part of the project alternatives will have the effect of moving some traffic closer to nearby homes and businesses. Therefore, under the Build Alternative carried forward there may be localized areas where ambient concentrations of MSAT could be higher than the No-Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along the expanded roadway sections that would be built at the signalized intersections (i.e., Milwaukee Avenue, Portwine Road, and Saunders/Riverwoods Road). However, the magnitude and the duration of these potential increases compared to the No-Build Alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts.

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

E. How will construction activities affect air quality?

Demolition and construction activities can result in short-term increases in fugitive dust and equipment-related particulate emissions in and around the project study area. (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, transportation of materials, 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 significant, short-term particulate matter air quality impacts.

COSIM Attachment

Peter Knysz

Subject: FW: Lake County, Deerfield Road, Sec No 15-00038-07-WR - COSIM Prescreen

From: Househ, Alex <Alex.Househ@illinois.gov>

Sent: Thursday, February 7, 2019 3:08 PM

To: Matthew Huffman <mhuffman@cbbel.com>

Subject: FW: Lake County, Deerfield Road, Sec No 15-00038-07-WR - COSIM Prescreen

From: Raffensperger, William

Sent: Thursday, February 7, 2019 2:58 PM

To: Househ, Alex <Alex.Househ@illinois.gov>

Subject: RE: Lake County, Deerfield Road, Sec No 15-00038-07-WR - COSIM Prescreen

Mr. Househ -

Based on the information provided and in accordance with BDE Section 26-14.03(c) this project is exempt from a project level CO air quality analysis.

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

Please ensure that a copy of the COSIM worksheets and this email are inserted in to the project development report when it is submitted for review.

If you have any questions, please call,

William Raffensperger, PE, PTOE, PTP
Project Development Engineer

Illinois Department of Transportation
Bureau of Local Roads and Streets
2300 S. Dirksen Parkway
Springfield, IL 62764

Work hours: 7:00 am to 3:00 pm.

(O) 217-785-1676

(C) 217-720-2787

(F) 217-782-3971

william.raffensperger@illinois.gov

From: Househ, Alex

Sent: Thursday, February 07, 2019 2:54 PM

To: Raffensperger, William <William.Raffensperger@illinois.gov>

Subject: FW: Lake County, Deerfield Road, Sec No 15-00038-07-WR - COSIM Prescreen

From: Matthew Huffman <mhuffman@cbbel.com>
Sent: Thursday, February 7, 2019 6:05 AM
To: Househ, Alex <Alex.Househ@illinois.gov>
Cc: Fierro, Gerardo <Gerardo.Fierro@Illinois.gov>; Peter Knysz <pknysz@cbbel.com>
Subject: [External] RE: Lake County, Deerfield Road, Sec No 15-00038-07-WR - COSIM Prescreen

Alex,
Per prior direction, we are resubmitting the COSIM pre-screen worksheet for 2050 traffic for the Deerfield Road at Milwaukee Avenue intersection.

Thank you,
Matt

Matthew J. Huffman, PE, M.ASCE
Project Manager - Phase I Engineering Department
Christopher B. Burke Engineering, Ltd.
9575 W. Higgins Road, Suite 600 Rosemont, IL 60018
Office: (847) 823-0500 Cell: (847) 804-7615 Fax: (847) 823-0520
E-Mail: mhuffman@cbbel.com
www.cbbel.com

"You cannot escape the responsibility of tomorrow by evading it today."
- Abraham Lincoln

From: Househ, Alex <Alex.Househ@illinois.gov>
Sent: Monday, October 1, 2018 1:51 PM
To: Matthew Huffman <mhuffman@cbbel.com>
Cc: Fierro, Gerardo <Gerardo.Fierro@Illinois.gov>
Subject: FW: Lake County, Deerfield Road, Sec No 15-00038-07-WR - COSIM Prescreen

Matt,
Please see below.
Thanks,
Alex

From: Raffensperger, William
Sent: Monday, October 01, 2018 1:47 PM
To: Househ, Alex <Alex.Househ@illinois.gov>
Cc: Veile, Janel M <Janel.Veile@illinois.gov>; Stitt, Scott E <Scott.Stitt@illinois.gov>
Subject: RE: Lake County, Deerfield Road, Sec No 15-00038-07-WR - COSIM Prescreen

Mr. Househ –

Based on the information provided and in accordance with BDE Section 26-14.03(c) this project is exempt from a project level CO air quality analysis.

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Please ensure that a copy of the COSIM worksheets and this email are inserted in to the project development report when it is submitted for review.

If you have any questions, please call,

William Raffensperger, PE, PTOE, PTP
Project Development Engineer

Illinois Department of Transportation
Bureau of Local Roads and Streets
2300 S. Dirksen Parkway
Springfield, IL 62764

Work hours: 7:00 am to 3:00 pm.

(O) 217-785-1676

(C) 217-720-2787

(F) 217-782-3971

william.raffensperger@illinois.gov

Sent from laptop

From: Matthew Huffman <mhuffman@cbbel.com>

Sent: Friday, September 28, 2018 4:00 PM

To: Househ, Alex <Alex.Househ@illinois.gov>; Fierro, Gerardo <Gerardo.Fierro@Illinois.gov>

Cc: Emily Anderson <eanderson@cbbel.com>; Peter Knysz <pknysz@cbbel.com>

Subject: [External] Lake County, Deerfield Road, Sec No 15-00038-07-WR - COSIM Prescreen

Alex and Gerardo,

Please find attached our COSIM prescreen worksheet for the subject project for processing. Please let us know if you need any additional information.

Regards,

Matt

Matthew J. Huffman, PE, M.ASCE

Project Manager - Phase I Engineering Department

Christopher B. Burke Engineering, Ltd.

9575 W. Higgins Road, Suite 600 Rosemont, IL 60018

Office: (847) 823-0500 Cell: (847) 804-7615 Fax: (847) 823-0520

E-Mail: mhuffman@cbbel.com

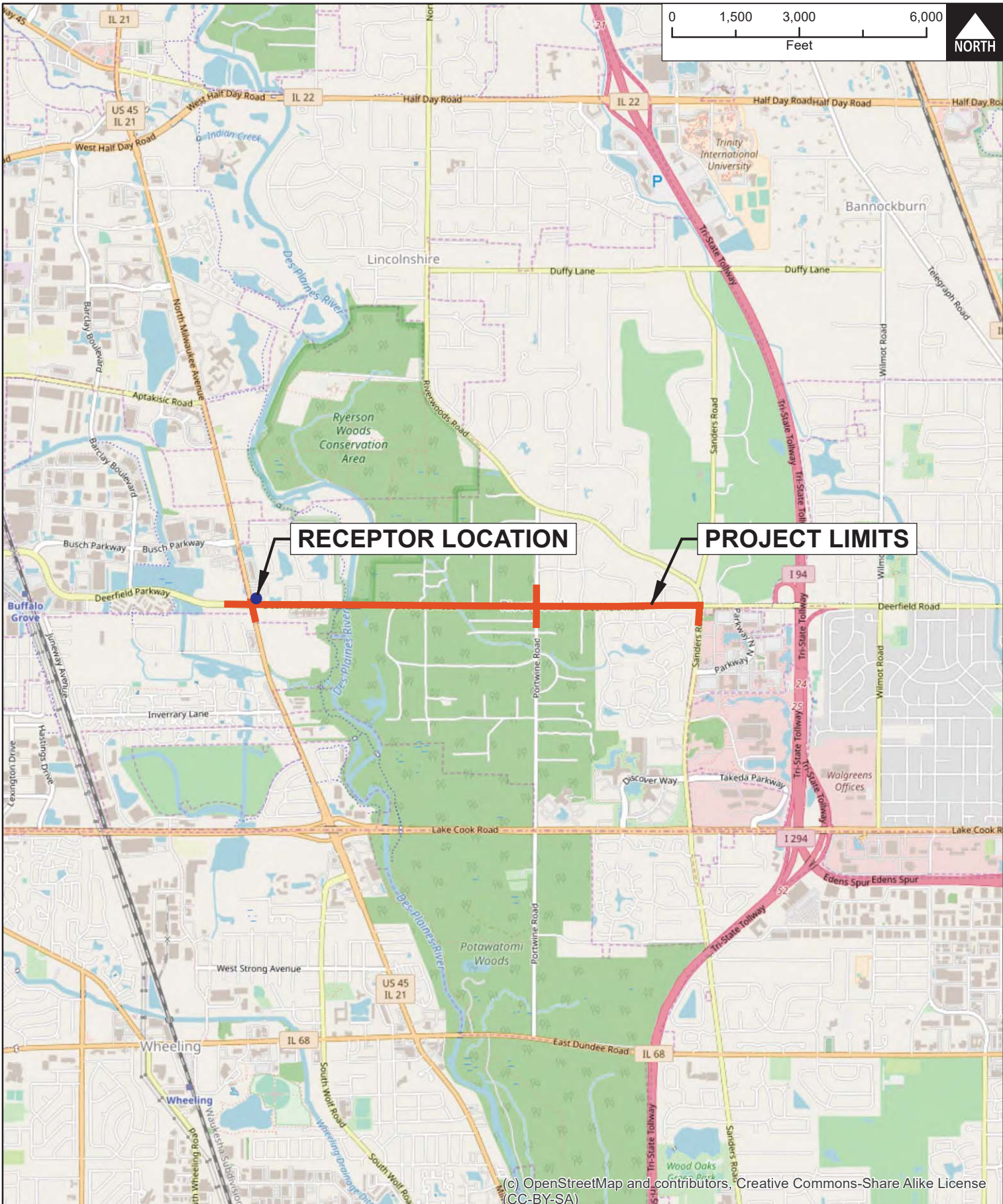
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"You cannot escape the responsibility of tomorrow by evading it today."

- **Abraham Lincoln**

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RECEPTOR LOCATION

PROJECT LIMITS

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CLIENT:



TITLE:

**COSIM PRE-SCREEN ANALYSIS
LOCATION MAP**

PROJ. NO. 150331

DATE: 09/28/2018

SHEET 1 OF 1

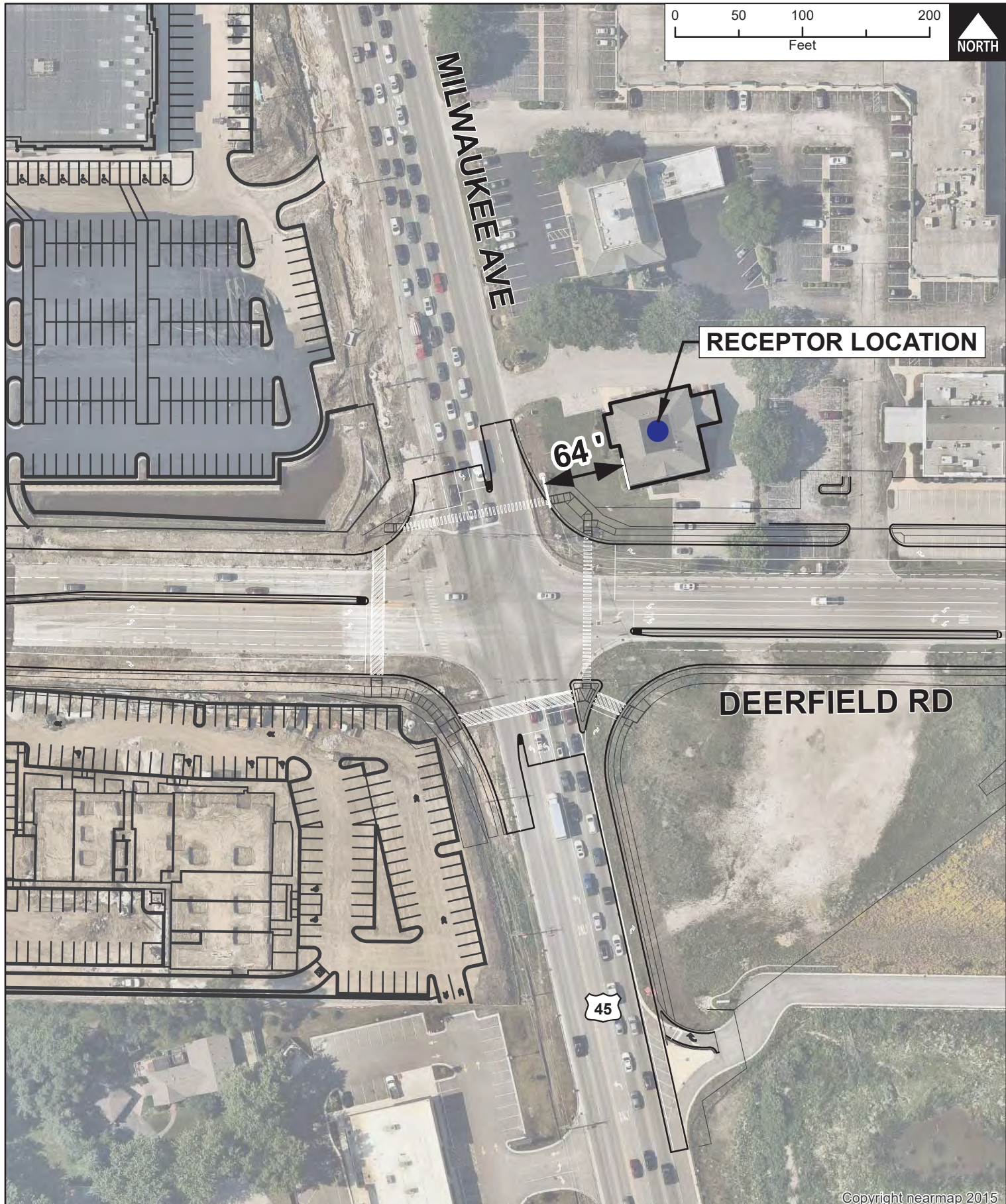
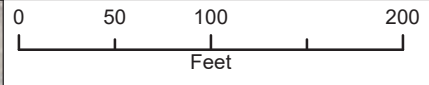
DRAWING NO.



CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600 · Rosemont, Illinois 60018 · (847) 823-0500

DSGN.		SCALE:	1:36,000
DWN.	DRW	AUTHOR:	DWALTERS
CHKD.		PLOT DATE:	9/28/2018
FILE:	COSIM Prescreen Location Map		

EXH 1



RECEPTOR LOCATION

64°

DEERFIELD RD


45

Copyright nearmap 2015

CLIENT:  **LakeCounty**
Division of Transportation

TITLE: **COSIM PRE-SCREEN ANALYSIS
RECEPTOR LOCATION**

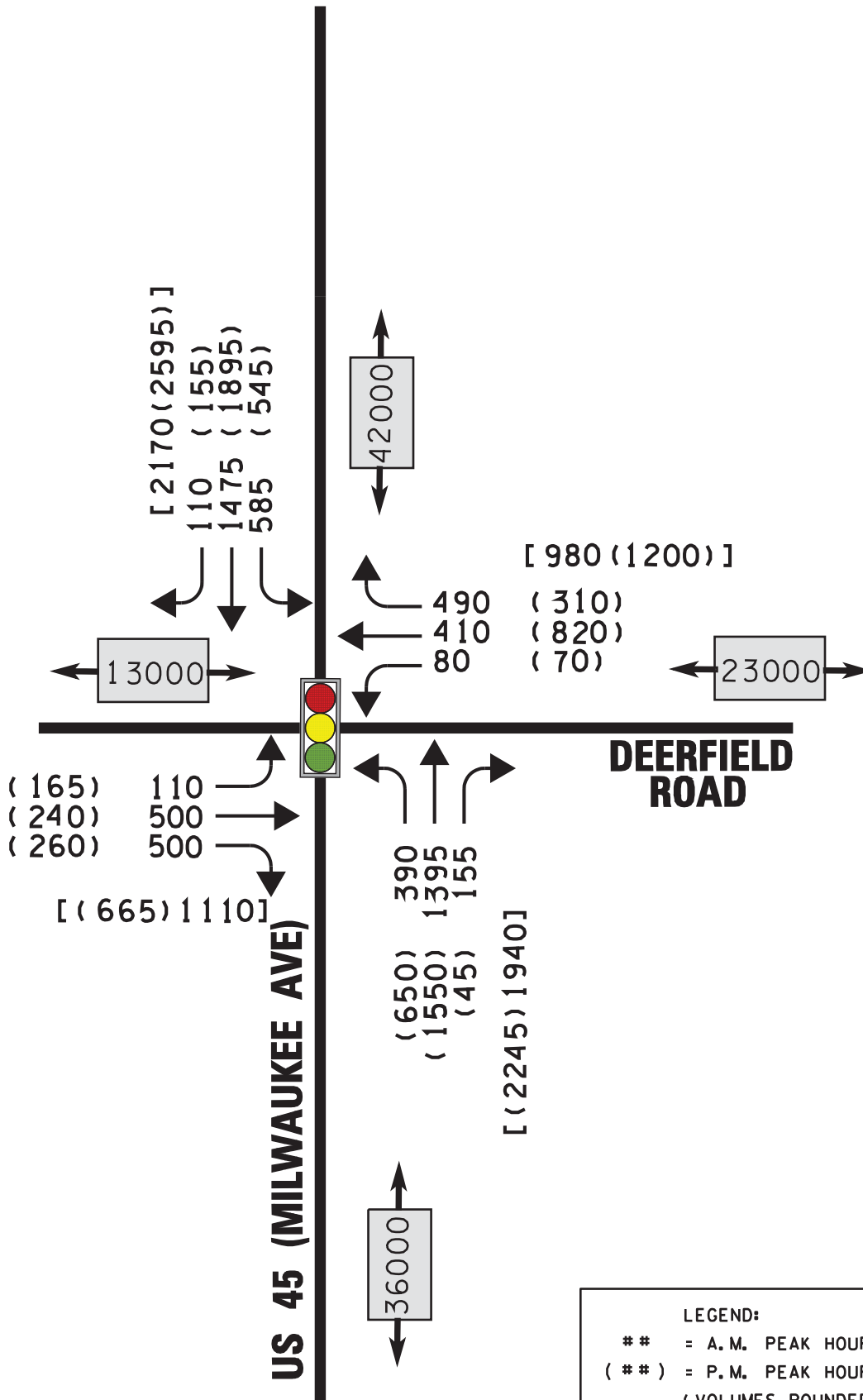
PROJ. NO. 150331
DATE: 09/28/2018
SHEET 1 OF 1
DRAWING NO.

 **CHRISTOPHER B. BURKE ENGINEERING, LTD.**
9575 W. Higgins Road, Suite 600 · Rosemont, Illinois 60018 · (847) 823-0500

DSGN.		SCALE:	1:1,200
DWN.	DRW	AUTHOR:	DWALTERS
CHKD.		PLOT DATE:	9/28/2018
FILE:	COSIM Prescreen Aerial Exhibit		

EXH 2

Path: N:\L\CDOT\150331\GIS\Exhibits\COSIM Prescreen Aerial Exhibit .mxd



Path: N:\LCDOT\150331\GIS\Exhibits\COSIM\Presscreen\ADT.mxd

CLIENT:



TITLE:

COSIM PRE-SCREEN ANALYSIS
 2050 PROJECTED A.M. (P.M.) PEAK HOUR TRAFFIC

PROJ. NO. 150331

DATE: 02/06/2019

SHEET 1 OF 1

DRAWING NO.



CHRISTOPHER B. BURKE ENGINEERING, LTD.
 9575 W. Higgins Road, Suite 600 · Rosemont, Illinois 60018 · (847) 823-0500

DSGN.		SCALE:	1:8
DWN.	DRW	AUTHOR:	DWALTERS
CHKD.		PLOT DATE:	2/6/2019
FILE:	COSIM Presscreen ADT		

EXH 3

APPENDIX D-3

ENVIRONMENTAL SURVEYS/ CORRESPONDENCE

BIOLOGICAL RESOURCE REVIEW/CLEARANCE

Illinois County Distribution

Federally Endangered, Threatened, and Candidate Species

List Revised May 9, 2017

County	Species	Status	Habitat
Adams Field Office to Contact: U.S. Fish and Wildlife Service Rock Island Illinois Field Office 1511 47th Avenue Moline, Illinois 61265 (309) 757-5800 e:mail RockIsland@fws.gov FAX: 309-757-5807	Indiana bat <i>Myotis sodalis</i>	Endangered	Caves, mines (hibernacula); small stream corridors with well developed riparian woods; upland forests (foraging)
	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened Key to 4(d) Rule	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods.
	Higgins eye pearlymussel <i>Lampsilis higginsii</i>	Endangered	Mississippi River; Rock River to Steel Dam
	Eastern prairie fringed orchid <i>Platanthera leucophaea</i>	Threatened	Mesic to wet prairies
Alexander Field Office to Contact: U.S. Fish and Wildlife Service Marion Illinois Sub-Office 8588 Route 148 Marion, Illinois 62959 Phone: (618) 997-3344, ext. 340 FAX: (618) 997-8961 e:mail Marion@fws.gov	Gray bat (<i>Myotis grisescens</i>)	Endangered	Caves and mines; rivers & reservoirs adjacent to forests
	Indiana bat <i>Myotis sodalis</i>	Endangered	Caves, mines (hibernacula); small stream corridors with well developed riparian woods; upland forests (foraging)
	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened Key to 4(d) Rule	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods.
	Least tern (<i>Sterna antillarum</i>)	Endangered	Bare alluvial and dredged spoil islands
	Pallid sturgeon (<i>Scaphirhynchus albus</i>)	Endangered	Large rivers
	Rabbitsfoot (<i>Quadrula cylindrica cylindrica</i>)	Threatened	Ohio River
	Sheepnose mussel (<i>Plethobasus cyphus</i>)	Endangered	Shallow areas in larger rivers and streams
Bond Field Office to Contact: U.S. Fish and Wildlife Service Marion Illinois Sub-Office 8588 Route 148 Marion, Illinois 62959 Phone: (618) 997-3344, ext. 340 FAX: (618) 997-8961 e:mail Marion@fws.gov	Indiana bat (<i>Myotis sodalis</i>)	Endangered	Caves, mines (hibernacula); small stream corridors with well developed riparian woods; upland forests (foraging)
	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened Key to 4(d) Rule	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods.
	Piping plover <i>Charadrius melodus</i>	Endangered	May be present in Bond County during migration.
	Eastern prairie fringed orchid <i>Platanthera leucophaea</i>	Mesic to wet prairies	
Boone Field Office to Contact: U.S. Fish and Wildlife	Indiana bat <i>Myotis sodalis</i>	Endangered	Caves, mines (hibernacula); small stream corridors with well developed riparian woods; upland forests (foraging)

Service Rock Island Illinois Field Office 1511 47th Avenue Moline, Illinois 61265 (309) 757-5800 e:mail RockIsland@fws.gov FAX: 309-757-5807	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened Key to 4(d) Rule	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods.
	Sheepnose mussel <i>Plethobasus cyphus</i>	Endangered	Shallow areas in larger rivers and streams
	Rattlesnake-master borer moth <i>Papaipema eryngii</i>	Candidate	Undisturbed prairie and woodland openings that contain their only food plant, rattlesnake-master (<i>Eryngium yuccifolium</i>).
	Eastern prairie fringed orchid <i>Platanthera leucophaea</i>	Threatened	Mesic to wet prairies
Kendall Field Office to Contact: U.S. Fish and Wildlife Service Rock Island Illinois Field Office 1511 47th Avenue Moline, Illinois 61265 (309) 757-5800 e:mail RockIsland@fws.gov FAX: 309-757-5807	Indiana bat <i>Myotis sodalis</i>	Endangered	Caves, mines (hibernacula); Small stream corridors with well developed riparian woods; upland forests (foraging)
	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened Key to 4(d) Rule	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods.
	Eastern prairie fringed orchid <i>Platanthera leucophaea</i>	Threatened	Mesic to wet prairies
Knox Field Office to Contact: U.S. Fish and Wildlife Service Rock Island Illinois Field Office 1511 47th Avenue Moline, Illinois 61265 (309) 757-5800 e:mail RockIsland@fws.gov FAX: 309-757-5807	Indiana bat <i>Myotis sodalis</i>	Endangered	
	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened Key to 4(d) Rule	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods.
	Eastern massasauga <i>Sistrurus catenatus</i>	Threatened	Graminoid dominated plant communities (fens, sedge meadows, peatlands, wet prairies, open woodlands, and shrublands)
	Eastern prairie fringed orchid <i>Platanthera leucophaea</i>	Threatened	Mesic to wet prairies
Lake Field Office to Contact: Chicago Field Office 230 South Dearborn St., Suite 2938 Chicago, Illinois 60604 Phone: 312-216-4720 e:mail Chicago@fws.gov Cathy_Pollack@fws.gov	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened Key to 4(d) Rule	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods.
	Piping plover <i>Charadrius melodus</i>	Endangered	Wide, open, sandy beaches with very little grass or other vegetation
	Piping plover <i>Charadrius melodus</i>	Critical Habitat	Wide, open, sandy beaches with very little grass or other vegetation

	Rufa Red knot <i>Calidris canutus rufa</i>	Threatened	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30
	Karner blue butterfly <i>Lycaeides melissa samuelis</i>	Endangered	Pine barrens and oak savannas on sandy soils and containing wild lupines (<i>Lupinus perennis</i>), the only known food plant of the larvae
	Rusty patched bumble bee <i>Bombus affinis</i>	Endangered	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.
	Eastern prairie fringed orchid <i>Platanthera leucophaea</i> Go here for specific guidance on how to determine whether this species is present on a site.	Threatened	Moderate to high quality wetlands, sedge meadow, marsh, and mesic to wet prairie
	Pitcher's thistle <i>Cirsium pitcheri</i>	Threatened	Lakeshore dunes
<p>La Salle</p> <p>Field Office to Contact: U.S. Fish and Wildlife Service Rock Island Illinois Field Office 1511 47th Avenue Moline, Illinois 61265 (309) 757-5800 e:mail RockIsland@fws.gov FAX: 309-757-5807</p>	Indiana bat <i>Myotis sodalis</i>	Endangered	Caves, mines (hibernacula); Small stream corridors with well developed riparian woods; upland forests (foraging)
	Indiana bat <i>Myotis sodalis</i>	Critical Habitat designated	Blackball Mine
	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened Key to 4(d) Rule	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods.
	Decurrent false aster <i>Boltonia decurrens</i>	Threatened	
	Eastern prairie fringed orchid <i>Platanthera leucophaea</i>	Threatened	Mesic to wet prairies
	Leafy-prairie clover <i>Dalea foliosa</i>	Endangered	Prairie remnants on thin soil over limestone
<p>Lawrence</p> <p>Field Office to Contact: U.S. Fish and Wildlife Service Marion Illinois Sub-Office 8588 Route 148 Marion,</p>	Indiana bat <i>Myotis sodalis</i>	Endangered	Caves, mines (hibernacula); Small stream corridors with well developed riparian woods; upland forests (foraging)



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Chicago Ecological Service Field Office
U.s. Fish And Wildlife Service Chicago Ecological Services Office
230 South Dearborn St., Suite 2938
Chicago, IL 60604-1507
Phone: (312) 485-9337 Fax:

<http://www.fws.gov/midwest/endangered/section7/s7process/7a2process.html>

In Reply Refer To:

November 02, 2020

Consultation Code: 03E13000-2021-SLI-0058

Event Code: 03E13000-2021-E-00156

Project Name: Deerfield Rd EA (seq. no. 20261)

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The attached species list identifies any federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat if present within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Please note! For all **wind energy projects** and **projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

For all other projects, continue the Section 7 Consultation process by going to our Section 7 Technical Assistance website at <http://www.fws.gov/midwest/endangered/section7/s7process/index.html>. If you are familiar with this website, you may want to go to Step 2 of the Section 7 Consultation process at <http://www.fws.gov/midwest/endangered/section7/s7process/step2.html>.

Under 50 CFR 402.12(e) (the regulations that implement Section 7 of the Endangered Species Act) the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally. You may verify the list by visiting the ECOS-IPaC website <http://ecos.fws.gov/ipac/> at regular intervals during project planning and implementation and

completing the same process you used to receive the attached list. As an alternative, you may contact this Ecological Services Field Office for updates.

Although no longer protected under the Endangered Species Act, be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), as are golden eagles. Projects affecting these species may require measures to avoid harming eagles or may require a permit. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at <http://www.fws.gov/midwest/midwestbird/EaglePermits/index.html> to help you determine if you can avoid impacting eagles or if a permit may be necessary.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Chicago Ecological Service Field Office

U.s. Fish And Wildlife Service Chicago Ecological Services Office
230 South Dearborn St., Suite 2938
Chicago, IL 60604-1507
(312) 485-9337

Project Summary

Consultation Code: 03E13000-2021-SLI-0058

Event Code: 03E13000-2021-E-00156

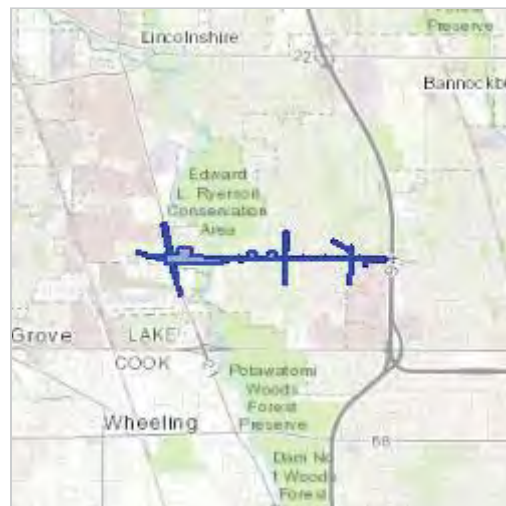
Project Name: Deerfield Rd EA (seq. no. 20261)

Project Type: TRANSPORTATION

Project Description: The existing roadway is one lane in each direction with open drainage ditches. The proposed action includes a third lane (flush median), curb and gutter, drainage improvements, Des Plaines River bridge widening/rehabilitation, multi-use path, utility relocations, auxiliary lane additions at two signalized intersections and through lane/auxiliary lane additions at one intersection

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/42.167452905505755N87.89900123121456W>



Counties: Lake, IL

Endangered Species Act Species

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Piping Plover <i>Charadrius melodus</i> Population: [Great Lakes watershed DPS] - Great Lakes, watershed in States of IL, IN, MI, MN, NY, OH, PA, and WI and Canada (Ont.) There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Endangered
Red Knot <i>Calidris canutus rufa</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

Insects

NAME	STATUS
Karner Blue Butterfly <i>Lycaeides melissa samuelis</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6656	Endangered

Flowering Plants

NAME	STATUS
Eastern Prairie Fringed Orchid <i>Platanthera leucophaea</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> ▪ Follow the guidance provided at https://www.fws.gov/midwest/endangered/section7/s7process/plants/epfos7guide.html Species profile: https://ecos.fws.gov/ecp/species/601 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/984/office/31131.pdf	Threatened
Pitcher's Thistle <i>Cirsium pitcheri</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8153	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Chicago Ecological Service Field Office
U.s. Fish And Wildlife Service Chicago Ecological Services Office
230 South Dearborn St., Suite 2938
Chicago, IL 60604-1507
Phone: (312) 485-9337 Fax:

<http://www.fws.gov/midwest/endangered/section7/s7process/7a2process.html>

In Reply Refer To:

November 02, 2020

Consultation Code: 03E13000-2021-TA-0058

Event Code: 03E13000-2021-E-00160

Project Name: Deerfield Rd EA (seq. no. 20261)

Subject: Verification letter for the 'Deerfield Rd EA (seq. no. 20261)' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Felecia Hurley:

The U.S. Fish and Wildlife Service (Service) received on November 02, 2020 your effects determination for the 'Deerfield Rd EA (seq. no. 20261)' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"^[1] prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with ESA Section 7(a)(2) only for the northern long-eared bat. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Eastern Prairie Fringed Orchid, *Platanthera leucophaea* (Threatened)
- Karner Blue Butterfly, *Lycaeides melissa samuelis* (Endangered)
- Piping Plover, *Charadrius melodus* (Endangered)
- Pitcher's Thistle, *Cirsium pitcheri* (Threatened)
- Red Knot, *Calidris canutus rufa* (Threatened)

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

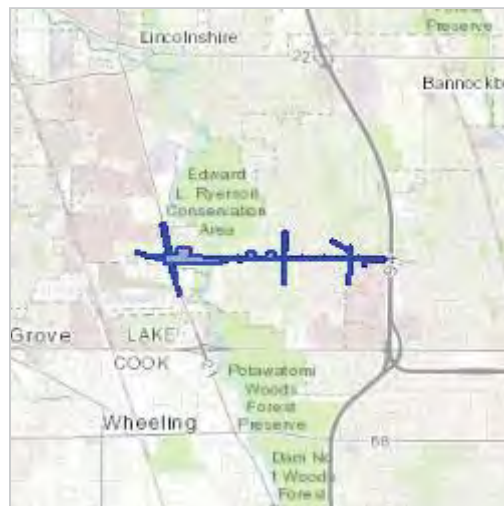
Deerfield Rd EA (seq. no. 20261)

2. Description

The following description was provided for the project 'Deerfield Rd EA (seq. no. 20261)':

The existing roadway is one lane in each direction with open drainage ditches. The proposed action includes a third lane (flush median), curb and gutter, drainage improvements, Des Plaines River bridge widening/rehabilitation, multi-use path, utility relocations, auxiliary lane additions at two signalized intersections and through lane/auxiliary lane additions at one intersection

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/42.167452905505755N87.89900123121456W>



Determination Key Result

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?
Yes
2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")
No
3. Will your activity purposefully **Take** northern long-eared bats?
No
4. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?
Automatically answered
No
5. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

Yes

6. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

No

7. Will the action involve Tree Removal?

Yes

8. Will the action only remove hazardous trees for the protection of human life or property?

No

9. Will the action remove trees within 0.25 miles of a known northern long-eared bat hibernaculum at any time of year?

No

10. Will the action remove a known occupied northern long-eared bat maternity roost tree or any trees within 150 feet of a known occupied maternity roost tree from June 1 through July 31?

No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

12

2. If known, estimated acres of forest conversion from April 1 to October 31

12

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?
0

Applicant: Illinois Department of Transportation
Contact: Felecia Hurley
Address: 2300 Dirksen Parkway
Springfield, IL 62764

IDNR Project Number: 1902795
Date: 09/11/2018
Alternate Number: 20261

Project: Deerfield Rd EA (seq. no. 20261)
Address: Deerfield Rd, Buffalo Grove

Description: The Preferred Alternative includes an extensive intersection improvement at Milwaukee Avenue, adding a center turn lane through the Deerfield Road corridor, and adding a northbound right turn lane at Saunders/ Riverwood Road. The proposed Milwaukee Avenue intersection configuration includes two thru lanes, dual left turn lanes, and an exclusive right turn lane on the northbound, southbound, and eastbound approaches and three thru lanes, dual left turn lanes, and an exclusive right turn lane on the westbound approach. The proposed Saunders/ Riverwood Road intersection configuration includes two thru lanes, an exclusive left turn lane and an exclusive right turn lane on all approaches. The typical roadway section for the Preferred Alternative from Milwaukee Avenue to Saunders/ Riverwoods Road includes two 11 feet wide travel lanes in each direction separated by a 12 feet wide two-way left turn lane, 3 feet wide bike friendly shoulders, accommodations for an 8 feet wide bike path along the south side of the roadway from Milwaukee to Portwine and along the north side of the roadway from Portwine to Saunders/ Riverwoods Road, and a five feet wide sidewalk along the opposing side of the roadway dependent on local cost participation.

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:

- Buffalo Grove Prairie INAI Site
- Edward L. Ryerson Conservation Area INAI Site
- Herrman's Woods INAI Site
- Edward L. Ryerson Nature Preserve
- Black-Crowned Night Heron (*Nycticorax nycticorax*)
- Bulrush (*Scirpus hattorianus*)
- Iowa Darter (*Etheostoma exile*)
- Massasauga (*Sistrurus catenatus*)
- Mountain Blue-Eyed Grass (*Sisyrinchium montanum*)
- Northern Long-Eared Myotis (*Myotis septentrionalis*)

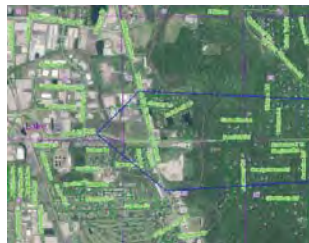
An IDNR staff member will evaluate this information and contact you to request additional information or to terminate consultation if adverse effects are unlikely.

Location

The applicant is responsible for the accuracy of the location submitted for the project.

County: Lake

Township, Range, Section:
43N, 11E, 25



43N, 11E, 26
43N, 11E, 27
43N, 11E, 34
43N, 11E, 35
43N, 11E, 36
43N, 12E, 30
43N, 12E, 31

IL Department of Natural Resources
Contact
Nathan Grider
217-785-5500
Division of Ecosystems & Environment

Government Jurisdiction
IL Department of Transportation
Felecia Hurley
2300 S. Dirksen Pkwy
Springfield, Illinois 62764

Disclaimer

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Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
www.dnr.illinois.gov

Bruce Rauner, Governor
Wayne A. Rosenthal, Director

December 21, 2018

Felecia Hurley
Illinois Department of Transportation
2300 Dirksen Parkway
Springfield, IL 62764

RE: Deerfield Rd EA (seq. no. 20261)
Project Number(s): 1902795 [20261]
County: Lake

Mrs. Hurley,

The Department has received your submission for this project for the purposes of consultation pursuant to the *Illinois Endangered Species Protection Act* [520 ILCS 10/11], the *Illinois Natural Areas Preservation Act* [525 ILCS 30/17], and *Title 17 Illinois Administrative Code Part 1075*. Additionally, the Department may offer advice and recommendations for species covered under the *Fish & Aquatic Life Code* [515 ILCS 5, et seq.]; the *Illinois Wildlife Code* [520 ILCS 5, et seq.]; and the *Herptiles-Herps Act* [510 ILCS 69].

The proposed action being reviewed in this letter consists of extensive intersection improvement at Milwaukee Avenue and Deerfield Rd in Buffalo Grove, IL (EcoCAT submittal #1902795). EcoCAT has indicated three Illinois Natural Areas Inventory (INAI) sites, a dedicated Nature Preserve, and multiple state-listed threatened and endangered plant and animal species, all within the vicinity of the proposed project footprint.

The Department has determined that impacts to the **Buffalo Grove Prairie** and **Edward L. Ryerson Conservation Area** INAI sites; the **Edward L. Ryerson** Nature Preserve; the **black-crowned night heron** (*Nycticorax nycticorax*), the **Iowa darter** (*Etheostoma exile*), and the listed plant species identified, are unlikely for this project. The Department considers these impacts unlikely, assuming all soil and erosion control BMPs are followed and ROWs are respected. Construction personnel should be aware that it is unlawful for debris, soil, fuel, trash, etc. to enter a dedicated Nature Preserve.

Documents reviewed indicate the project will impact, at maximum, a 27' x 20' square of the southwest corner of the **Herrmann's Woods** INAI site. In order to promote the ecological integrity of the INAI site, the Department offers the following recommendations for the project:

- The Department recommends all equipment (including but not limited to heavy machinery, hand tools, and boots) should be cleaned of all soil and debris prior to entering the INAI site, to avoid establishing new invasive species in the area.
- Any remaining stump/root complexes of any invasive species that are cleared (e.g. black locust, honeysuckle species, buckthorn, autumn olive) should be treated with appropriate herbicides to avoid re-sprouting.
- Upon completion of construction disturbance to the INAI site, the Department recommends the area be re-planted only with vegetation native to Lake county, Illinois.

Documents reviewed indicate IDOT commits to restrict tree clearing between the dates of April 1 and September 30 to avoid potential impacts to the state-listed threatened **northern long-eared bat** (*Myotis septentrionalis*). The Department concurs with this commitment as being sufficient to reduce the likelihood of impacts to the northern long-eared bat.

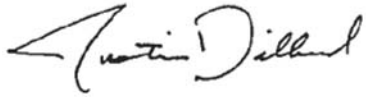
In correspondence with IDOT and INHS, the Department requested further information to demonstrate no suitable **eastern Massasauga rattlesnake** (*Sistrurus catenatus*) foraging or hibernation habitat existed within the proposed project footprint, where instream work is likely for the project. Documents reviewed indicate eastern Massasauga rattlesnakes are not likely to be present in the area. On-site surveillance (visual encounter survey) for snakes within potential foraging habitat (scoped by review of aerial photography for open areas) and a survey for potential hibernation burrows (along an unnamed tributary nearby to the most previous Massasauga record) was conducted. Both survey efforts support the likelihood that no eastern Massasauga rattlesnakes are in the area. The Department concurs with this finding, and considers impacts to the eastern Massasauga rattlesnake to be unlikely for this project.

Consultation on the part of the Department is closed unless the applicant desires additional information or advice related to this proposal. Consultation for Part 1075 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.

A handwritten signature in black ink that reads "Justin Dillard". The signature is written in a cursive style with a large, sweeping initial "J" and a distinct "D".

Justin Dillard

Resource Planner, Consultation Services

Illinois Dept. of Natural Resources

(217) 557-6723

Justin.Dillard@Illinois.gov

Applicant: Illinois Department of Transportation - CO
Contact: Felecia Hurley
Address: 2300 S. Dirksen Parkway
Springfield, IL 62764

IDNR Project Number: 2005382
Date: 01/08/2020
Alternate Number: 20261, 1902795

Project: Deerfield Road EA
Address: Deerfield Rd, Buffalo Grove

Description: The preferred alternative includes an extensive intersection improvement at Milwaukee Avenue, adding a center turn lane through the Deerfield Road corridor, and adding a northbound right turn lane at Saunders/Riverwood Road. The proposed Milwaukee Avenue intersection configuration includes two thru lanes, dual left turn lanes, and an exclusive right turn lane on the northbound, southbound, and eastbound approaches and three thru lanes, dual left turn lanes, and an exclusive right turn lane on the westbound approach. The proposed Saunders/Riverwood Road intersection configuration includes two thru lanes, an exclusive left turn lane and an exclusive right turn lane on all approaches. The typical roadway section for the preferred alternative from Milwaukee Avenue to Saunders/Riverwoods Road includes two 11 feet wide travel lanes in each direction separated by a 12 foot wide two-way left turn lane, 3 feet wide bike friendly shoulders, accommodations for an 8 foot wide bike path along the south side of the roadway from Milwaukee to Portwine and along the north side of the roadway from Portwine to Saunders/Riverwoods Road, and a five foot wide sidewalk along the opposing side of the roadway dependent on local cost participation.

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:

- Buffalo Grove Prairie INAI Site
- Edward L. Ryerson Conservation Area INAI Site
- Herrmann's Woods INAI Site
- Edward L. Ryerson Nature Preserve
- Black-Crowned Night Heron (*Nycticorax nycticorax*)
- Bulrush (*Scirpus hattorianus*)
- Eastern Massasauga (*Sistrurus catenatus catenatus*)
- Iowa Darter (*Etheostoma exile*)
- Mountain Blue-Eyed Grass (*Sisyrinchium montanum*)
- Northern Cranesbill (*Geranium bicknellii*)
- Northern Long-Eared Myotis (*Myotis septentrionalis*)

An IDNR staff member will evaluate this information and contact you 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:
43N, 11E, 25



43N, 11E, 26
43N, 11E, 27
43N, 11E, 34
43N, 11E, 35
43N, 11E, 36
43N, 12E, 30
43N, 12E, 31

IL Department of Natural Resources
Contact
Bradley Hayes
217-785-5500
Division of Ecosystems & Environment

Government Jurisdiction
IL Department of Transportation
Felecia Hurley
2300 S. Dirksen Parkway
Springfield, Illinois 62764

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Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
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Bruce Rauner, Governor
Wayne A. Rosenthal, Director

January 22, 2020

Felecia Hurley
Environment Section
Illinois Department of Transportation
Bureau of Design and Environment
2300 South Dirksen Parkway
Springfield, Illinois 62764

**RE: Deerfield Rd EA, Seq. no. 20261
Consultation Program
EcoCAT Review #2005382
Lake County**

Dear Ms. Hurley,

The Department has received your submission for this project for the purposes of consultation pursuant to the *Illinois Endangered Species Protection Act* [520 ILCS 10/11], the *Illinois Natural Areas Preservation Act* [525 ILCS 30/17], and Title 17 *Illinois Administrative Code* Part 860 and Part 1075. Additionally, the Department may offer advice and recommendations for species covered under the *Fish & Aquatic Life Code* [515 ILCS 5, *et seq.*]; the *Illinois Wildlife Code* [520 ILCS 5, *et seq.*]; and the *Herptiles-Herps Act* [510 ILCS 69].

The proposed action being reviewed in this letter consists of extensive intersection improvements at Milwaukee Avenue and Deerfield Rd in Buffalo Grove, IL.

EcoCAT has indicated three Illinois Natural Areas Inventory (INAI) sites, a dedicated Nature Preserve, and multiple state-listed threatened and endangered plant and animal species, all within the vicinity of the proposed project footprint.

The State-listed **blackchin shiner** (*Notropis heterodon*) was identified at the Deerfield Road Bridge in July of 2018. Due to the nature of instream work required to complete this project, the Department recommends Illinois Department of Transportation (IDOT) seek an Incidental Take Authorization (ITA) pursuant to *Part 1080* and *Section 5.5* of the *Illinois Endangered Species Protection Act*.

Documents reviewed indicate IDOT commits to restrict tree clearing between the dates of April 1 and September 30 to avoid potential impacts to the state-listed threatened **northern long-eared bat** (*Myotis septentrionalis*). The Department concurs with this commitment as being sufficient to reduce the likelihood of impacts to the northern long-eared bat.

In correspondence with IDOT and INHS, the Department requested further information to demonstrate no suitable **eastern Massasauga rattlesnake (*Sistrurus catenatus*)** foraging or hibernation habitat existed within the proposed project footprint, where instream work is likely for the project. Documents reviewed indicate eastern Massasauga rattlesnakes are not likely to be present in the area. On-site surveillance (visual encounter survey) for snakes within potential foraging habitat (scoped by review of aerial photography for open areas) and a survey for potential hibernation burrows (along an unnamed tributary nearby to the most previous Massasauga record) was conducted. Both survey efforts support the likelihood that no eastern Massasauga rattlesnakes are in the area. The Department concurs with this finding and considers impacts to the eastern Massasauga rattlesnake to be unlikely for this project.

The Department has determined that impacts to the **black-crowned night heron (*Nycticorax nycticorax*)**, the **Iowa darter (*Etheostoma exile*)**, and the listed plant species identified, are unlikely for this project.

The project is adjacent to the **Edward L. Ryerson Conservation INAI** and **Edward L. Ryerson Nature Preserve**. Plans and documents indicate all work is staying within right-of-way (ROW) along the border of the Nature Preserve, including the Herrmann Wildflower Farm Addition. The Department recommends the following to avoid impacts to Edward L. Ryerson Nature Preserve:

- Fencing and signage clearly delineating the boundaries of the Nature Preserve should be installed to ensure no disturbances occur within the Nature Preserve.
- Parking and staging in areas adjacent to the Nature Preserve should also be avoided.
- Equipment should be washed before entering the work site to prevent the transfer of non-native and invasive species into the Nature Preserve.
- Soil erosion and sediment control BMP's should be implemented and properly maintained.

The Department also requests that temporary and permanent lighting be avoided near the boundary of Edward L. Ryerson Nature Preserve to minimize adverse effects to nocturnal wildlife and to help preserve the integrity of the Nature Preserve. If temporary or permanent lighting is required, the Department recommends the following to minimize adverse effects to wildlife:

- All lighting should be fully shielded fixtures that emit no light upward.
- Only “warm-white” or filtered LEDs (CCT < 3,000 K; S/P ratio < 1.2) should be used to minimize blue emission.
- Only light the exact space with the amount (lumens) needed to meet highway safety requirement.
- If LEDs are to be used, avoid the temptation to over-light based on the higher luminous efficiency of LEDs.

If for any reason, access or disturbance to Edward L. Ryerson Nature Preserve is anticipated, further coordination with the Illinois Nature Preserves Commission is required. Please be aware, adverse impact to an Illinois Nature Preserve or Illinois Land and Water Reserve are prohibited, pursuant to the *Illinois Natural Areas Preservation Act [525 ILCS 30/21-23]*. Violations under this Act can carry significant penalties.

Documents reviewed indicate the project will impact, at maximum, a 27' x 20' square of the southwest corner of the **Herrmann's Woods INAI** site. In order to promote the ecological integrity of the INAI site, the Department offers the following recommendations for the project:

- The Department recommends all equipment (including but not limited to heavy machinery, hand tools, and boots) should be cleaned of all soil and debris prior to entering the INAI site, to avoid establishing new invasive species in the area.
- Any remaining stump/root complexes of any invasive species that are cleared (e.g. black locust, honeysuckle species, buckthorn, autumn olive) should be treated with appropriate herbicides to avoid re-sprouting.
- Upon completion of construction disturbance to the INAI site, the Department recommends the area be re-planted only with vegetation native to Lake county, Illinois.

The Department has determined that impacts to the **Buffalo Grove Prairie INAI** site are unlikely.

Consultation on the part of the Department is closed, unless the applicant desires additional information or advice related to this proposal. Consultation for Part 1075 is valid for two years unless new information becomes available which was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the action 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 with any questions about this review.

Sincerely,



Bradley Hayes
Resource Planner
Office of Realty & Capital Planning
Illinois Dept. of Natural Resources
One Natural Resources Way
Springfield, IL 62702-1271
bradley.hayes@illinois.gov
Phone: (217) 782-0031

APPENDIX D-4

ENVIRONMENTAL SURVEYS/ CORRESPONDENCE

WETLAND/WATERS OF THE U.S. REVIEW/CLEARANCE

Wetlands

Submittal Date:	09/22/2016	Sequence No:	20261
District:	1	Requesting Agency:	Local LCDOT
Contract #:		Job No.:	P-91-159-16
Counties:	Lake		
Route:	FAU 1257	Marked:	
Street:	Deerfield Road	Section:	15-00038-07-WR
Municipality(ies):	Buffalo Grove, Riverwoods, Deerfield	Project Length:	3.2187 km 2 miles
FromTo (At):	Milwaukee Avenue to Saunders/Riverwoods Road		
Quadrangle:	Wheeling	Township-Range-Section:	see Part G below
Anticipated Design Approval:	05/01/2018	Cleared for Design Approval:	10/01/2019
Cleared for Letting:	10/01/2019	Mitigation:	

Wetland Impacts Evaluation

Submittal Date:	05/01/2019	Submitted By:	
Does the project have wetland impacts?	Yes <input type="checkbox"/>	Type:	Both <input type="checkbox"/>
Briefly describe the measures considered to avoid and minimize adverse impacts to the wetlands:	The preliminary design incorporates minimum lane widths (e.g., 11-foot wide through lanes), minimum lane addition, a slight southern alignment shift, and retaining walls.		
Summarize briefly why there are no practicable alternatives to the use of the wetland(s):	Due to the close proximity of wetlands to both sides of Deerfield Rd and adjacent land use (e.g., developed corridor, nature preserve, forest preserve, INAI), all build alternatives would impact wetlands.		
Wetland mitigation is being proposed:	wetland bank site <input type="checkbox"/>	<input type="checkbox"/>	Reviewed
Submittal Date:	07/08/2020	Submitted By:	
Does the project have wetland impacts?	Yes <input type="checkbox"/>	Type:	Permanent <input type="checkbox"/>
Briefly describe the measures considered to avoid and minimize adverse impacts to the wetlands:	Preliminary design incorporates minimum lane widths (e.g., 11-foot wide through lanes) with curb & gutter, minimum lane addition, a slight southern alignment shift, and retaining wall.		
Summarize briefly why there are no practicable alternatives to the use of the wetland(s):	Due to the close proximity of wetlands to both sides of Deerfield Rd and adjacent land use (e.g., developed corridor, nature preserves, forest preserve, INAI), all build alternatives would impact wetlands.		
Wetland mitigation is being proposed:	wetland bank site <input type="checkbox"/>	<input checked="" type="checkbox"/>	Reviewed

Memo Date:	08/13/2020	Memo By:	Felecia Hurley
Memo:	<p>The May 2019 WIE stated that there would be 0.05 acre of impact to wetland site 18, 0.003 acre of impact to wetland site 19, 0.005 acre of impact to wetland site 20, and 0.002 acre of impact to wetland site 35. The July 8, 2020 WIE updates the impact to these wetlands. There is no impact to wetland sites 18 and 35 and there will be 0.0003 acre of impact to wetland site 19 and 0.0005 acre of impact to wetland site 20.</p> <p>This project qualifies to be processed as a Programmatic Review Action under IDOT's Wetland Action Plan since the project is on existing and contiguous alignment. Thus, the lowest mitigation ratios apply. Mitigation is proposed to occur at Buffalo Creek wetland mitigation bank which is in the same basin as the impacts but more than one mile away (i.e., in-basin, off-site).</p> <p>Impacts to wetland sites 1 and 15 require a mitigation ratio of 5.5:1.0 due to the Floristic Quality Inventory being over 20. Impacts to wetland site 17 require a mitigation ratio of 5.5:1.0 due to the presence of an Illinois Natural Areas Inventory (INAI) site. All other wetlands that were impacted require a mitigation ratio of 1.5:1.0 since mitigation is proposed to occur in-basin, off-site. The project will impact a total of 0.6258 acre from eleven wetlands and a total of 1.7392 acres of mitigation is required under the Illinois Interagency Wetlands Policy Act.</p> <p>As the project progresses, if any changes occur to the wetland impacts (more or less) reported in the Wetland Impact Evaluation (WIE) form then an updated WIE form is required to be submitted to IDOT-BDE and new mitigation totals will be calculated by IDOT-BDE.</p>		
Memo Date:	07/08/2020	Memo By:	Pete Knysz (CBBEL)

Memo:	(1) Since the December 2019 WIE Addendum #1 submittal, cultural resource coordination has resulted in avoidance measures adjacent to potential historic properties. WIE Addendum #2 includes revised wetland impacts as a result of these measures. The WIE form includes wetlands with "revised impact totals" only. (2) Wetland impacts have been reduced at Sites # 19 & 20. No impacts are anticipated at Sites #18 or 35. See WIE Exhibit Sheet 11. (3) There have been no changes to the Wetland Report or ESR limits. (4) In addition to those mentioned above, avoidance/minimization measures include: minimum slope embankment (3H:1V) and a longitudinal box culvert located in existing ROW in lieu of a larger conveyance ditch.		
Memo Date:	02/03/2020	Memo By:	Felecia Hurley
Memo:	<p>The impacts to wetlands have been updated. The original WIE stated there would be 0.05 acre of impact to wetland site #17 and the impacts are now 0.07 acre. The original WIE stated there would be 0.003 acre of impact to wetland site #19 and the impacts are now 0.004.</p> <p>This project qualifies to be processed as a Programmatic Review Action under IDOT's Wetlands Action Plan since the project is on existing and contiguous alignment. Thus, the lowest mitigation ratios apply. Mitigation is proposed to occur at Buffalo Creek wetland mitigation bank which is in the same basin as the impacts but more than one mile away (i.e., in-basin, off-site).</p> <p>Impacts to wetland sites 1 and 15 require a mitigation ratio of 5.5:1.0 due to the Floristic Quality Inventory being over 20. Impacts to wetland site 17 require a mitigation ratio of 5.5:1.0 due to the presence of an Illinois Natural Areas Inventory (INAI) site. All other wetlands that were impacted require a mitigation ratio of 1.5:1.0 since mitigation is proposed to occur in-basin, off-site. The project will impact a total of 0.713 acres from thirteen wetlands and a total of 1.83 acres of mitigation is required under the Illinois Interagency Wetlands Policy Act.</p> <p>As the project progresses, if any changes occur to the wetland impacts (more or less) reported in the Wetland Impact Evaluation (WIE) form then an updated WIE form is required to be submitted to IDOT-BDE and new mitigation totals will be calculated by IDOT-BDE.</p>		
Memo Date:	12/16/2019	Memo By:	Pete Knysz (CBBEL)
Memo:	<p>(1) Since the Sept 2019 WIE, additional studies have resulted in the need for additional ROW/easements. WIE Addendum #1 includes: (a) revised impacts (the WIE form includes impact totals for the affected wetlands); and (b) wetlands depicted on new exhibit Sheets 2, 3, & 4 that were added to the WIE. (2) There have been no changes to the Wetland Report or ESR limits. (3) Site # 17 is a HQAR wetland. Sites #17 and W17 also overlap with an INAI site. No impacts within the INAI site. (4) Temp WOUS impacts are anticipated at Site #W17 (0.01 ac). (5) During the PJD, open water Detention Area #5 was determined to be isolated and not USACE jurisdictional. It is no included above. (6) Detention Area #3 is located beyond improvement limits. No impact is anticipated. No vegetative inventory/FQI was completed.</p>		
Memo Date:	10/01/2019	Memo By:	Felecia Hurley
Memo:	<p>This project qualifies to be processed as a Programmatic Review Action under IDOT's Wetlands Action Plan since the project is on existing and contiguous alignment. Thus, the lowest mitigation ratios apply. Mitigation is proposed to occur at Buffalo Creek wetland mitigation bank which is in the same basin as the impacts but more than one mile away (i.e., in-basin, off-site).</p> <p>Impacts to wetland sites 1 and 15 require a mitigation ratio of 5.5:1.0 due to the Floristic Quality Inventory being over 20. Impacts to wetland site 17 require a mitigation ratio of 5.5:1.0 due to the presence of an Illinois Natural Areas Inventory (INAI) site. All other wetlands that were impacted require a mitigation ratio of 1.5:1.0 since mitigation is proposed to occur in-basin, off-site. The project will impact a total of 0.692 acres from thirteen wetlands and a total of 1.718 acres of mitigation is required under the Illinois Interagency Wetlands Policy Act.</p> <p>As the project progresses, if any changes occur to the wetland impacts (more or less) reported in the Wetland Impact Evaluation (WIE) form then an updated WIE form is required to be submitted to IDOT-BDE and new mitigation totals will be calculated by IDOT-BDE.</p>		
Memo Date:	05/01/2019	Memo By:	Pete Knysz
Memo:	<p>(1) HQAR wetlands include: Site #1, 15, 17, 33 and 34. Site #1 and #W1 also overlap with mapped ADID. No impacts at mapped ADID portion. (2) Site #W1 (Des Plaines River) is listed on the NRI for: Recreation and Scenery. It is also listed as a 303(d) impaired water. (3) Temp WOUS impacts also anticipated at Site #W1 (0.09 ac) and Site #W17 (0.003 ac). No impacts at Site #21, 23, 30, 33, 34, 36 and 37. (4) Lake Co SMC completed a PJD for this project (with the USACE). The following wetlands were determined to be isolated (not USACE jurisdictional) and were also determined to be excluded under the Lake Co Watershed Development Ordinance: Site #14, 26, 30 and 32. These wetland sites are permitted excavations/impoundments or were created incidental to construction grading.</p>		

Wetland Impacts and Mitigation Required

Site No.	Type	T&E	Nature Preserve	Natural Area	Essential Habitat	Size (acres)	Acres of Impact	Ratio	Acres of Compensation
1	Forested	No	Yes	Yes	No	1.82	.110	5.5	.605
Basin	07120004	Quadrangle	Wheeling		FQI	29.1	Addendum		
Describe the work:		Fill							
13	Forested	No	No	No	No	0.01	.010	1.5	.015
Basin	07120004	Quadrangle	Wheeling		FQI	9.8	Addendum		
Describe the work:		Excavation							
14	Marsh	No	No	No	No	0.08	.070	1.5	.105
Basin	07120004	Quadrangle	Wheeling		FQI	7.5	Addendum		
Describe the work:		Fill							
15	Forested	No	No	No	No	0.67	.010	5.5	.055
Basin	07120004	Quadrangle	Wheeling		FQI	22.7	Addendum		
Describe the work:		Fill							
16	Forested	No	No	No	No	0.04	.040	1.5	.060
Basin	07120004	Quadrangle	Wheeling		FQI	13.3	Addendum		
Describe the work:		Fill							
17	Forested	No	No	Yes	No	0.77	.070	5.5	.385
Basin	07120004	Quadrangle	Wheeling		FQI	19.5	Addendum		
Describe the work:		Fill							
18	Forested	No	No	No	No	0.05	.000	1.5	.000
Basin	07120004	Quadrangle	Wheeling		FQI	15.4	Addendum		
Describe the work:		Fill							
19	Wet Mead	No	No	No	No	0.01	.000	1.5	.000
Basin	07120004	Quadrangle	Wheeling		FQI	6.3	Addendum		
Describe the work:		Fill							
20	Wet Mead	No	No	No	No	0.03	.001	1.5	.001
Basin	07120004	Quadrangle	Wheeling		FQI	9.7	Addendum		
Describe the work:		Fill							
26	Marsh	No	No	No	No	0.09	.090	1.5	.135
Basin	07120004	Quadrangle	Wheeling		FQI	14.5	Addendum		
Describe the work:		Fill							
27	Wet Mead	No	No	No	No	0.25	.250	1.5	.375
Basin	07120004	Quadrangle	Wheeling		FQI	16.6	Addendum		
Describe the work:		Fill							
32	Wet Mead	No	No	No	No	0.01	.002	1.5	.003
Basin	07120004	Quadrangle	Wheeling		FQI	4.9	Addendum		
Describe the work:		Fill							
35	Wet Mead	No	No	No	No	0.01	.000	1.5	.000
Basin	07120004	Quadrangle	Wheeling		FQI	6.4	Addendum		
Describe the work:		Fill							
Total							.653		1.739



CHRISTOPHER B. BURKE ENGINEERING, LTD.

9575 West Higgins Road Suite 600 Rosemont, Illinois 60018 TEL (847) 823-0500 FAX (847) 823-0520

Revised: September 23, 2019

August 26, 2016

Lake County Division of Transportation
600 W. Winchester Road
Libertyville, IL 60048

Attention: Chuck Gleason - Project Manager

Subject: Wetland and Waters of the U.S. Assessment for the Deerfield Road
Study Area in Lake County, Illinois
(CBBEL Project No. 150331)

Dear Mr. Gleason:

As requested, Christopher B. Burke Engineering, Ltd. (CBBEL) completed a Waters of the U.S./wetland assessment for the Deerfield Road study area in Lake County, Illinois. Seventeen wetlands, twelve detention areas, three roadside drainage ditches, one man-made rain garden and seven Waters of the U.S./wetland areas consisting of a portion of the Des Plaines River, several tributaries and several partially vegetated swales were identified and flagged at the time of our site visit using the U.S. Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (August 2010). An aerial photograph delineation showing the GPS sub-meter accuracy wetland, Waters of the U.S and detention area limits is included as Exhibit 7.

The U.S. Army Corps of Engineers (USACE) no longer has jurisdiction over isolated wetlands with no surface water connection to navigable waterways. Wetlands with direct surface water connections to navigable waterways will be federally regulated by the USACE under Section 404 of the Clean Water Act. Any identified wetlands found to be isolated and not federally regulated, will be regulated as Isolated Waters of Lake County by the Lake County Stormwater Management Commission (LCSMC) under the Lake County Watershed Development Ordinance.

Because the proposed project will use State of Illinois funding, coordination will be necessary with the Illinois Department of Natural Resources (IDNR) regarding Interagency Wetland Policy Act (IWPA) requirements. In our opinion, wetlands regulated by the USACE and LCSMC will also be regulated under the IWPA. However, the IWPA does not regulate unvegetated Waters of the U.S. channels and should not regulate the

following: man-made open water detention areas or mowed turf/unvegetated roadside drainage ditches.

As shown in Tab 1, LCSMC completed a Preliminary Jurisdictional Determination and wetland boundary confirmation for the identified areas. The Preliminary Jurisdictional Determination indicates which wetlands and Waters of the U.S. are federally regulated, which ones are classified as Isolated Waters of Lake County and regulated under the Lake County Watershed Development Ordinance and which areas are exempt.

The following table summarizes the findings from our field investigation and the results of the Preliminary Jurisdictional Determination.

	Wetland Type	Native Mean C-Value ³	Native FQI ³	Size (ac.) ¹	USACE Regulated	Lake County Regulated	IDNR Regulated ²	Exempt ²
Waters of the U.S./Wetland #1	Open Water/Forested	3.4	29.1	1.86	X		X	
Detention Area #2	Detention Area	NA	NA	0.18				X
Detention Area #3	Detention Area	NA	NA	0.40			X	
Detention Area #4	Detention Area	NA	NA	0.11			X	
Detention Area #5	Detention Area	NA	NA	0.07				X
Wetland #6	Wet Meadow	2.3	8.3	0.04			X	
Detention Area #7	Detention Area	NA	NA	0.12	X			
Detention Area #8	Detention Area	NA	NA	0.03	X			
Detention Area #9	Detention Area	NA	NA	0.11	X			
Wetland #10	Wet Meadow	1.7	7.6	0.08			X	
Detention Area #11	Detention Area	NA	NA	Off-site				X
Waters of the U.S./Wetland #12	Open Water/Wet Meadow	1.9	11.7	0.63	X		X	
Wetland #13	Forested	2.1	9.8	0.01	X		X	
Wetland #14	Marsh	1.6	7.5	0.09			X	
Wetland #15	Forested	3.4	22.7	0.67		X	X	
Wetland #16	Forested	2.8	13.3	0.03		X	X	
Waters of the U.S./Wetland #17	Open Water/Forested	2.9	19.5	0.76	X		X	
Wetland #18	Forested	2.9	15.4	0.04	X		X	
Waters of the U.S./Wetland #19	Mudflat/Wet Meadow	2.0	6.3	0.01		X	X	
Waters of the U.S./Wetland #20	Mudflat/Wet Meadow	2.4	9.7	0.03		X	X	
Wetland #21	Forested	1.9	8.5	0.06	X		X	
Waters of the U.S./Wetland #22	Open Water/Forested	2.1	11.5	0.04	X		X	
Wetland #23	Forested	2.0	10.4	0.03	X		X	
Detention Area #24	Detention Area	NA	NA	0.03		X		
Detention Area #25	Detention Area	NA	NA	0.02		X		
Wetland #26	Marsh	2.6	14.5	0.09			X	
Waters of the U.S./Wetland #27	Wet Meadow	2.4	16.6	0.24	X		X	

	Wetland Type	Native Mean C-Value ³	Native FQI ³	Size (ac.) ¹	USACE Regulated	Lake County Regulated	IDNR Regulated ²	Exempt ²
Detention Area #28	Detention Area	NA	NA	Off-site			X	
Detention Area #29	Detention Area	NA	NA	0.11			X	
Rain Garden #30	Wet Meadow/Forested	3.8	18.6	0.002			X	
Wetland #31	Forested	2.8	13.5	0.09	X		X	
Waters of the U.S./Wetland #32	Mudflat/Wet Meadow	2.0	4.9	0.01			X	
Wetland #33	Forested	3.6	32.6	1.57	X		X	
Wetland #34	Forested	2.4	11.5	0.006	X		X	
Waters of the U.S./Wetland #35	Mudflat/Wet Meadow	1.7	6.4	0.003		X	X	
Wetland #36	Forested	2.9	18.3	0.006	X		X	
Wetland #37	Forested	2.8	14.7	0.003	X		X	
Roadside Ditch #1	Roadside Ditch	NA	NA	NA	X			
Roadside Ditch #2	Roadside Ditch	NA	NA	NA	X			
Roadside Ditch #3	Roadside Ditch	NA	NA	NA				X

¹ Represents wetland or Waters of the U.S. area located within the study area limits only.

² Man-made open water detention areas and mowed turf/unvegetated roadside drainage ditches that are not regulated by the USACE or Lake County were also found to be exempt from IDNR IWPA wetland jurisdiction. These areas did not appear to meet the definition of "State Jurisdictional Wetland" in the IWPA.

³ Represents vegetation identified within and immediately adjacent to the study area limits. NA indicates no vegetation inventory completed in man-made detention areas.

The attached report describes the identified wetlands and waters and presents the methodology and reference material used to assist in the assessment. The Midwest Region Wetland Determination Data Forms, required by the USACE, are also included. This assessment is based on field conditions at the time of the CBBEL site visit and our understanding of current federal, state and local regulations. An evaluation of historic site conditions was not performed.

Please contact our office should you have any additional questions or if we can be of further assistance.

Sincerely,



Thomas G. McArdle
 Manager, Environmental Resources Department
 LC-CWS #C-019

**WETLAND ASSESSMENT REPORT
DEERFIELD ROAD STUDY AREA
LAKE COUNTY, ILLINOIS
CBBEL Project No. 150331**

WETLAND DELINEATION

On July 25 and July 28, 2016, May 25, 2017 and September 26, 2018, Christopher B. Burke Engineering, Ltd. (CBBEL) completed wetland and Waters of the U.S. field investigations of the subject site to determine on-site wetland and Waters of the U.S. boundaries. This report was prepared to document our findings. The study area includes Deerfield Road and surrounding area between Interstate 94 and west of Route 21 in Lake County, Illinois, as shown on Exhibit 1. The project site also includes area surrounding portions of Sanders Road, Riverwoods Road, Saunders Road, Portwine Road and Route 21 to the north and south of Deerfield Road. Identified wetland and Waters of the U.S. boundaries were delineated using the U.S. Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (August 2010). The GPS sub-meter accuracy wetland and Waters of the U.S. limits are shown on Exhibit 7. The Midwest Region Wetland Determination Data Forms, required by the USACE, are also included.

METHODOLOGY

The Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (August 2010), identifies the mandatory technical criteria for wetland identification. The three essential characteristics of a jurisdictional wetland are hydrophytic vegetation, hydric soils and wetland hydrology as described below:

Hydrophytic Vegetation: The hydrophytic vegetation criterion is based on a separation of plants into five basic groups:

- (1) Obligate wetland plants (OBL) almost always occur (estimated probability >99%) in wetlands under natural conditions;
- (2) Facultative wetland plants (FACW) usually occur in wetlands (estimated probability 67-99%), but occasionally are found in non-wetlands;
- (3) Facultative plants (FAC) are equally likely to occur in wetlands or non-wetlands (estimated probability 34-66%);
- (4) Facultative upland plants (FACU) usually occur in non-wetlands (estimated probability 67-99%), but occasionally are found in wetlands; and
- (5) Obligate upland plants (UPL) almost always occur (estimated probability >99%) in non-wetlands under natural conditions.

Four procedures completed in the following order are used to determine if hydrophytic vegetation is present:

- 1) Rapid Test: The Rapid Test for hydrophytic vegetation is met if all dominant species across all strata are OBL or FACW, or a combination of the two based on a visual assessment.
- 2) Dominance Test: Using the 50/20 Rule, if greater than 50% of the plants present are FAC, FACW, or OBL, the subject area meets the hydrophytic vegetation criterion.
- 3) Prevalence Index: Each plant species in a sampling plot is assigned a numeric value (OBL=1; FACW=2; FAC=3; FACU=4; UPL=5). Based on the sampling data, the absolute cover is calculated for each species in each stratum and using the specified formula, if the Prevalence Index is 3 or less, hydrophytic vegetation is present.
- 4) Morphological Adaptations: Various species may develop physical characteristics after growing in wetland areas such as multi-stemmed trunks, shallow roots and buttressed stems. Hydrophytic vegetation is present if an adaptation is observed in more than 50% of FACU species growing in an area that contains hydric soil and wetland hydrology.

Hydric Soils: Hydric soils are defined in the manual as "soils that are saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions in the upper part." Field indicators of hydric soil are found in the NTCHS Field Indicators of Hydric Soils in the United States (USDA Natural Resources Conservation Service 2006b or current version).

Wetland Hydrology: The wetland hydrology criterion is often the most difficult to determine. Typically, the presence of water for a portion of the growing season creates anaerobic conditions. Anaerobic conditions lead to the prevalence of wetland plants. Morphological adaptations of plants, driftlines and watermarks are examples of wetland hydrology field indicators.

RESULTS AND DISCUSSION

STUDY AREA

The study area includes Deerfield Road and surrounding area between Interstate 94 and west of Route 21 in Lake County, Illinois, as shown on Exhibit 1. The project site also includes area surrounding portions of Sanders Road, Riverwoods Road, Saunders Road, Portwine Road and Route 21 to the north and south of Deerfield Road. The study area contains roadside right-of-way, commercial uses, woodland, old fields, roadway pavement, seventeen wetlands, twelve detention areas, three roadside drainage ditches, one man-made rain garden and seven Water's of the U.S./wetland areas consisting of a portion of the Des Plaines River, several tributaries and several partially vegetated swales. An aerial photograph delineation showing the GPS sub-meter accuracy wetland, Water's of the U.S and detention area limits is included as Exhibit 7.



STORMWATER MANAGEMENT COMMISSION

June 28, 2017

Mr. Chuck Gleason
 Lake County Division of Transportation
 600 West Winchester Rd.
 Libertyville IL 60048

Subject: SMC #: 17-83-009
USACE #: LRC-2017-166
Deerfield Road Improvements, west of IL-21 east to I-94, Villages of Buffalo Grove and Riverwoods, Lake County, Illinois
PRELIMINARY WETLAND JURISDICTIONAL DETERMINATION/BOUNDARY VERIFICATION - REVISED

Dear Mr. Gleason:

This letter supersedes and replaces the April 28, 2017, letter previously issued for the above-referenced project corridor and reflects a shift in jurisdiction for one site (i.e., Wetland #14) based on supplemental information issued by the U.S. Army Corps of Engineers (USACE) under LRC-2014-351 and provided to SMC by the Village of Riverwoods on June 20, 2017. The wetlands/waters referenced in this letter are depicted on the enclosed EXH 7: *Approximate Wetland Delineation* by CBBEL, plotted on 8/11/17, with SMC notes dated 4/28/17.

Based on our findings, 19 wetland/waters within the corridor appear to be *Waters of the United States* (WOUS) subject to regulation by the USACE under Section 404 of the federal Clean Water Act and 21 areas may be *Isolated Water of Lake County* (IWLC) subject to regulation by the SMC under the Lake County Watershed Development Ordinance (WDO). Jurisdiction for each wetland/water is as follows:

Apparent WOUS	Apparent IWLCs
Detention Area #7	Detention Area #2
Detention Area #8	Detention Area #3
Detention Area #9	Detention Area #4
WOUS/Wetland #1	Detention Area #5
WOUS/Wetland #12	Detention Area #11
Wetland #13	Detention Area #24
WOUS/Wetland #17	Detention Area #25
Wetland #18	Wetland #6
Wetland #21	Wetland #10
WOUS/Wetland #22	Wetland #14
Wetland #23	Wetland #15
WOUS/Wetland #27	Wetland #16
Wetland #31	WOUS/Wetland #19
Wetland #33	WOUS/Wetland #20
Wetland #34	Wetland #26
Wetland #36	Detention Area #28
Wetland #37	Detention Area #29
Ditch 1	Rain Garden #30
Ditch 2	WOUS/Wetland #32
	Wetland #35
	Ditch 3

Each apparent WOUS has a clearly discernible hydrologic connection to the traditionally navigable Des Plaines River (via the Aptakisic Creek or Lower Des Plaines River sub-watersheds) or the North Branch Chicago River (via the West Branch sub-watershed). This determination does not include a field verification of the delineated WOUS boundaries. You may request a boundary verification from the USACE (SMC is not authorized to verify WOUS boundaries).

Each apparent IWLC may be subject to regulation by SMC under the WDO as an IWLC. These areas lack a clearly discernible hydrologic connection to navigable waters, are features constructed in non-hydric soils, or the USACE considered them to be roadside conveyance and did not take jurisdiction over them. SMC will address the requested BV separately from this PJD letter.

This PJD has been approved by SMC's Chief Engineer and the findings are valid for a period of three (3) years from the date of this letter, unless new information warrants a revision before the expiration date. If you disagree with the findings of this PJD, you may request a final (approved) JD from the USACE.

For your information, SMC determined the jurisdiction of potential WOUS based on guidance provided in the EPA/USACE Memorandum entitled "Clean Water Act Jurisdiction following the U.S. Supreme Court's decision in Rapanos v. United States & Carabell v. United States," dated June 5, 2007 (revised December 2, 2008), and the USACE's *Jurisdictional Determination Form Instructional Guidebook* dated May 30, 2007.

Permitting Considerations

This letter satisfies the requirement for a written jurisdictional determination under Article 10, Section 1001 of the Lake County Watershed Development Ordinance (WDO) for the indicated wetlands/waters. A Watershed Development Permit (WDP), including isolated wetlands approval, is required for the proposed public road development. Please coordinate with Mr. Robert Gardiner, SMC's Permit Engineer, at 847-377-7704 for the appropriate permit application form and procedures with respect to the WDO Standard Provisions. Please note that a survey of the field-verified wetland boundaries will need to be included on the project plans for permitting purposes.

In support of the exclusion request for this multi-jurisdictional project, please submit to SMC an IWLC exclusion worksheet (electronic copy previously provided for your convenience) and supporting documentation for each apparent IWLC for which exclusion is requested (except Wetland #6 and Wetland #10, for which SMC already has documentation). SMC will then coordinate with the EO for unincorporated Lake County and the EOs for the villages of Buffalo Grove, Deerfield, and Riverwoods as appropriate to document which apparent IWLCs qualify for exclusion.

If the EO confirms a detention facility or waterway as an IWLC, then SMC's written approval will be required for any impacts to that feature from the proposed development, and you should coordinate with Juli Crane, SMC's Principal Wetland Specialist, at 847-377-7708 for approval of the project with respect to the WDO Isolated Wetland Provisions. Conversely, if the EO determines a detention facility and/or waterway meets the exclusion criteria under the definition of IWLC in Appendix A of the WDO, then no wetland impact approval will be required from the SMC for those features.

Because the proposed development appears to impact WOUS, a separate wetland permit from the USACE will be required. Please refer to the USACE-Chicago District's web site for the permit application submittal requirements: <http://www.lrc.usace.army.mil/Missions/Regulatory/Illinois/AppChecklist.aspx>. The USACE may require SMC's technical review/approval of the proposed soil erosion and sediment control plan (SE/SC) for the development as a condition of the USACE permit. We will advise you if our SE/SC review/approval is required.

Mr. Chuck Gleason
June 28, 2017
SMC #17-83-009
Page 3 of 3

We would like to be of assistance. If you have any questions, or would like to set up a meeting, please call our office at 847-377-7708 or e-mail Juli Crane at jcrane@lakecountyil.gov. If you have any additional concerns that have not been addressed by the regulatory staff, you may contact Chief Engineer Kurt Woolford kwoolford@lakecountyil.gov or Executive Director Michael Warner mwarner@lakecountyil.gov at 847-377-7700.

Sincerely,
LAKE COUNTY STORMWATER MANAGEMENT COMMISSION



Kurt Woolford, P.E., CFM
Chief Engineer



Juli E. Crane, PWS, CWS, CFM
Principal Wetland Specialist



Enclosure: EXH 7 – *Approximate Wetland Delineation* (CBEL, plotted 4/11/17), with SMC notes dated 4/28/17

xc: Kathy Chernich/Mike Murphy, U.S. Army Corps of Engineers
Bob Gardiner, SMC
Darren Monico, EO for Village of Buffalo Grove
Barbara Little, EO for Village of Deerfield
Patrick Glenn, Gewalt Hamilton Associates, EO for Village of Riverwoods
Matthew Meyers, EO for Unincorporated Lake County
Dan Krill, CWS for Unincorporated Lake County
Tom McArdle/Jedd Anderson, CBBEL

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STORMWATER MANAGEMENT COMMISSION

July 24, 2017

Mr. Chuck Gleason
Lake County Division of Transportation
600 West Winchester Rd.
Libertyville Il 60048

Subject: SMC #: IWLC-17-047
Deerfield Road Improvements, approx. 1,000 ft. west of Milwaukee Ave. eastward to I-94, Villages of Buffalo Grove and Riverwoods and Unincorporated Lake County, Illinois
IWLC EXCLUSION DETERMINATION & BOUNDARY VERIFICATION

Dear Mr. Gleason:

This letter provides a follow-up to our preliminary wetland jurisdictional determination (PJD) letter for the subject corridor, dated April 28, 2017, and revised on June 28, 2017 in response to supplemental information provided by the Village of Riverwoods regarding jurisdiction of the area identified as Wetland #14. This letter specifically responds to LCDOT's request for field verification of *isolated waters of Lake County* (IWLC) boundaries, as submitted on your behalf by Christopher B. Burke Engineering, Ltd. (CBBEL) and received by the Lake County Stormwater Management Commission (SMC) on February 23, 2017, with supplemental information received on April 12, 2017. Village of Riverwoods deferred boundary verification (BV) in areas of their jurisdiction to SMC for this project as documented in email correspondence dated May 24, 2017.

SMC revisited the project corridor to perform the IWLC field boundary verification on May 25, 2017, in the company of Mr. Tom McArdle of CBBEL. However, prior to finalizing the BV call and associated review fees, SMC conferred with the enforcement officers (EOs) on IWLC exclusion determinations for their respective areas of authority, with supplemental information received on July 24, 2017. Based on coordination with the EOs, various apparent IWLCs identified in the PJD letter qualify for exclusion as follows:

- ❖ **Criterion a(1) – Excavations/impoundments that have received a permit from the appropriate jurisdictional authority:** Detention Area #2, Detention Area #3, Detention Area #4, Detention Area #5, Detention Area #11, Detention Area #28, and Rain Garden #30.
- ❖ **Criterion a(2) – Excavations/impoundments permitted by right prior to being a regulated activity and 40% or more non-hydric soil:** Detention Area #29, Wetland #14 and Wetland #32.
- ❖ **Criterion a(3) – Wetlands created incidental to construction grading on development sites::** Wetland #6, Wetland #10, and Wetland #26.
- ❖ **Criterion a(4) – Roadside ditch:** area of Wetland #16 within 25 feet of outer edge of road pavement and Ditch 3.

If you disagree with this exclusion determination, you may submit a written appeal to the respective EO having jurisdiction.

The remaining sites meet the definition of IWLCs: **Detention Area #24, Detention Area #25, Wetland #15, Wetland #16, WOUS/Wetland #19, WOUS/Wetland #20, and WOUS/Wetland #35).** For those

seven (7) sites, SMC concurs with the flagged boundaries as delineated by CBBEL and as generally depicted on the enclosed exhibit entitled EXH 7: *Approximate Wetland Delineation* by CBBEL, plotted on 8/11/17, with SMC notes dated 7/24/17. This IWLC boundary verification is valid for a period of three (3) years from the date of this letter, unless new information warrants a revision before the expiration date. Please note that the surveyed wetland boundaries will need to be included on the project plans for permitting purposes.

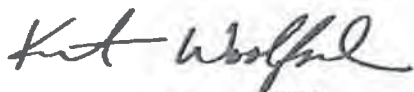
Permitting Considerations

A Watershed Development Permit (WDP), including isolated wetlands approval, is required for the proposed public road development. Please coordinate with Mr. Robert Gardiner, SMC's Permit Engineer, at 847-377-7704 for the appropriate permit application form and procedures with respect to the WDO Standard Provisions. Please note that a survey of the field-verified wetland boundaries will need to be included on the project plans for permitting purposes. For sites that the EO confirmed as IWLC, SMC's written approval is required for any impacts related to the proposed development. You should coordinate with Juli Crane, SMC's Principal Wetland Specialist, at 847-377-7708 for approval with respect to the WDO Isolated Wetland Provisions. Conversely, for sites that were excluded by the EO, no wetland impact approval is required from the SMC.

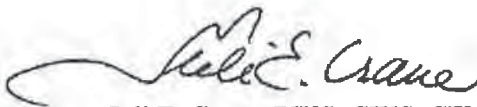
Because the proposed development appears to impact WOUS, a separate wetland permit from the USACE will be required. Please refer to the USACE-Chicago District's web site for the permit application submittal requirements: <http://www.lrc.usace.armv.mil/Missions/Regulatory/Illinois/AppChecklist.aspx>. The USACE may require SMC's technical review/approval of the proposed soil erosion and sediment control plan (SE/SC) for the development as a condition of the USACE permit. We will advise you if our SE/SC review/approval is required.

We would like to be of assistance. If you have any questions, or would like to set up a meeting, please call our office at 847-377-7708 or e-mail Juli Crane at jcrane@lakecountyl.gov. If you have any additional concerns that have not been addressed by the regulatory staff, you may contact Chief Engineer Kurt Woolford kwoolford@lakecountyl.gov or Executive Director Michael Warner mwarner@lakecountyl.gov at 847-377-7700.

Sincerely,
LAKE COUNTY STORMWATER MANAGEMENT COMMISSION



Kurt Woolford, P.E., CFM
Chief Engineer



Juli E. Crane, PWS, CWS, CFM
Principal Wetland Specialist



Enclosure: EXH 7 – *Approximate Wetland Delineation* (CBEL, plotted 4/11/17), with SMC notes dated 7/24/17

xc: Bob Gardiner, SMC
Darren Monico, EO for Village of Buffalo Grove
Patrick Glenn, Gewalt Hamilton Associates, EO for Village of Riverwoods
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Tom McArdle/Jedd Anderson, CBBEL

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APPENDIX D-5

ENVIRONMENTAL SURVEYS/ CORRESPONDENCE

SPECIAL WASTE

IDOT Sequence #: 20261
IDOT Job #: P91-159-16

ISGS: 3488
IDOT District #: 1

PRELIMINARY ENVIRONMENTAL SITE ASSESSMENT

FINAL REPORT

DATE: February 27, 2018

IDOT DESIGN DATE: May 1, 2018

SURVEY TARGET DATE: May 1, 2018

DATE REQUEST RECEIVED: October 23, 2017

LOCATION: FAU 1257 (Deerfield Road), Milwaukee Avenue to Saunders/Riverwoods Road, Buffalo Grove, Riverwoods, and unincorporated Vernon Township, Lake County; Wheeling quadrangle (USGS 7.5-minute topographic map), T43N, R11E, Sections 26, 27, and 35.



**PRELIMINARY
ENVIRONMENTAL SITE ASSESSMENT**

for

**Deerfield Road – Milwaukee Avenue to Saunders/Riverwoods Road,
Lake County, Illinois**

Prepared for:

Lake County Division of Transportation
600 W. Winchester Road
Libertyville, IL 60048

Prepared by:

Christopher B. Burke Engineering, Ltd.

July 24, 2017

CBBEL Project No. 150331

APPENDIX D-6

ENVIRONMENTAL SURVEYS/ CORRESPONDENCE

SECTION 4(f) TEMPORARY OCCUPANCY EVALUATION DOCUMENTATION

Section 4(f) Temporary Occupancy Evaluation (per 23 CFR 774.13(d))

Summary Table

Date:	June 24, 2020
IDOT Region:	District 1
Project:	Deerfield Road from Milwaukee Avenue to Saunders Road
Project Description:	Proposed roadway widening, sidewalk, and shared-use path
Section 4(f) Resource:	Cahokia Flatwoods Forest Preserve, Des Plaines River Trail, Des Plaines River Water Trail* *The three resources are at one common location
Type of 4(f) Resource:	Forest preserve, recreational multi-use trail, regional water trail (canoe route)
Impact on 4(f) Resource:	Construction access to widen the existing Deerfield Road bridge over the Des Plaines River (including in-stream construction); Replacement of an existing access driveway at Cahokia Flatwoods Forest Preserve; Replacement of an existing culvert under the Des Plaines River Trail
Official with Jurisdiction:	Alex Ty Kovach, Executive Director, Lake County Forest Preserve District (LCFPD)

Describe how the conditions for Temporary Occupancy are met:

1. Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land.

Duration will be temporary and limited to the time necessary to complete construction activities at the Deerfield Road bridge over the Des Plaines River and culvert replacement at the Des Plaines River Trail. Construction within the Section 4(f) resources will be less than the duration of the proposed Deerfield Road widening project. A temporary easement for access through the forest preserve property is needed to complete the construction activities. However, the bridge widening and culvert replacement will take place within existing Deerfield Road right-of-way that is owned and used for transportation purposes by the Lake County Division of Transportation (LCDOT). There will be no change in ownership of land.

2. Scope of the work must be minor, i.e., both the nature and the magnitude of the changes of the Section 4 (f) property are minimal.

The proposed project will require a temporary easement of 0.32 acre at the Cahokia Flatwoods Forest Preserve. The Cahokia Flatwoods Forest Preserve is approximately 221 acres in size. It is located immediately adjacent to the south side of the existing Deerfield Road right-of-way and on the east and west sides of the Des Plaines River. Near the project, the Des Plaines River Trail parallels the west bank of the Des Plaines River (see attached exhibits).

The temporary easement is needed to complete the following activities:

- Construction access to widen the existing Deerfield Road bridge over the Des Plaines River - The construction access would take place at an existing LCFPD driveway and access road to minimize tree/brush removal and other potential impacts to forest preserve property. The existing driveway connects the Des Plaines River Trail with the existing LCDOT shared-use path (located parallel to the south side of Deerfield Road). The existing LCFPD driveway would be replaced as part of the proposed improvements.

- In-stream construction to widen the existing Deerfield Road bridge over the Des Plaines River - Two existing piers located in the Des Plaines River would be extended to the south to accommodate the bridge widening. The bridge widening will take place within existing Deerfield Road right-of-way. The means and methods to widen the two existing bridge piers have yet to be determined. Based on the methods of construction used for the adjacent existing LCDOT shared-use path bridge completed in 2010, it is anticipated that building a temporary causeway from the closest river bank may be necessary to access each pier. Approximately 0.09 acre of temporary fill is anticipated to complete the in-stream construction. In-stream construction methods will be evaluated in more detail in Phase II, as part of final design and permitting (e.g., Section 404 Clean Water Act).
- Access and replace/upgrade two existing 15-inch corrugated metal pipes that convey stormwater runoff under the Des Plaines River Trail - The two existing metal pipes are located within the existing LCDOT right-of-way.

3. There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis.

No permanent adverse physical impacts to the Section 4(f) resources are anticipated. The proposed Deerfield Road improvements will not interfere with the activities, features, or attributes of the adjacent Section 4(f) resources. Cahokia Flatwoods Forest Preserve is predominantly undeveloped. The temporary easement will be located along an existing access route at the north end of the preserve.

An existing access driveway is located at the northwest corner of Cahokia Flatwoods Forest Preserve. The access driveway will be accessible to connect with the existing LCDOT shared-use path (located on the south side of Deerfield Road) and the Des Plaines River Trail with periodic closures during construction. Detours will be posted for users during the anticipated short-term temporary closures of the Des Plaines River Trail for culvert replacement and other construction activities. The anticipated temporary closure of the Des Plaines River Trail would be located within the existing Deerfield Road right-of-way at approximately the same location as the temporary closure that took place during construction of the LCDOT shared-use path bridge. Construction of the LCDOT shared-use path and shared-use path bridge was completed in 2010 and was designed with consideration of the future Deerfield Road improvements.

It is anticipated that causeways and cofferdams will likely be needed within the Des Plaines River to complete the Deerfield Road bridge widening. Flow within the Des Plaines River will be maintained during in-stream construction so that recreational activities (e.g., canoeing) are not prohibited. The water trail is anticipated to remain open during construction activities so that canoeing is not disrupted.

4. The land being used must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project.

Temporary impact areas at the Cahokia Flatwoods Forest Preserve, the Des Plaines River Trail, and the Des Plaines River will be fully restored. Restoration of forest preserve property will be coordinated with the LCFPD. Disturbed areas within the temporary easement will be returned to existing contours and stabilized with vegetation approved by the LCFPD. The Des Plaines River is jurisdictional under Section 404 of the Clean Water Act (CWA). A Section 404

CWA permit will be obtained from the US Army Corps of Engineers (USACE) during Phase II for the bridge widening and in-stream construction. Restoration of the Des Plaines River will be completed in accordance with Section 404 CWA permit requirements.

5. There must be documented agreement of the official(s) with jurisdiction over the section 4(f) resource regarding the above conditions.

Throughout the Phase I Engineering Study, this project has been coordinated with the LCFPD (i.e., official with jurisdiction over the Section 4(f) resource). A summary of the coordination follows:

- a) Initial coordination meeting with the LCFPD and the Lake County Stormwater Management Commission: August 24, 2016
- b) Public Meetings - LCFPD was invited to attend and provide comments on materials
 - i. Public Meeting #1 (Issues and Needs): November 30, 2016
 - ii. Public Meeting #2 (Preliminary Preferred Alternative): October 30, 2018
- c) Stakeholder Involvement Group (SIG) Meetings - LCFPD is a member of the SIG and has provided input throughout the project development process
 - i. SIG Meeting #1: March 2, 2017
 - ii. SIG Meeting #2: June 28, 2017
 - iii. SIG Meeting #3: January 25, 2018
 - iv. SIG Meeting #4: Offered and not held per concurrence from SIG
- d) Coordination meeting with the LCFPD and the Riverwoods Preservation Council: January 4, 2019
- e) Coordination meeting with the LCFPD and the Riverwoods Preservation Council: January 4, 2019
- f) Coordination meeting with the LCFPD: January 29, 2020
- g) Public Hearing (anticipated for Fall 2020) - LCFPD will be invited to attend and provide comment at the Public Hearing
- h) Documented agreement (i.e., signature) of the official with jurisdiction (i.e., LCFPD) regarding the conditions above will take place following the Public Hearing (see attached LCFPD Signature Page)

Deerfield Road Improvement
Milwaukee Avenue to Saunders Road
Lake County, Illinois

LCFPD Signature Page

Based on the attached analysis, the conditions of 23 CFR 774.13(d) have been met and the temporary occupancy of the Section 4(f) resources by LCDOT is so minimal as to not constitute a use within the meaning of Section 4(f).

Concur: Yes No

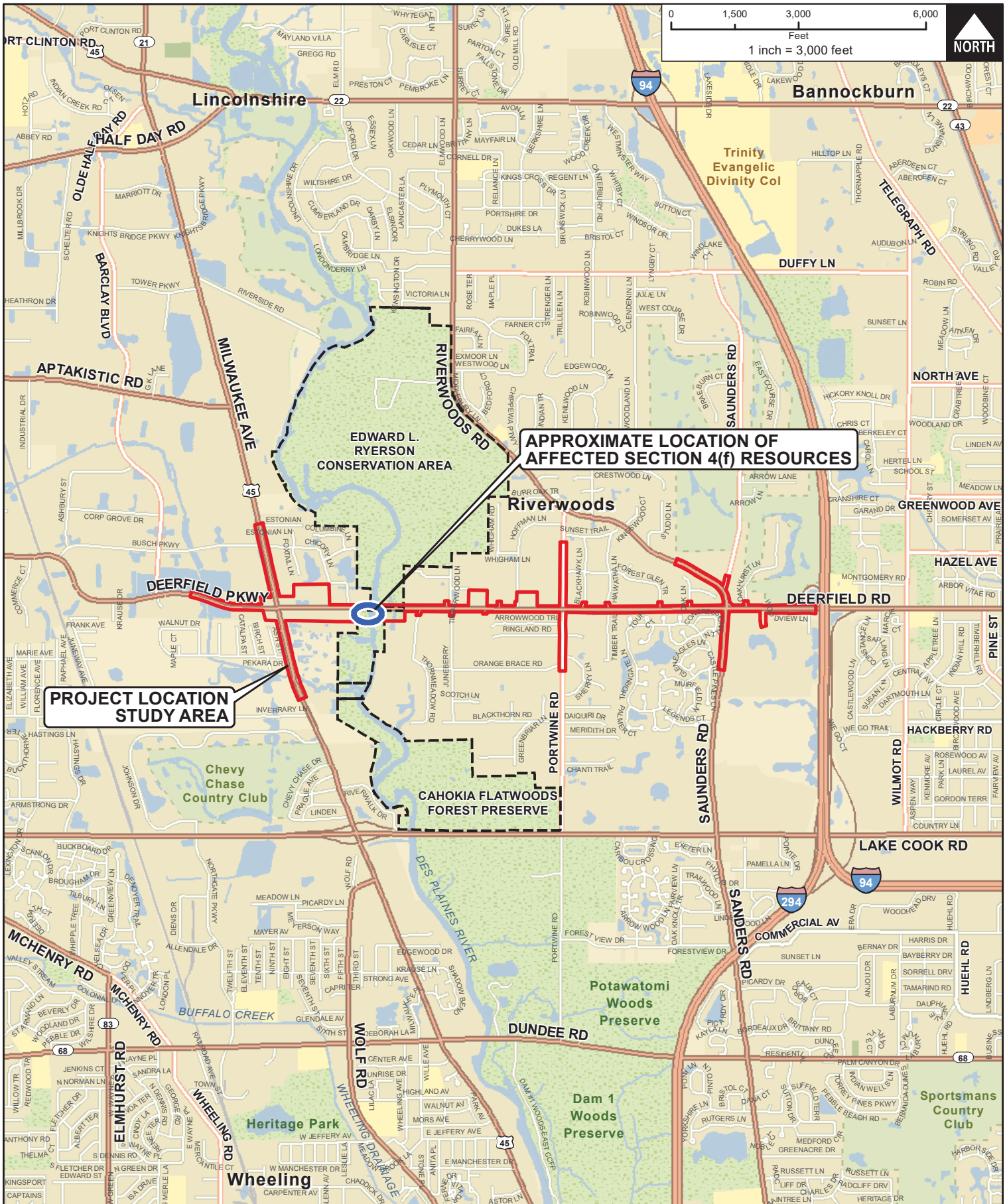
Print Name: _____

Signature: _____

Title: _____
(Official with Jurisdiction - Authorized Representative)



Date: _____

Comments: _____

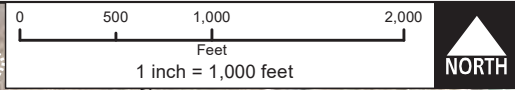


APPROXIMATE LOCATION OF AFFECTED SECTION 4(f) RESOURCES

PROJECT LOCATION STUDY AREA

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		SHEET 1 OF 1
		ATTACHMENT:
 CHRISTOPHER B. BURKE ENGINEERING, LTD. 9575 W. Higgins Road, Suite 600 · Rosemont, Illinois 60018 · (847) 823-0500	DSGN.	SCALE: 1:36,000
	DWN.	AUTHOR: DWALTERS
	CHKD.	PLOT DATE: 8/8/2019
	FILE:	Location Map Attachment A

A

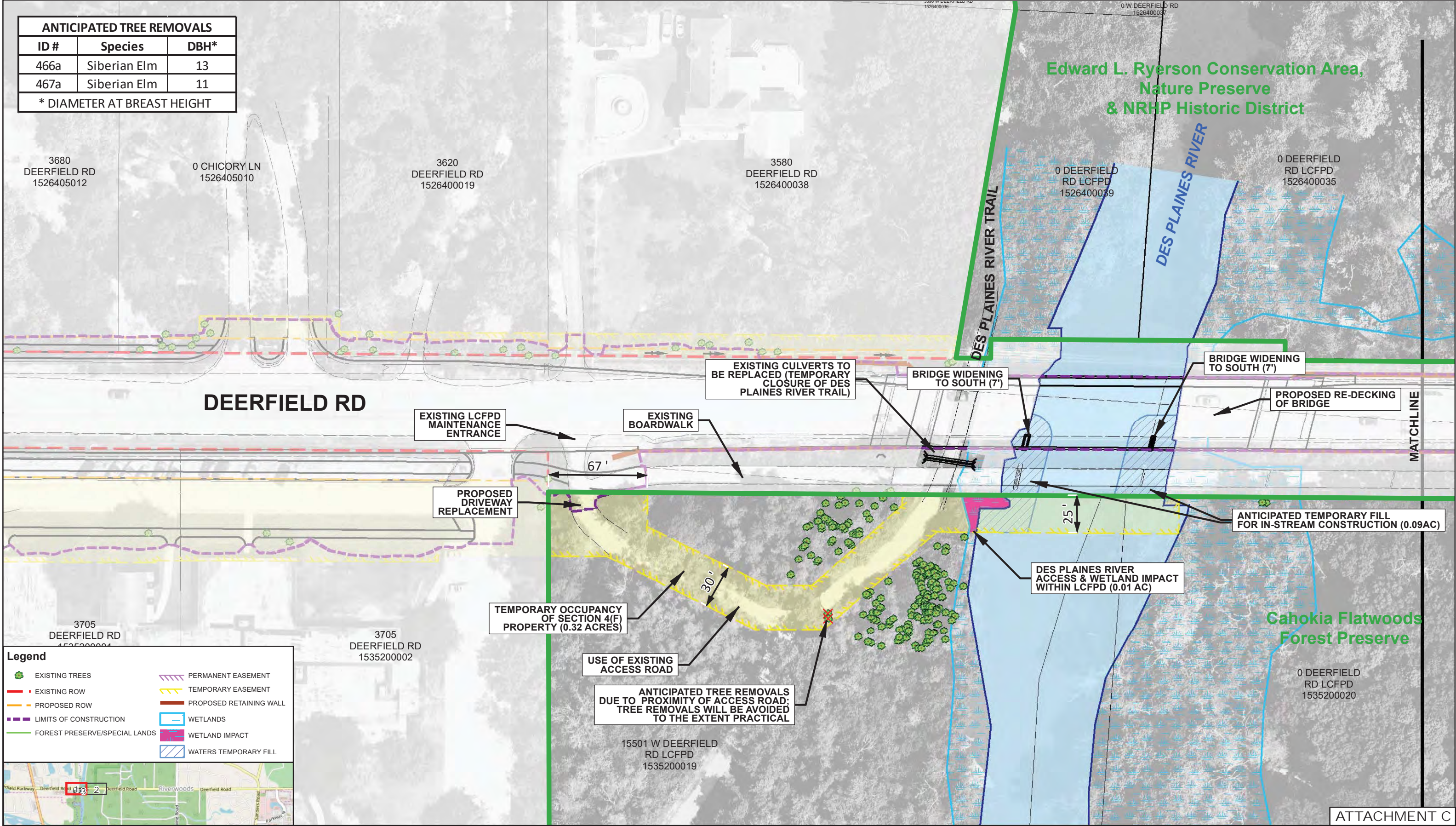


Copyright nearmap 2015

CLIENT: 	TITLE: AERIAL MAP	PROJ. NO. 150331																
		DATE: 08/07/2019																
		SHEET 1 OF 1																
		ATTACHMENT:																
 CHRISTOPHER B. BURKE ENGINEERING, LTD. 9575 W. Higgins Road, Suite 600 · Rosemont, Illinois 60018 · (847) 823-0500		<table border="1"> <tr> <td>DSGN.</td> <td></td> <td>SCALE:</td> <td>1:12,000</td> </tr> <tr> <td>DWN.</td> <td>DRW</td> <td>AUTHOR:</td> <td>DWALTERS</td> </tr> <tr> <td>CHKD.</td> <td></td> <td>PLOT DATE:</td> <td>8/8/2019</td> </tr> <tr> <td>FILE:</td> <td colspan="3">Aerial Map Attachment B</td> </tr> </table>	DSGN.		SCALE:	1:12,000	DWN.	DRW	AUTHOR:	DWALTERS	CHKD.		PLOT DATE:	8/8/2019	FILE:	Aerial Map Attachment B		
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DWN.	DRW	AUTHOR:	DWALTERS															
CHKD.		PLOT DATE:	8/8/2019															
FILE:	Aerial Map Attachment B																	
		B																

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ANTICIPATED TREE REMOVALS		
ID #	Species	DBH*
466a	Siberian Elm	13
467a	Siberian Elm	11
* DIAMETER AT BREAST HEIGHT		



Legend

EXISTING TREES	PERMANENT EASEMENT
EXISTING ROW	TEMPORARY EASEMENT
PROPOSED ROW	PROPOSED RETAINING WALL
LIMITS OF CONSTRUCTION	WETLANDS
FOREST PRESERVE/SPECIAL LANDS	WETLAND IMPACT
	WATERS TEMPORARY FILL



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 (847) 823-0500

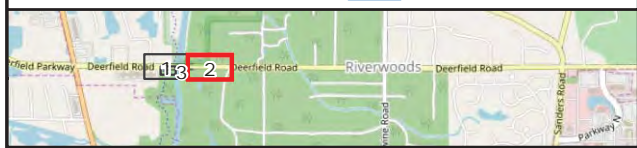
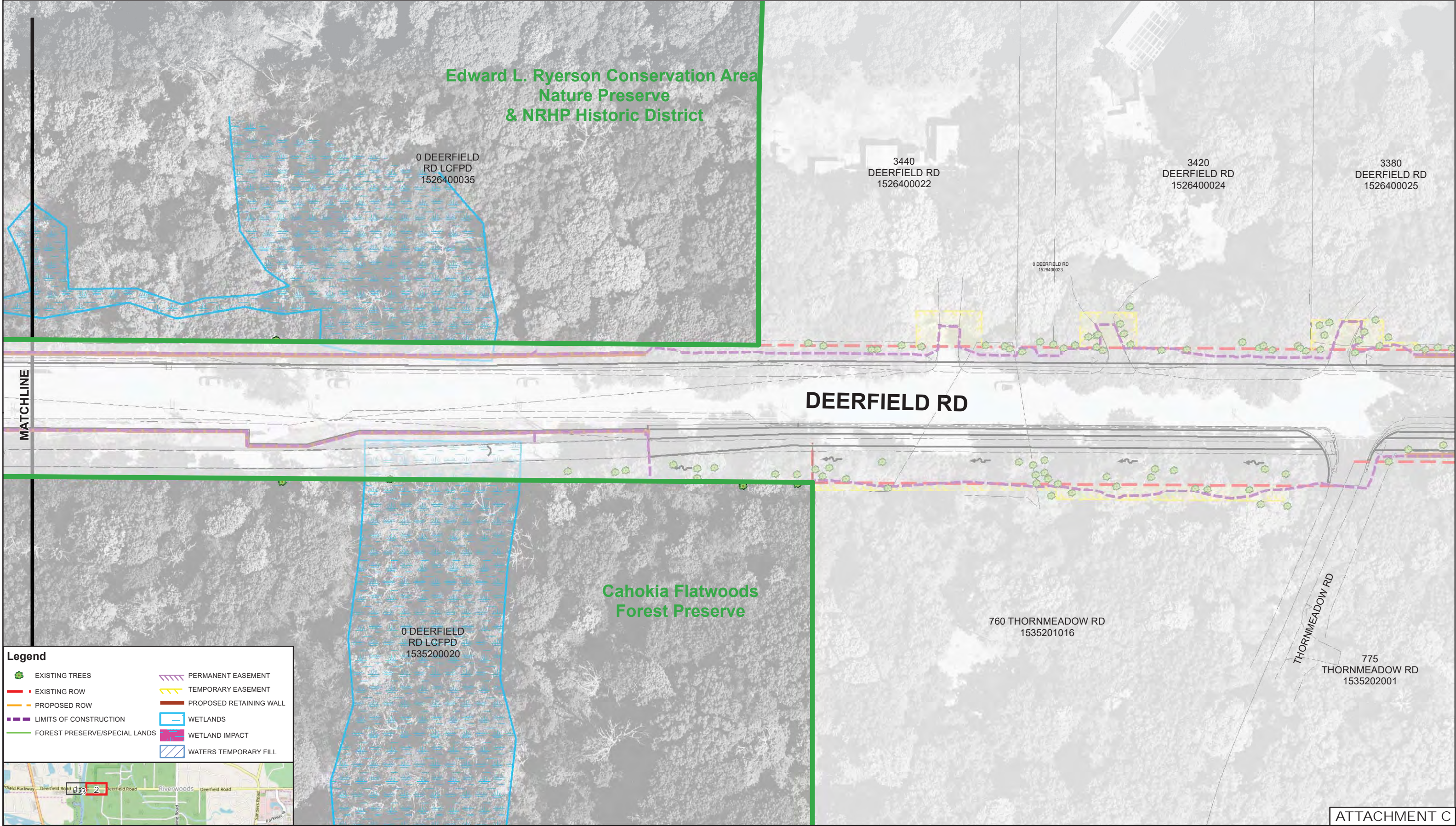
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TITLE: SECTION 4(F) EXHIBIT
 DEERFIELD ROAD
 MILWAUKEE AVENUE TO
 SAUNDERS ROAD

ATTACHMENT C

SHEET	1 of 3
CBBEL #	15-0331
DATE:	02/07/2019
SHEET 1	



ATTACHMENT C

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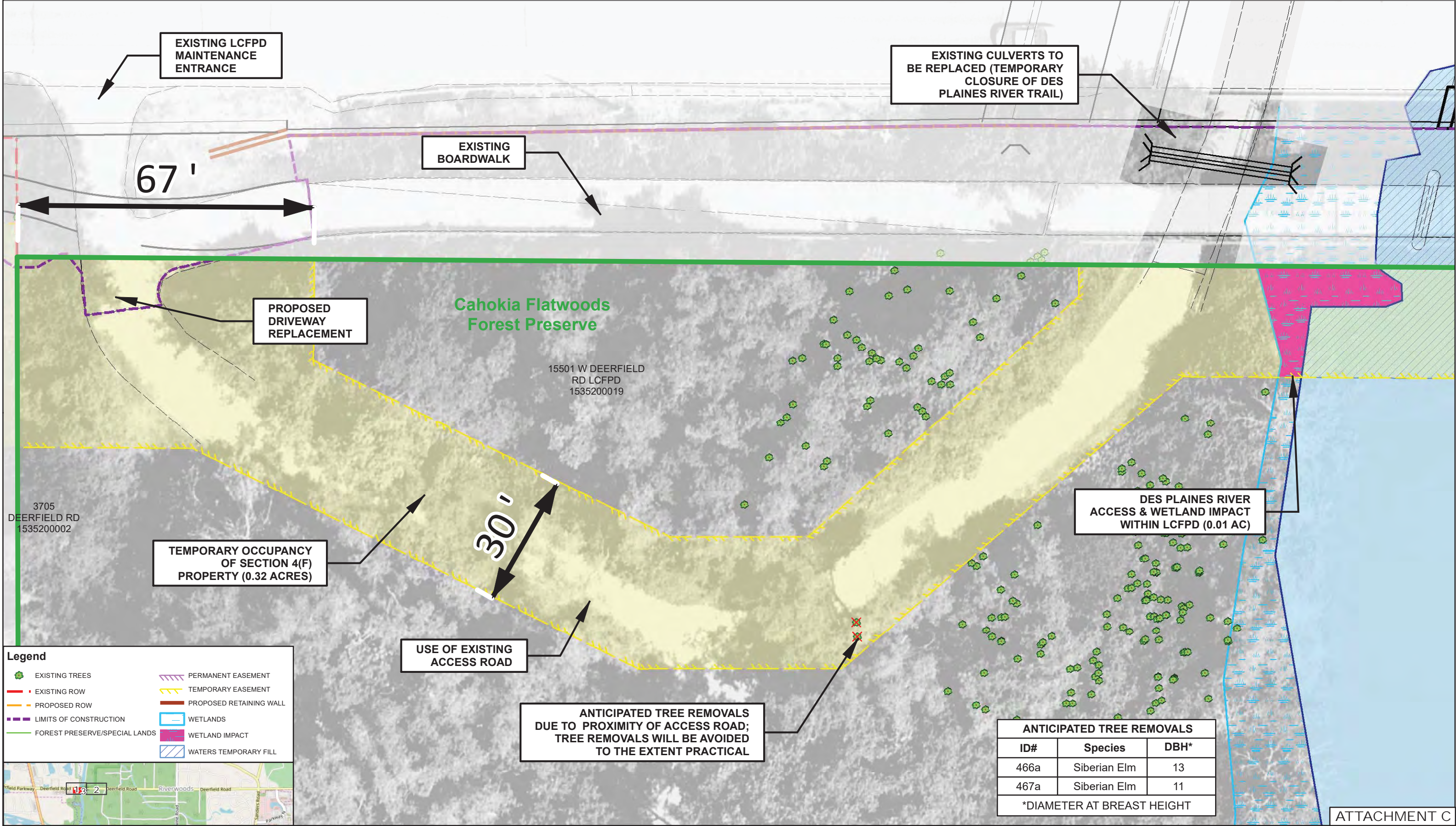
Lake County
Division of Transportation

NO.	DATE	NATURE OF REVISION	CHKD.	PLOT DATE
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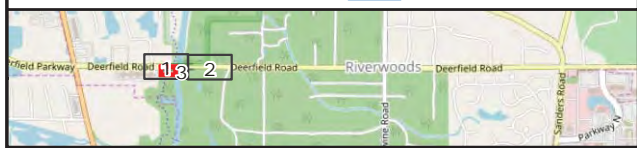
**SECTION 4(F) EXHIBIT
 DEERFIELD ROAD
 MILWAUKEE AVENUE TO
 SAUNDERS ROAD**

SHEET	2 of 3
CBBEL #	15-0331
DATE:	02/07/2019
SHEET 2	



Legend

EXISTING TREES	PERMANENT EASEMENT
EXISTING ROW	TEMPORARY EASEMENT
PROPOSED ROW	PROPOSED RETAINING WALL
LIMITS OF CONSTRUCTION	WETLANDS
FOREST PRESERVE/SPECIAL LANDS	WETLAND IMPACT
	WATERS TEMPORARY FILL



ANTICIPATED TREE REMOVALS

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 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

CLIENT:

DWN:	dwalters		
DSGN:	PMK		
CHKD:	MJH		
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TITLE: SECTION 4(F) EXHIBIT
 DEERFIELD ROAD
 MILWAUKEE AVENUE TO
 SAUNDERS ROAD

ATTACHMENT C

SHEET	3 of 3
CBBEL #	15-0331
DATE:	02/07/2019

SHEET 3