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Via Electronic Mail

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Re: Formal Public Comments on the Draft Reevaluation of the Final Environmental Impact Statement for the Waukesha Bypass Project (Project ID No. 2788-01-00)

Dear Waukesha Bypass Project Administrators,

I am writing to provide the formal public comments of the Waukesha County Environmental Action League (“WEAL”) and the Coalition Opposed to the West Waukesha Bypass, U.A. (“Coalition”) on the Draft Reevaluation and Supplemental Analysis of the Waukesha Bypass Final Environmental Impact Statement (“Draft Reevaluation”).

WEAL is a nonprofit organization dedicated to protecting Waukesha County’s natural resources through dedicated grassroots participation and action. WEAL focuses on projects, like the Waukesha Bypass, that threaten to adversely impact the environment in Waukesha County and surrounding areas where its members live and recreate. WEAL members are concerned about the Waukesha Bypass project’s myriad potential environmental impacts including increased traffic and associated development, alterations to land use patterns, and increased pollution from particulates, nitrogen oxides, volatile organic compounds, carbon monoxide and other pollutants generated by an increased number of cars on and in the vicinity of the Waukesha Bypass project.



The Coalition is a group of concerned citizens who live along or near the Waukesha Bypass project corridor and who will be adversely affected by the project. The Coalition members are concerned about the project's impacts on health, safety and other threats to their quality of life including declining property values, increased noise, litter, and runoff, increased vehicle speeds, light pollution and other environmental and socio-economic impacts.

Both WEAL and the Coalition appreciate the opportunity to comment on the recent design refinement described in the Draft Reevaluation of the Waukesha Bypass Final Environmental Impact Statement ("FEIS") on behalf of their members, many of whom will be directly impacted by the project.¹ Below, we raise our concerns and comments on the Draft Reevaluation for the Waukesha Bypass FEIS.

I. The Draft Reevaluation identifies numerous new and potentially significant environmental impacts that must be considered in a supplemental environmental impact statement.

Despite recognizing *numerous* new and potentially significant environmental impacts that will occur as a result of the design refinements (known as the Rotated Pebble Creek West alignment, and the Green Lane extension) that were not evaluated in the Waukesha Bypass FEIS, the Draft Reevaluation astonishingly concludes that "a new or supplemental environmental document" analyzing those impacts is *not* required. See Draft Reevaluation at 12. However, the Federal Highway Administration ("FHWA") regulations *require* that

An EIS *shall* be supplemented whenever the [FHWA] determines that:

- (1) Changes to the proposed action would result in significant environmental impacts that were not evaluated in the EIS; or
- (2) New information or circumstances relevant to environmental concerns and bearing on the proposed action or its impacts would result in significant environmental impacts not evaluated in the EIS.

23 C.F.R. § 771.130(a) (emphasis added); *see also* 40 C.F.R. § 1502.9(c).²

¹ At our request, the Project Administrators extended the public comment period on the Draft Reevaluation to the typical 30 day period. Unfortunately, the extension of the comment period was not widely or clearly publicized. Residents received mailers indicating that comments on the Draft Reevaluation would be accepted until May 6, 2016 but were not provided with information regarding where to send those comments. Additionally, the extension of the comment period was never posted on the project's dedicated website.

² "Whenever there are changes, new information, or further developments on a project which result in significant environmental impacts not identified in the most recently distributed version of the draft or final EIS, a *supplemental EIS is necessary*." FHWA Technical Advisory T 6640.8A (Oct. 30, 1987) (emphasis added).

The FHWA makes this determination through a “re-evaluation” process where the project applicant “consult[s] with the [FHWA] prior to proceeding with major project activities,” such as final design, “to assess any changes that have occurred and their effect on the validity of the environmental document.” 52 Fed. Reg. 32646-01 (Aug. 28, 1987); *see also* FHWA Technical Advisory T 6640.8A (Oct. 30, 1987). Thus, the Draft Reevaluation is not itself a NEPA document but rather the agency’s assessment of the sufficiency of the Waukesha Bypass FEIS, and an agency decision document for whether or not a new or supplemental NEPA document is needed.

The Draft Reevaluation itself identifies and describes *numerous* new and potentially significant environmental impacts that “are relevant to environmental concerns” and “bear[] on the proposed action or its impacts,” 40 C.F.R. §§ 1502.9(c)(i), (ii), that were *not* addressed in the FEIS for the Waukesha Bypass, *see* Draft Reevaluation at “Re-evaluation Change Comparison Matrix.” These admissions compel the FHWA to prepare a supplemental EIS to assess these numerous new and potentially significant environmental impacts, discussed below.

A. The identified increase in right-of-way by 11.2 acres is a potentially significant environmental impact that requires analysis in a supplemental EIS.

The Draft Reevaluation identifies “the need for an additional 11.2 acres of right-of-way outside of the 200-foot-wide corridor” previously evaluated in the FEIS, Draft Reevaluation at 4, an overt acknowledgement of a potentially significant environmental impact that was *never* evaluated in the FEIS, and which consequently must be analyzed in a supplemental EIS. The Draft Reevaluation explains that the increase in right-of-way “affects properties that were affected by the 2014 preferred alternative” and will be located “immediately adjacent to the bypass.” Draft Reevaluation at 4.

The Draft Reevaluation utterly fails to analyze if the FEIS “remain[s] applicable, complete, accurate and valid,” Draft Reevaluation at 2, with regard to the acknowledged increase in the project’s right-of-way by 11.2 acres. This increase in right-of-way will have various potentially significant environmental impacts, including increased pollution from runoff as a result of a larger impervious surface or compressed area and a larger roadway footprint, negative aesthetic impacts that accompany the destruction of foliage adjacent to the roadway, and the concomitant impacts on wildlife, native plant species, and unique ecosystems bisected or degraded by the redesigned project cutting a wider swath through ecologically sensitive areas. *None* of these impacts is contemplated in the FEIS, which analyzed the environmental impacts of a previous project design with a notably smaller right-of-way and footprint. The FEIS is obviously not “complete, accurate, [or] valid,” *id.*, because it fails to address the potentially significant increase in right-of-way acknowledged in the Draft Reevaluation. A supplemental EIS is thus necessary to evaluate the potentially significant environmental impact of the increased right-of-way.

B. The admitted increase in the project’s impact on farmland and farming operations is a potentially significant environmental impact that must be analyzed in a supplemental EIS.

The Draft Reevaluation explains that as a result of design refinements, the Waukesha Bypass project will have a markedly larger impact on farmland and farming operations, with an additional acquisition of 2.6 acres of cropland and 0.9 acres of non-cropland from farming operations. In response to these increased impacts on farmland as a result of the design refinements, the Wisconsin Department of Agriculture, Trade and Consumer Protection (“DATCP”) issued an addendum to its November 2012 Agricultural Impact Statement (“AIS”). See Draft Reevaluation Appendix B. The Addendum stressed the importance of communicating with farmland owners in its recommendations, requiring consultation, advance notice of acquisition and construction schedules, and coordination of acquisition and construction timing. *Id.* Remarkably, however, the Draft Reevaluation admits that DATCP has *never* communicated with the farmland owners who will be primarily impacted by the design refinements’ increased impact on farmlands, i.e., the Christoph Family Trust. Draft Reevaluation at 5. Further, the Draft Reevaluation makes no mention of whether *any* of the relevant highway agencies has attempted to contact these farmland owners. *Id.*

The initial Agricultural Impact Statement attached to the FEIS initially explained that the Waukesha Bypass project will affect two separate parcels of the Christoph Family Trust property, destroying a combined 15.5 to 18 percent of their farmland property and severing two acres of land from a remaining parcel.³ See Agricultural Impact Statement at 9. The AIS explained that the project would not only result in a significant loss of land, but would also create small, irregularly shaped parcels that would make farming much more difficult, and require farm equipment to travel dangerously and inconveniently on the proposed bypass. *Id.* The Christoph Family Trust further commented that the Waukesha Bypass project could put their farm operation out of business. *Id.* Despite this analysis of the impacts of the project on farmland in the FEIS, the Draft Evaluation concludes that the *additional* negative impact caused by

³ The Draft Reevaluation additionally states that despite the additional acquisition of 2.6 acres of cropland and 0.9 acres of non-cropland from farming operations, “[t]here are no changes to previously proposed mitigation or environmental commitments for the farm.” Draft Reevaluation at 5. However, the FEIS’s Table 2: Summary of Measures to Mitigate Adverse Impacts explained that “[m]anagement and design practices will be implemented to help minimize agricultural impacts by *limiting severances*, maintaining accessibility to fields, maintaining existing drainage patterns, and limiting erosion.” See FEIS at Table 2 (page XII of 364) (emphasis added). The design refinement would negatively impact the Christoph Family Trust farm property by undercutting the FEIS’s stated mitigation commitment, allowing for additional severance of their farmland property. This is another potentially significant environmental impact that was *never* evaluated in the FEIS and warrants analysis in a supplemental EIS.

destroying 2.6 acres *more* cropland and seizing 0.9 acres of additional land is *not* a potentially significant impact and does *not* require analysis in a supplemental EIS.⁴

Undoubtedly, however, the FEIS demonstrates that any *additional* degradation to the Christoph Family Trust farming operation would have hugely significant impacts, such as increasing the likelihood that their farming operation would go out of business. The additional acquisition of 3.5 acres of land from farming operations acknowledged in the Draft Reevaluation will likely have significant negative environmental impacts – impacts which were *never* evaluated in the FEIS or its corresponding AIS. Thus, the FEIS cannot be said to be “complete, accurate, [or] valid,” Draft Reevaluation at 2, with regard to its evaluation of farmland impacts, warranting their evaluation in a supplemental EIS.

C. The conceded additional degradation of unique upland habitat is a potentially significant environmental impact that must be analyzed in a supplemental EIS.

The Draft Reevaluation admits that the design refinements will negatively impact unique upland habitat by destroying *even more* of a designated primary environmental corridor, and *further reducing* the amount of remaining interior forest habitat. *See* Draft Reevaluation at 9. These newly identified and previously un-evaluated effects on upland habitat “U-18 (NW),” a “unique,” “designated [] primary environmental corridor,”⁵ Draft Reevaluation at 9, will have potentially significant environmental impacts that require evaluation in a supplemental EIS.

First, not only will the Waukesha Bypass project *sever* U-18 (NW), a unique and important primary environmental corridor, *id.*,⁶ but the design refinements described in the Draft Reevaluation will intensify the environmental degradation of a “regionally significant”

⁴ The AIS Addendum included as Appendix B to the Draft Reevaluation also fails to evaluate the potentially significant environmental impacts of an additional acquisition of 3.5 acres from farming operations. *See* Draft Reevaluation at Appendix B.

⁵ The Southeastern Wisconsin Regional Planning Commission defines “primary environmental corridors” as “regionally significant, elongated areas in the landscape containing concentrations of the most important remaining elements of the natural resource base.” *See A REGIONAL LAND USE PLAN FOR SOUTHEASTERN WISCONSIN: 2035* at 6 (June 2006). Additionally, the Commission’s plan recommends that primary environmental corridors “be *preserved* in essentially natural, open use,” *id.*, because those corridors “encompass almost all of the *best remaining* woodlands, wetlands, and wildlife habitat areas in the Region, and represent a composite of the best remaining elements of the natural resource base.” *Id.* at 64 (emphases added).

⁶ The Draft Reevaluation discusses the mitigation of impacts from severing the U-1 (NW) primary environmental corridor – an impact identified in the FEIS that will occur *regardless* of the design refinements discussed in the Draft Reevaluation. However, as the Draft Reevaluation is not a NEPA document (but rather solely an agency decision document on whether to create a supplemental EIS for the design refinements to the project), the Draft Reevaluation is not an appropriate vehicle for discussion of possible mitigation of impacts discussed in the FEIS.

environmental corridor that represents the “best remaining elements of the natural resource base,” *see* note 5. The Draft Reevaluation explains that an additional 0.1 acres of the primary environmental corridor will be destroyed to make way for the Waukesha Bypass, amounting to a total destruction of 4.2 acres of the U-18 (NW) primary environmental corridor. *Id.* When considered in conjunction with the already compromised nature of this unique, primary environmental corridor, the destruction of even an additional 0.1 acres is a potentially significant environmental impact.⁷

Second, the Draft Reevaluation acknowledges that the design refinements would further reduce the amount of remaining interior forest habitat that is of critical importance as songbird nesting habitat. Draft Reevaluation at 9. Currently, the U-18 (NW) primary environmental corridor includes 1.3 acres of interior forest bird habitat at least 300 feet in from the forest’s edge. *Id.* The FEIS evaluated the environmental impacts of destroying 0.5 acres of this important interior forest habitat as a result of the Waukesha Bypass project. *Id.* Now, on top of the dramatic reduction evaluated in the FEIS, the Draft Reevaluation contemplates an *additional* 0.03 acre reduction in total remaining interior forest bird habitat as a result of the design refinements to the project – leaving only 0.5 acres of what was initially a 1.3 acre parcel of prime interior forest bird habitat. Seemingly in defense of the dramatic reductions to interior forest bird habitat, the Draft Reevaluation notes that the Southeastern Wisconsin Regional Planning Commission “found that interior forest fragments as small as 0.5 acres can provide important foraging habitat and refuge for birds.” *Id.* However, this finding does not discuss the viability of a 0.5 acre parcel as *nesting* habitat for songbirds. Nor does it assuage concerns that reducing the size of the interior forest habitat up to the absolute borderline minimum size observed as necessary for viability would have potentially significant environmental impacts, such as on whether or not the tiny, remaining portion of interior forest bird habitat is *actually* suitable as nesting habitat.

In fact, the remaining 0.5 acres of interior forest bird habitat will likely *not* be suitable songbird nesting habitat because “the Rotated Pebble Creek West alignment would directly impact, through tree clearing” “0.6 acres . . . at the northern end of the interior forest habitat,”⁸ *and* would bring a portion of the remaining interior forest habitat within 300 feet of the forest edge, which the Draft Reevaluation admits would “reduc[e] its value as a bird nesting habitat.”⁹

⁷ As described in the FEIS (and reiterated in the Draft Reevaluation), the U-18 (NW) primary environmental corridor will be reduced by 4.1 acres, wholly bisected (“severed”), and face increased likelihood that invasive/nuisance plant species will gain a footing in soil exposed during construction – in *addition* to the new impacts caused by the design refinement, discussed in the accompanying text. *See* Draft Reevaluation at 9.

⁸ The Draft Reevaluation describes this direct impact as occurring on “a small portion” of remaining interior forest habitat, but the 0.6 acre portion directly impacted amounts to *twelve percent* of the remaining portion of interior forest habitat of critical importance to songbird nesting. Draft Reevaluation at 9.

⁹ The proximity of the interior forest bird habitat to the forest edge is of critical importance for nesting songbirds because there is less likelihood of predators preying on nests of songbirds the

Id. In concert with the already large and dramatic reductions to interior forest bird habitat contemplated in the FEIS, the additional reduction and degradation of interior forest bird habitat is a potentially significant environmental impact that was never analyzed in the FEIS, and must therefore be considered in a supplemental EIS.

Ultimately, the destruction of even more acreage of a primary environmental corridor that is already being significantly compromised, as well as further reducing and degrading the limited remaining interior forest bird nesting habitat, are potentially significant environmental impacts never analyzed in the FEIS, and which therefore *must* be evaluated in a supplemental EIS.

D. The presence of newly discovered hazardous waste contamination within the project corridor is potentially significant new information relevant to environmental impacts that must be analyzed in a supplemental EIS.

Subsequent to the approval of the FEIS, the highway agencies identified approximately 6,500 tons of hazardous waste contamination located within the corridor for the Waukesha Bypass project. This “new information” is “relevant to environmental concerns and bear[s] on the proposed action or its impacts.” 23 C.F.R. § 771.130(a)(2). The Draft Reevaluation acknowledges that soil contaminated with toxic heavy metals, arsenic and lead, and “water generated by dewatering” must be properly disposed of as described in the Wisconsin Department of Natural Resources (“DNR”) concurrence letter. Appendix D to the Draft Reevaluation. The DNR’s concurrence letter further points to not only the presence of contaminated soil at the hazardous waste site, but *also* the presence of contaminated groundwater. *Id.* The FEIS *never* evaluated the potential environmental impacts of hazardous waste such as was found in the vicinity of the Wisconsin and Southern railroad and Glacial Drumlin State Trail within the Waukesha Bypass project corridor. Additionally, newly discovered soil and groundwater contamination is precisely the type of “new information” which is “relevant to environmental concerns and bear[s] on the proposed action or its impacts.” Similarly, serious hazardous waste contamination issues could have unforeseen and potentially significant environmental impacts that must be addressed in a supplemental EIS.¹⁰

E. The design refinement may have potentially significant groundwater impacts to a nearby, highly-sensitive and high-value wetland fen that must be analyzed in a supplemental EIS.

The Draft Reevaluation utterly fails to analyze whether the design refinement would have potentially significant groundwater impacts on a nearby, highly-sensitive and high-value wetland fen. Rather, the Draft Reevaluation erroneously states that the design refinement will cause “no

deeper one goes into the forest interior. Draft Reevaluation at 9. Consequently, interior forest bird habitat located near the forest edge can no longer be considered “interior forest,” and loses many of the characteristics that make it desirable for nesting.

¹⁰ As the recent events in Flint, Michigan demonstrate, potential contamination of a drinking water supply is an environmental matter that warrants careful scrutiny rather than the blithe dismissal reflected in the Draft Reevaluation here.

change” in indirect effects, Draft Reevaluation at Re-evaluation Change Comparison Matrix, explaining that the Rotated Pebble Creek West Alignment refinement was designed “to be above the groundwater elevation, thereby avoiding potential impacts to wetlands fed by groundwater and groundwater seeps east of the alignment,” *id.* at 6.

This is contradicted by statements made by a U.S. Environmental Protection Agency (“EPA”) wetlands expert, obtained via Freedom of Information Act requests. *See* Attachment A. The EPA wetland expert expressed the need to evaluate whether there are groundwater impacts to the fen from the design refinement – a potentially significant indirect effect that must be analyzed in a supplemental EIS. *See id.* This same federal expert stated that she would need to review the “cut” of the new design refinement to determine whether groundwater will be disturbed by the proposed roadway as a result of the design refinement. *See* Attachment B.

Despite the Draft Reevaluation’s assurances that the project as redesigned will be “above the groundwater elevation,” the Waukesha County and WisDOT engineers have further explained that “the precise location of the phreatic line is uncertain . . . [and so] there is a risk of encountering groundwater.” *See* Attachment C at 7. And although the project engineers explain that the design refinement “is located lower on the hillside . . . and has shallower cuts and therefore, there is a very low risk of interrupting groundwater flows with this alternative” – the risk of this potentially significant environmental impact was *not* evaluated in the FEIS. 23 C.F.R. § 771.130(a). The EPA’s concern that the design refinement will negatively impact groundwater and indirectly affect a highly-sensitive and high-value wetland fen is *precisely* the type of potentially significant environmental impact that triggers the requirement to prepare a supplemental EIS. 23 C.F.R. § 771.130(a). The current FEIS for the Waukesha Bypass is devoid of any analysis of the design refinement’s potentially significant impact on groundwater, which must be evaluated in a supplemental EIS.

F. The U.S. Army Corps of Engineers has not approved a Clean Water Act Section 404 permit for the design refinement and the different mitigation requirement alternatives it imposes must be evaluated in a supplemental EIS.

The U.S. Army Corps of Engineers (“ACE”) has not approved a Clean Water Act (“CWA”) Section 404 permit for the Waukesha Bypass project allowing wetlands to be filled. The ACE may only approve such wetland fill permits for projects that employ the “least environmentally damaging practicable alternative.” *See* 40 C.F.R. § 230.10(a). In evaluating whether the Waukesha Bypass meets this standard, the ACE and EPA have imposed mitigation conditions on the project that must be met before a permit will issue. *See* Attachment D. The Waukesha Bypass project managers have been unable to obtain a Section 404 permit to fill wetlands because they have not met, or demonstrated an ability to meet, some of the mitigation conditions imposed by the EPA and ACE. *Id.*

As a result of the design refinement, ACE and EPA reformulated the mitigation conditions upon which the issuance of a Section 404 permit would issue. Currently, the project managers are *still* unable to meet these mitigation conditions. Consequently, the Waukesha Bypass project managers withdrew their original Section 404 permit application, and resubmitted two separate Section 404 permit applications for the northern portion of the project (which would

be unchanged by the design refinement) and the southern portion of the project (to which the reformulated mitigation conditions apply). Additionally, the project managers submitted a memo to ACE explaining why, despite their inability to meet the mitigation conditions, the design refinement reflects the “least environmentally damaging practicable alternative” and thus the Section 404 permit should issue nonetheless. None of this was discussed in the project’s FEIS.¹¹

1. The segmentation of the project for the Section 404 permitting process violates NEPA and the CWA.

WisDOT withdrew its initial Section 404 permit application for the whole Waukesha Bypass project, and instead is submitting two separate Section 404 permits – one for the northern end of the project that is unaffected by the design refinement and another for the southern, redesigned section. This not only contravenes Clean Water Act regulations, but also violates NEPA’s requirement that interconnected and interdependent actions be analyzed together. 40 C.F.R. § 1508.18.

Segmentation is a means of circumventing NEPA’s purpose by dividing larger agency actions into several smaller proposed actions for NEPA review. *See* Daniel R. Mandelker et al., *NEPA Law and Litigation* § 9:11 (2008). Segmentation minimizes the environmental consequences of a larger proposed action by dividing it into several proposals for analysis in separate NEPA statements. *Id.* Thus, the FHWA regulations implementing NEPA require that “the action evaluated in each environmental impact statement . . . shall,” *inter alia*, “[c]onnect logical termini and be of sufficient length to address environmental matters on a broad scope,” and “[h]ave independent utility or independent significance, i.e., be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made.” 23 C.F.R. § 771.111(f). The FHWA website further warns that “[s]egmentation may occur when a transportation need extends throughout an entire corridor, but project sponsors discuss the environmental issues and transportation need of only a segment of the corridor.”¹² This is precisely what the Waukesha Bypass project managers have done here.

By dividing the Section 404 permit applications for the Waukesha Bypass project into two segments – a northern and a southern segment – the agencies are unlawfully segmenting their discussion and analysis of the environmental impacts of the project as a whole. In this case, the ACE’s Section 404 permitting decision is dependent on whether the new design refinement is the “least environmentally damaging practicable alternative.” The ACE even warned the project

¹¹ Furthermore, since *none* of the new and potentially significant environmental impacts discussed in this letter were ever evaluated in the Waukesha Bypass FEIS, the public has never had the opportunity to comment on these impacts. This letter comments on the adequacy of the Draft Reevaluation’s conclusion that a supplemental EIS is not needed; substantive public comment on the potentially significant environmental impacts of the design refinement would occur only as a part of the supplemental EIS process.

¹² FHWA, *Environmental Review Toolkit: NEPA and Transportation Decisionmaking* (last visited May 5, 2016) available at www.environment.fhwa.dot.gov/projdev/tdmalts.asp#logical.

managers that to segment this project into two separate Section 404 permit applications they must first “demonstrate the projects are independent.” *See* Attachment C at 3. However, nowhere in the FEIS *or* the Draft Reevaluation is this determination made. Nor can it be made; it is impossible to demonstrate that each segment itself has “independent utility” or “logical termini” as required by the FHWA regulations. 23 C.F.R. § 771.111(f). In fact, that the Waukesha Bypass northern and southern segments are *not* independent is demonstrated by the project managers’ initial application seeking a single permit for the entire project. This segmentation of the Section 404 permitting process is a blatant violation of NEPA as well as the CWA, *and* was never evaluated in the FEIS, demonstrating that at the very least, a supplemental EIS is required.

2. The alternative mitigation conditions included in the Section 404 permit(s) was never evaluated in the FEIS, and must be analyzed in a supplemental EIS.

The Waukesha Bypass project managers have prepared a memo asserting that the design refinement is still the “least environmentally damaging practicable alternative” *even if* the mitigation conditions placed by ACE and EPA on the issuance of the Section 404 wetland fill permits are never met for the Waukesha Bypass. *See generally* Attachment C. This memo evaluates numerous different mitigation alternatives for the Section 404 permit for the design refinement. However, these alternatives were *never* discussed in the FEIS for the project, and therefore they must be evaluated in a supplemental EIS. Furthermore, the public has never had the opportunity to comment on these different mitigation alternatives – and never will unless a supplemental EIS is prepared. Furthermore, unless a supplemental ROD issues that incorporates the ultimately decided upon mitigation measures, these new commitments to mitigation will not be binding on the project administrators in their implementation of the project.

Additionally, although the project managers have stated that the memo evaluating the mitigation alternatives will be attached to the final version of the Final Reevaluation, this does not satisfy their duties under NEPA. The Draft and Final Reevaluation documents are *not* formal NEPA documents, but rather merely provide a discussion of whether the project’s FEIS is still sufficient – i.e., whether there are new circumstances or changes that have potentially significant environmental effects that require the preparation of a supplemental EIS. The memo demonstrates that there are different mitigation alternatives with differing potentially significant environmental impacts, *all* of which have never before been analyzed and *all* of which merit the preparation of a supplemental EIS to evaluate those impacts.

II. The FHWA is currently in violation of the Endangered Species Act’s formal consultation requirements with regard to the newly federally listed Northern Long-Eared Bat.

The Wisconsin Department of Transportation’s (“WisDOT”) determination that the Waukesha Bypass project, as revised, “may effect” [sic] but is “not likely to adversely affect” the newly federally listed Northern Long-Eared Bat, Draft Reevaluation Appendix D, triggered the

consultation requirement of the Endangered Species Act (“ESA”), 50 C.F.R § 402.14. – a requirement that the FHWA has not met.¹³

Once an agency finds that its activity “may affect” a listed species, consultation with the Fish and Wildlife Service (“FWS”) pursuant to Section 7 of the ESA is “required” under the ESA regulations. *Id.* The consultation requirement is fulfilled *only* when the FWS either a) sends a formal letter concurring with the action agency’s “not likely to adversely affect” determination (thus concluding “informal consultation”), or b) the action agency and the FWS pursue “formal consultation,” culminating in the FWS’s issuance of a Biological Opinion evaluating whether the action will jeopardize the continued existence of the affected species and enumerating any enforceable conditions under which the project may proceed. *Id.* Here, however, the highway agencies merely submitted their studies to FWS, and when FWS never responded, the highway agencies assumed that “[t]his indicated the project may proceed as planned.” Draft Reevaluation at 8; *see also id.* at Appendix D.¹⁴ That is a patent violation of the ESA implementing regulations, which simply do not allow an agency to proceed with a project that concededly “may affect” a federally listed species based on nothing more than the FWS’s silence.

To the extent that the FHWA and WisDOT, to avoid formal consultation, are relying on the April 17, 2015 “Range-Wide Biological Assessment for Transportation Projects for Indiana Bat and Northern Long-Eared Bat” (“2015 BA”), and the FWS’s April 20, 2015 concurrence with the “not likely to adversely affect” determination in the 2015 BA, such reliance is misplaced. Those documents are explicitly predicated on *either* a valid determination that Northern Long-Eared Bats (“NLEB”) or Indiana Bats “*are not present*” in the action area, 2015 BA at 29; *see also id.* at 43-45, or that specific measures for avoiding impacts, e.g., on bats and potential roost trees, have been adopted. Since the FHWA and WisDOT have *not* committed to complying with all of the measures for avoiding impacts, any purported reliance on the

¹³ Additionally, the presence of a species newly listed as threatened under the Endangered Species Act is *also* “new information” “relevant to environmental concerns and bear[s] on the proposed action or its impacts” that was never evaluated in the FEIS, and is thus a potentially significant environmental impact that must be evaluated in a supplemental EIS in its own right. 23 C.F.R. § 771.130(a)(2).

¹⁴ *None* of the documents submitted to the FWS were included in the Draft Evaluation, making it difficult for the public to comment on the adequacy of WisDOT’s scientific studies and analyses. *See* Draft Reevaluation at Appendix D (listing nine attachments not included in the Draft Reevaluation). Only after special request were these documents provided to WEAL and the Coalition. However, these important project documents have not been made available to the public at large on the dedicated Waukesha Bypass Project website in order to facilitate meaningful public comment on the Draft Reevaluation. Public access to these documents is imperative to facilitating meaningful public comment on the Draft Reevaluation. *See* 40 C.F.R. § 1500.1(b) (“public scrutiny [is] *essential* to implementing NEPA”) (emphasis added); *id.* at § 1506.6(a) (federal agencies are required to undertake “diligent efforts to involve the public in preparing and implementing NEPA procedures”); 23 C.F.R. § 771.105(c) (FHWA regulations: “Public involvement [is an] essential part[] of the development process for proposed actions.”).

programmatic informal consultation as a basis for avoiding formal consultation *must* be predicated on a valid determination that the agencies have in fact established that listed bats are not present in the action area.

However, the limited acoustic surveys conducted for this project establish no such thing. First, it appears that surveys have not even been conducted in connection with the new proposed design of the project, since the acoustic surveys that were done in 2015 *predated* the design refinement. Especially since the project as redesigned will impact *more* old growth forest that is suitable habitat not only for songbirds but also for bats, *supra* Section I.C, the agencies obviously cannot rely on acoustic surveys that preceded the realignment. *See* 50 C.F.R. § 402.16 (reinitiation of ESA consultation is required “[i]f new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered”).

Second, the acoustic surveys that were conducted were extremely limited in duration – encompassing only a single three-day period in August 2015 – and, even with such a small survey, the “acoustic analysis software” *did* identify NLEB as well as Indiana bats. *See* August 27, 2015 Cardno Report Re: “West Waukesha Bypass Long-Eared Bat (NLEB) Survey Results” (Attachment E), at 5 (“A total of 23 bat call files were preliminarily identified by EchoClass as NLEB”); *id.* (explaining that Indiana bat calls were also identified). Evidently dissatisfied by these results, the project consultant “ran the data through two other USFWS-approved automatic acoustic analysis programs,” and both of those programs *also* identified the presence of NLEB.¹⁵ *Id.* at 8. Although the “automatic analysis programs indicate presence of NLEB,” *id.*, the consultant, along with the Wisconsin DNR, then engaged in a further “qualitative analysis of the bat calls” in a further effort to come to the desired conclusion of species’ absence. *Id.* Yet even after that further step, the best that the consultant could conclude is that there was “no *definitive evidence of NLEB calls based on the data reviewed,*” and that the “calls provided to the WDNR did not have enough acoustic information to *conclusively indicate presence of NLEB,*” so they were generically “designated as Myotid calls” – a category that *includes* NLEB (as well as Indiana bat) calls. *Id.*; *see also* Attachment F (8/24/15 e-mail from Wisconsin DNR stating that “there wasn’t enough acoustic information collected to *conclusively* indicate the presence” of NLEB) (emphasis added).

Obviously, based on this record, any genuine effort to establish presence/absence of federally listed bats would have either *assumed* the presence of the species or, at the very least,

¹⁵ The Draft Evaluation makes *no mention* of the several other state-listed species observed during acoustic surveys. *See* Attachment E. at 8. The survey report states that “two State threatened bat species including big brown bat and little brown bat likely occur within the project area, as well as several other species considered as State special concern (hoary bat, red bat, and silver-haired bat).” *Id.* At least one of these state-listed species – the little brown bat – is currently being considered for federal listing under the ESA. Furthermore, in its comments on the FEIS for the Waukesha Bypass, the EPA “strongly recommend[ed]” that the agencies to include mitigation of the project’s impacts to even state-listed species. *See* Attachment G at 3. The presence of these state-listed species and the project’s impacts upon them should also be considered in a supplemental EIS.

led to *further* acoustic and/or mist net surveys. In any event, the torturous effort to reach a preordained conclusion is flagrantly inadequate to satisfy the conditions set forth in the 2015 BA and concurrence for avoiding formal consultation. A finding that acoustic surveys determined the presence of a federally listed species but that insufficient information had been collected to “conclusively” establish their presence cannot be read as a valid biological finding that the species is “not present,” 2015 BA at 29 – which is the explicit requirement for a “not likely to adversely affect” determination in the BA and FWS concurrence. Moreover, the fundamental purpose of Section 7 consultation – to establish a policy of “institutionalized caution” when federal agencies take actions that might harm endangered or threatened species, *TVA v. Hill*, 437 U.S. 153, 194 (1978) – is certainly not served through a process that truncates the consultation process based on very limited surveys that *do* point to the presence of a listed species but are deemed inadequate to “conclusively” confirm their presence.¹⁶

Under these circumstances, the agencies’ formal consultation should also be based on, at minimum, (1) an analysis of the acoustic data by an objective, independent expert employed or retained by the FWS, who is not attempting to reach a preordained conclusion of species absence, as is evidently the case with the project consultant here; and (2) additional acoustic and/or mist net surveys that afford an additional scientific basis for assessing species’ use of the proposed project footprint, as redesigned. In addition, the SEIS that must be prepared must take into account the results of the formal consultation.

Conclusion

For the foregoing reasons, we believe that the Draft Reevaluation erroneously concludes that the “the original approved environmental document remains valid.” Draft Reevaluation at 12. Rather, the Draft Reevaluation identified *numerous* new and potentially significant environmental impacts that must be evaluated in a supplemental environmental impact statement (as well as in ESA Section 7 consultation), such as the increase in farmland impacts, right of way, and upland forest impacts; the newly identified hazardous waste site; and new information regarding a threatened species in the project area. It is puzzling that, in light of these *admitted* potentially significant impacts and significant new information – which were *never* evaluated in the FEIS – the Draft Reevaluation concludes that the FEIS “remain[s] applicable, complete, accurate and valid.” Draft Reevaluation at 2. The highway agencies *must* analyze these never-before-evaluated potentially significant impacts and new information in a supplemental environmental impact statement. Additionally, the FHWA must complete formal consultation with the FWS for the Northern Long-Eared Bat as required by the ESA.

Sincerely,

/s/ Margaret A. Coulter

Margaret A. Coulter

¹⁶ Indeed, if the programmatic informal consultation is construed to authorize this result then that consultation itself clearly violates the ESA.

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ATTACHMENT A

Agenda – 1/19/16 WWB conference call

1. Summary 11-5-15 Resource Meeting
 - a. Preliminary plan revisions for Pebble Creek West Rotated shared
 - b. Avoids wetland 8 (fen)
 - c. Reduces wetland impacts by 2.6 acres
 - d. Maintains 0.5 acre interior forest habitat
 - e. Tree mitigation voluntary (work with WDNR)
 - f. Brown's Fen protection not required now
 - g. Hardy Woods conservation easement required
 - h. EIS re-evaluation required
 - i. COE permit to be withdrawn and resubmitted as separate permits
2. Pebble Creek West Rotated revision complete
 - j. Drawing attached
3. Pebble Creek West Rotated vs. Pebble Creek Far West
 - k. 6.8 acres vs. 4.8 acres wetland impacts
 - l. 0 acres vs. <0.05 acres wetland 8 (fen) impacts
 - m. LEDPA / conservation easement – trying to secure easement with Buzz Hardy; Mr. Hardy getting appraisal; concerned with ability to get easement from Mr. Hardy;
4. COE permit withdrawn – PC West rotated as LEDPA; need Mr. Hardy's consent to easement as condition of permit (woods are more significant than wetland impacts); woods (significant resource) so important that fen can be impacted; additional 2.0 acres impact to farmed wetlands with rotated alignment

Sue: need to look at final design to ensure there are no groundwater impacts to fen from the minor tweaks to rotated alignment

Rather than Far West alternative, can we research similar upland habitat parcel as mitigation? LEDPA was based on that specific upland area, not a different one, per Marie. Getting to LEDPA includes protection of significant upland habitat with easement. DOT saying that protection is a part of mitigation, which is not part of LEDPA determination. Even with No Build, the upland is not protected because owner can do anything to the parcel. Marie: not requiring as part of compensatory mitigation, but to get to LEDPA, DOT is saying that it is significant and should be protected. Craig: what's best for resources in area? Easement from Buzz. Could go farther west and impact fewer wetlands but have far greater impacts to the woods. Need to document, with Far West, not impacting fen, not impacting upland woods that are significant, they will stay in state they are in, but will have greater impacts to lesser quality wetlands.

What happens if he doesn't sign an easement to protect uplands? Mike Seeger has talked with Mr. Hardy extensively in the past. Mike Seeger should not have project-specific discussions with Mr. Hardy, to avoid influencing Buzz. County has appraisal; waiting for Mr. Hardy's appraisal.

County wants back-up plan if Mr. Hardy changes his mind and does not grant easement. Avoided fen and avoided interior forest, but don't yet have interior forest protected for perpetuity; can't mitigate upland forest (per regional planner).

EIS re-eval – underway and should be approved. Public involvement aspects? Approved by FHWA and DOT and sent to cooperating agencies and probably public meeting/public hearing. Comments accepted? FHWA might accept comments on re-evaluation. Need to get legal to weigh in. Jay: need to have Buzz issue resolved before re-eval can be published.

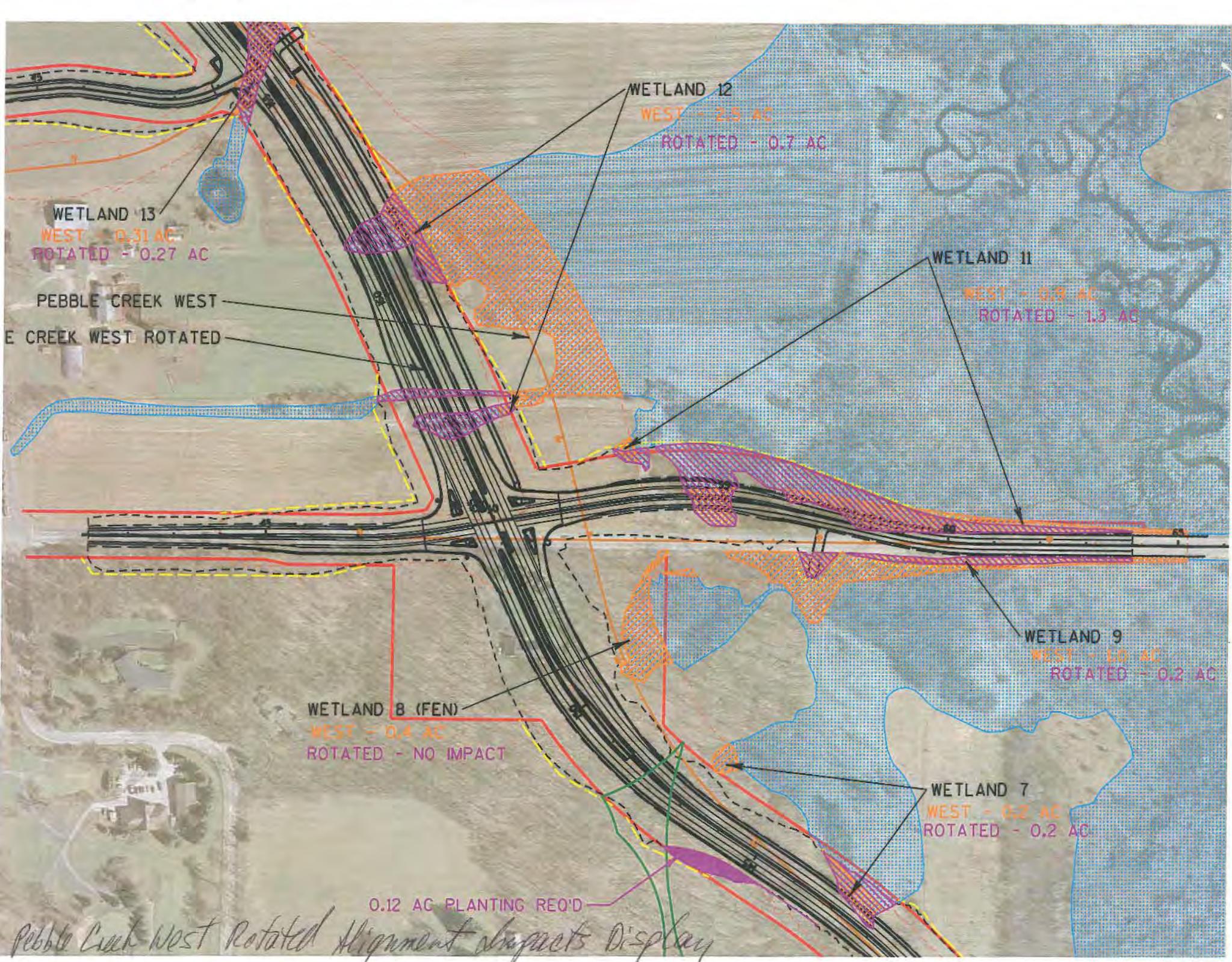
Marie doesn't know what it might mean for the LEDPA if they conservation easement is not secured. Permit-related mitigation (conservation easement) often done after NEPA process done. Ian: need more detailed discussion in-house about LEDPA and conservation easement.

EPA, not COE, requested easement as part of conditional concurrence. ACE: same caveats-upland area be preserved. Buzz's property as resource issue; avoiding resource.

- n. Waukesha County permit submittal target - March 1 - GP
 - o. WisDOT permit submitted August 1 – IP
 - p. After this meeting further discussion with Marie on permit submittals – independent utility
5. Re-evaluation
- q. Re-evaluation complete mid-February
 - r. Public Hearing (45 day posting) vs PIM to be determined
6. Buzz Hardy Easement
- s. Owner getting appraisal now
7. Initial WDNR coordination on tree mitigation started
- t. WDNR identified tree species, planting density, site prep and maintenance

Functional Value	Wetland Type	Alternatives
		Pebble Creek West ROTATED (acre)
W-13 (ADID wetland). No functional value rated as high.	Atypical (farmed) wetland	1.2
W-12 (ADID wetland). No functional value rated as high.	Fresh (Wet) Meadow and atypical (farmed) wetland	0.7
W-11 (ADID wetland). Floral diversity, wildlife habitat, fishery habitat, stormwater attenuation, water quality protection, groundwater, and aesthetic, recreation, and education rated as high.	Shallow Marsh, Southern Sedge Meadow, Fresh (Wet) Meadow, Wet- Mesic Prairie, Shrub-Carr (willow thicket) and second growth Southern Wet to Wet-Mesic Lowland Hardwoods	1.3
W-9 (ADID wetland). Floral diversity, wildlife habitat, fishery habitat, water quality protection, and groundwater rated as high.	Southern Sedge Meadow, Fresh (Wet) Meadow, Shrub-Carr, and second growth, Southern Wet to Wet-Mesic Lowland Hardwoods	0.2
W-8 (ADID wetland). Groundwater rated as high.	Sedge Fen and second growth Southern Wet to Wet-Mesic Lowland Hardwoods	0
W-7 (ADID wetland). Groundwater rated as high.	Fresh (Wet) Meadow, Shrub-Carr (willow thicket), and second growth, Southern Wet to Wet-Mesic Lowland Hardwoods	0.2
W-6 (ADID wetland). No functional value rated as high.	Second growth Southern Wet to Wet-Mesic Lowland Hardwoods	
W-5 (ADID wetland). No functional value rated as high.	Second growth Southern Wet to Wet-Mesic Lowland Hardwoods	0.3
W-4 (ADID wetland). Floral diversity, wildlife habitat, fishery habitat, water quality protection, groundwater rated as high.	Shallow Marsh, Southern Sedge Meadow, atypical (mowed) wetland, Fresh (Wet) Meadow, and second growth Southern Wet to Wet-Mesic Lowland Hardwoods	1.1
W-1(ADID wetland). Wildlife habitat fishery habitat. Water quality protection. Groundwater rated as high.	Shallow Marsh. Fresh (Wet) Meadow. Shrub-Carr, and second growth Southern Wet to Wet-Mesic Lowland hardwoods.	1.80
	TOTALS	6.8

Pebble Creek West (acre)	Pebble Creek Far West (acre)
1.2	0.7
2.5	0.6
0.9	0.4
1.0	0.5
0.4	less than 0.05
0.2	
	Less than 0.05
0.3	0.2
1.1	1.1
1.8	1.3
9.4	4.8



Pebble Creek West Rotated Alignment Impacts Display

ATTACHMENT B

West Waukesha Bypass call notes – 11/5/15

Attendees from:

County
WDNR
ACE
EPA
WisDOT
FHWA

Issues discussed:

- 1) Ownership of country club
- 2) Fen in watershed as mitigation option
- 3) Conservation easement for Buzz Hardy's woodland
- 4) Refinement to Pebble Creek Alignment

- 1) Manager of country club purchased the property a few years ago, invested in the club, and has no intention of selling.
- 2) Possible mitigation fens in the watershed – Yatzeks fen and Meyer sedge fen in Town of Eagle (~3.5 acres); SEWRPC cannot get out to site this year for investigation (SE corner of Section 25, next to Highway O) but not much vehicular access to the fen; will send aerials of fen to Sue and Marie during first half of November.
County and DOT have elected to postpone project for one year. Therefore, construction start date planned for 2017 because they don't believe they can get necessary documents to move before 2017.
- 3) Buzz and conservation easement: County still talking with Buzz. In light of delay to project, may change approach slightly. Had basis of agreement with Buzz; County appraised land. Buzz has option to hire his own appraiser, followed by Buzz and County negotiating the price. On 11/5/15, County informed Buzz that time is not an issue and he can get an appraisal.
- 4) Refinement and realignment – County met with engineer to tweak road alignment and avoid impacts to wetland 8 (fen) and maintain 0.5 acre of interior forest habitat. Found that rotating alignment about 10 degrees could avoid fen and maintain setbacks to maintain wooded habitat. However, shifting the alignment caused the intersection with Sunset to become 'substandard' and, therefore, realigned Sunset to the north. Good news: eliminated impacts to the fen and moved Sunset intersection further away from the fen (~100 feet). Moves impacts to wetland 11 but saves impacts to wetland 9. No indirect effects to the fen are expected (e.g., runoff and salt spray) because the road will be below the level of fen. Sue stated that she will need to review cut and whether cut will affect groundwater to fen. Gary indicated that cross section and 3-D models looked at keeping roadway above groundwater. Will supply groundwater info. to Sue to review. Marie: therefore, sounds like no indirect impacts.

How would refinement affect the EIS? Need to determine if FHWA will approve realignment. If yes, re-evaluation of EIS needed because impacts would be reduced. Not known if hearing would be needed.

County indicated they would like to split permitting because they have no idea how long it will take to push the realignment changes through the system and they would like to move on the northern

part of the project. ACE indicated FHWA/DOT would need to send a revision to the permit application explaining how the two halves of the project have independent utility. ACE indicated they do not need to have the EIS re-evaluation question solved before permit app can be reviewed by ACE.

If avoiding fen, what happens to three concurrence points?

Voluntary mitigation – Problem of where to plant contiguously. Move roadway to the north, grade roadway to the north of Sunset, and could plant trees in the graded area to buffer the fen. ACE: sounds good. WDNR: sounds good; discussed stub of access road needed for Buzz's property. WisDOT: Central office perspective is that we understand this is a special mitigation that was agreed to and WisDOT will not change its stance concerning voluntary tree mitigation. However, planting must be related to project impacts and must occur in the project area, not a different county. EPA indicated it would like WDNR to provide a list of native species list and possible planting sites so that planting is most beneficial to resources. DNR, County, and DOT will develop plan of where trees could be planted and meet in one-two months' time to start discussion and report to larger group.

Conservation easement for Buzz's property - EPA strongly suggests to continued discussions with Buzz to secure a CE. Gary: has had difficulty working with Buzz, but don't want project held up if you can't get CE. Jay: willing to go to extraordinary measures, but now those extraordinary measures are not part of the project. You need to think about what is realistic v. required. EPA: asked for CE because you would impact the fen, so if you will not impact the fen it is not a deal breaker. County indicated it will continue to pursue to issue with Buzz.

However, ACE indicated that the realignment proposal has more impacts than far west alternative. PCWest concurrence was based on upland destruction as a significant impact. EPA: least impact to both resources was Far West Alternative (that impacted both resources), therefore, pursuing realignment needs to include protection of upland that was as important as fen. Far West has less wetland impact than Pebble Creek rotated alternative; therefore, Hardy woods still needs to be protected to reach LEDPA. Is it a deal breaker from 404 permitting perspective since using bank? It has to do with LEDPA because rotated realignment will impact more wetlands (in total), so the woodlands need to be protected. ACE: to get to rotated alternative as LEDPA, upland wooded area from Buzz would need protection. Buzz's property is back to deal breaker to get to LEDPA.

County wants a plan to get to the endpoint, so what might happen if Buzz does not agree with CE? If an agreement cannot be reached with Buzz, the County might be forced to go through woods and condemn.

Next steps?

- ✓ County will send aeriels of Meyer fen to Sue and Marie during early November.
- ✓ County will send Sue groundwater cross section and 3-D models during early November.
- ✓ DNR, County, and DOT will develop tree species and location plan during last two months of 2015.

- ✓ County will begin process of EIS re-evaluation of EIS. WisDOT will need to update coordination plan, complete re-eval form, and ensure that, before a public meeting/hearing is set, coordination with agencies is finished.

- ✓ Buzz has a month to get an appraisal; County doesn't think resolution with Buzz will occur during 2015.
- ✓ Gary: get agencies together in early December.
- ✓ ACE inquired whether the permit app would be resubmitted after agency coordination. County wants to submit two permit apps. ACE indicated that public notice went out with information pertaining to 'old' alternative that impacted the fen and comments received were based on that alternative; re-alignment would produce different set of comments. Segmentation question will depend on updated permit app and determination if the two projects have independent utility and whether public notice can be updated for just the south end.

ATTACHMENT C

Stark, William (FHWA)

From: Evans, Gary <GEvans@waukeshacounty.gov>
Sent: Thursday, March 17, 2016 12:40 PM
To: 'Elston, Sue'; Kowal, Kathleen
Cc: Cain, Douglas - DOT (Douglas.Cain@dot.wi.gov); 'Waldschmidt, Jay - DOT'; Eruchalu, Benedict C - DOT (Benedict.Eruchalu@dot.wi.gov); Linda.Matthews@dot.wi.gov; Chidister, Ian (FHWA); 'Daniel Dupies'; Charlie.Webb@CH2M.com; 'Benjamin.Goldsworthy@CH2M.com'; Braun, Karen; Bussler, Allison; Scott.Lee@dot.wi.gov
Subject: West Waukesha Bypass Re-evaluation - Hardy Woods
Attachments: West Waukesha Bypass re evaluation LEDPA hardywoods memo.pdf

The attached memo is in response to our discussions regarding the change in alignment for the selected Pebble Creek West alternate to avoid wetland (8) – the fen, while maintaining a viable interior forest habitat. It is this realignment that is the subject of the ongoing re-evaluation of the Environmental Impact Statement. As this realignment reduces overall wetland impacts by 2.6 acres and completely avoids wetland 8, we (the project team) had requested that the concurrence requirement that we provide permanent legal protection to the Hardy Woods be changed from a mandatory to voluntary requirement. This requirement was part of your agencies concurrence given at a time when we were focused more on the issue of fens vs forest interior habitat. We believe the attached memo clearly documents impacts and threats to resources for each alternate, and provides clear reasoning for why the realigned Pebble Creek West Alternate – which we call Rotated Pebble Creek West - should receive the LEDPA designation without conditions and why the Hardy woods protection should change from mandatory to voluntary. The project team remains committed to obtaining this protection.

The draft re-evaluation is currently under review by FHWA. This memo and your response to its recommendations will become part of the final re-evaluation document.

We are anxious to bring this stage of the project to a conclusion and request that you provide us with your decision by March. I trust the two-week time frame between now and then will be enough time for you to study the memo and make a timely decision. We have a public informational meeting for the re-evaluation and the project in general scheduled for April 6, Either Doug Cain from WisDOT or myself will in contact with you to schedule a resource agency coordination meeting for a date before the P.I.M. date of April 6th.

I would be happy to answer any questions you may have.

I shall also be sending this memo in hard copy to your office.

Gary M. Evans P.E.
Engineering Services Manager
Waukesha County Department of Public Works
1320 Pewaukee Road
Waukesha, WI 52188
(262)548-7740 Main
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Daniel P. Vrakas
County Executive

Allison Bussler
Director of Public Works



March 17, 2016

Ms. Rebecca Graser
U.S. Army Corps of Engineers (Regulatory Branch)
20711 Watertown Rd., Suite F
Waukesha, WI 53186

Kathy Kowal
Sue Elston
US EPA Region 5
77 W. Jackson Street
Chicago, IL 60305

RE: Refined Alignment to Selected Alternative
Effect on Concurrence Requirements
West Waukesha Bypass Corridor Study
Waukesha County
Project ID 2788-01-00

Dear Ms. Graser, Kowal and Elston:

Executive Summary

Waukesha County and WisDOT request the one remaining condition on the least environmentally damaging practicable alternative (LEDPA), the permanent, legal protection of the Hardy Woods be changed from a mandatory to a voluntary requirement. Due to concerns raised at the October 15, 2015 resource agency meeting on the Brown's fen and finding a suitable replacement, Waukesha County and the Wisconsin Department of Transportation (WisDOT) refined the Pebble Creek West alignment to completely avoid wetland 8 (W-8). The refined design called the Rotated Pebble Creek West alignment, while avoiding wetland 8, also reduces wetland impacts by a total of 2.6 acres. We believe this refined alignment is the least environmentally damaging practicable alternative when evaluating the impacts as a whole considering other factors such as cost, risk to groundwater, and impacts to other significant resources. The Rotated Pebble Creek West is the subject of the Final EIS Reevaluation currently being prepared. This memorandum and your responses to it will also be included in Final EIS Reevaluation.

Objectives

The purposes of this memorandum are to:

- To document the reduced wetland impacts and interior forest impacts of the Rotated Pebble Creek West's design refinement;
- To demonstrate why the Rotated Pebble Creek West alignment is the LEDPA without the mandatory requirement of permanent, legal protection of the Buzz Hardy woods; and
- To request your concurrence that the Rotated Pebble Creek West alignment is the LEDPA without the mandatory requirement of permanent, legal protection of the Buzz Hardy woods.

The remainder of this memorandum provides background information to place Waukesha County's and WisDOT's request in context, and document the reasons the Rotated Pebble Creek West alignment eliminates the need for mandatory permanent, legal protection to the Buzz Hardy woods.

Two exhibits are attached to this memorandum. Exhibit 1 is a map showing the aquatic and upland resource impacts of the Pebble Creek West alternative and Rotated Pebble Creek West Alignment. Exhibit 2 is a map showing the aquatic and upland resource impacts of the Pebble Creek Far West alternative and Rotated Pebble Creek West Alignment.

Background

In April 2014, Waukesha County sent the U.S. Environmental Protection Agency (USEPA) and the Army Corps of Engineers (COE) a memorandum summarizing the reasons Waukesha County, WisDOT and the Federal Highway Administration (FHWA) supported the Pebble Creek West Alternative as the preferred alternative for the West Waukesha Bypass project. The memorandum compared the environmental benefits of W-8, (and wetlands in general) and the interior forest bird habitat on the Buzz Hardy property that led to the selection of the Pebble Creek West Alternative as the preferred alternative. The USEPA and the COE concurred with the position put forth in the memorandum and identified the Pebble Creek West Alternative as the LEDPA with the following conditions:

- Preserve an offsite fen within the Upper Fox River watershed to mitigate for impacts to W-8,
- Permanent legal protection of the interior forest habitat and surrounding uplands on the Buzz Hardy property, and
- Mitigate for trees lost in the primary environmental corridor upland woods south of Sunset Drive.

Over the last 18 months Waukesha County and WisDOT have made dedicated efforts to meet these conditions in coordination with resource agencies.

Listed below is a summary of the key project activities since October 2015.

October 2015

- The public comment period for the project's Section 404 permit application ended in October. Notable among the comments received was USEPA's recommendation to the COE to deny approval of the application for several reasons including the fact that the permanent conservation easement protecting the Hardy Woods had not been finalized.

- Design team refined the Pebble Creek West alignment to avoid wetland 8 due to the USEPA comments/concerns that Brown's fen is not a suitable replacement. USEPA suggested looking at other alignments or another fen.

November 2015

- Presented and discussed the Rotated Pebble Creek West alignment with the resource agencies.
- Decided to withdraw the permit after the November 5 resource agency meeting based on concerns with the project schedule and difficulties in acquiring the Hardy easement. Also COE stated permits could be separate if we could demonstrate the projects are independent.
- As a result of avoiding W-8, the COE and USEPA agreed that fen mitigation, which was one of the conditions that accompanied the 2014 Pebble Creek West Alternative LEDPA designation, is no longer necessary.
- The agencies also agreed that another mitigation measure associated with the LEDPA designation, tree mitigation in the upland south of Sunset Drive, should be voluntary rather than mandatory.
- COE 404 permit application withdrawn and project delayed 1 year.

January 2016

- Waukesha County and WisDOT have diligently pursued protection of the Hardy woods and remain in negotiations related to this property; concerns remain as to whether or not the agreement will be finalized
- Waukesha County and WisDOT requested that the remaining mandatory mitigation measure that requires protection of the Buzz Hardy woods, become voluntary due to the Rotated Pebble Creek West refinement
- The USEPA and COE requested the project team explain its reasoning in a memorandum for review by the resource agencies.

Wetlands

This section compares the wetland impacts of the Rotated Pebble Creek West alignment with other alignments studied in the environmental document. (Table 1). Table 1, which describes wetland characteristics and impacts, includes the Pebble Creek West Alignment and Pebble Creek Far West alignment from the preliminary design phase. Although the Pebble Creek Far West Alternative was eliminated from consideration during the preferred alternative deliberations in 2014, this alternative did affect fewer wetland acres than the Pebble Creek West Alternative. The wetlands in Table 1 are located between the south project terminus to near the Wisconsin & Southern Railroad where the Rotated Pebble Creek West and Pebble Creek West share a common alignment (Exhibit 1).

TABLE 1:
Wetland Impacts

Wetland No.	Wetland Type	PCW (ac.)	Rotated PCW (ac.)	PCFW (ac.)
13	Atypical (farmed) wetland	1.2	1.2	0.7
12	Fresh (Wet) Meadow and atypical (farmed) wetland	2.5	0.7	0.6
11 (ADID wetland)	Shallow Marsh, Southern Sedge Meadow, Fresh (Wet) Meadow, Wet-Mesic Prairie, Shrub-Carr (willow thicket) and second growth Southern Wet to Wet-Mesic Lowland Hardwoods	0.9	1.3	0.4
9 (ADID wetland)	Southern Sedge Meadow, Fresh (Wet) Meadow, Shrub-Carr, and second growth, Southern Wet to Wet-Mesic Lowland Hardwoods	1.0	0.2	0.5
8 (ADID wetland)	Sedge Fen and second growth Southern Wet to Wet-Mesic Lowland Hardwoods	0.4	0	0.05
7 (ADID wetland)	Fresh (Wet) Meadow, Shrub-Carr (willow thicket), and second growth, Southern Wet to Wet-Mesic Lowland Hardwoods	0.2	0.2	--
6 (ADID wetland)	Second growth Southern Wet to Wet-Mesic Lowland Hardwoods	--	--	0.05
5 (ADID wetland)	Second growth Southern Wet to Wet-Mesic Lowland Hardwoods	0.3	0.3	0.2
4 (ADID wetland)	Shallow Marsh, Southern Sedge Meadow, atypical (mowed) wetland, Fresh (Wet) Meadow, and second growth Southern Wet to Wet-Mesic Lowland Hardwoods	1.1	1.1	1.1
1 (ADID wetland)	Shallow Marsh, Fresh (Wet) Meadow, Shrub-Carr, and second growth Southern Wet to Wet-Mesic Lowland Hardwoods	1.4	1.4	1.4
Totals		9.0	6.4	5.0

The key difference between the Pebble Creek West and Rotated Pebble Creek West is that the Rotated Pebble Creek West avoids W-8 (a sedge fen and advanced identification (ADID) wetland). It is also worth noting that avoiding W-8 is also a differentiating factor between the Rotated Pebble Creek West design and the Pebble Creek Far West Alternative which would have directly affected a small portion of W-8. In addition to avoiding W-8, the Rotated Pebble Creek West alignment reduces the overall impact to wetlands by 2.6 acres as compared to the Pebble Creek West Alternative (Table 2). It should be noted that WisDOT and Waukesha County have designed the Rotated Pebble Creek West alignment to be above the groundwater elevation thereby avoiding potential impacts to wetlands fed by groundwater and groundwater seeps east of the alignment.

As noted in the Background section, USEPA and the COE have indicated that by avoiding W-8, there is no longer a need to protect an offsite fen in the Upper Fox River Watershed, and to mitigate for the

entire acreage of the fen (W-8).

TABLE 2
Change in Wetland Impacts with Rotated Pebble Creek West Alignment

Wetland	PCW (ac.)	Rotated PCW (ac.)	Change in impact (ac.)
W-13	1.2	1.2	0.0
W-12	2.5	0.7	-1.8
W-11	0.9	1.3	+0.4
W-9	1.0	0.2	-0.8
W-8	0.4	0	-0.4
W-7	0.2	0.2	0
TOTAL CHANGE IN WETLAND IMPACT (ACRES):			-2.6

Uplands

A large block of the upland habitat south of Sunset Drive and west of Pebble Creek is designated a primary environmental corridor by SEWRPC. The Pebble Creek West Alternative and Rotated Pebble Creek West would have similar impacts on Upland 18 (NW) (U-18 (NW)) and Upland 19 (U-19). Rotated Pebble Creek West would affect 4.2 acres of U-18 (NW), and Pebble Creek West would affect 4.1 acres (Table 3). Both alignments would affect 1.4 acres of U-19. U-19 is a 5.2-acre old field and is not included in the primary environmental corridor. Upland 18 (NW), which is located in the primary environmental corridor, is an 11.6-acre second growth dry-mesic hardwood forest. Part of the forest has been managed by Buzz Hardy through the Wisconsin Department of Natural Resources (WDNR) Managed Forest Law Program. The woods are good quality with relatively few invasive species.

Upland 18 (NW) includes 1.3 acres of interior forest bird habitat which is that portion of the forest canopy 300 feet from the forest's edge. Forest interior habitat is important because there is less likelihood of nest predators preying on songbird nests. The Pebble Creek West Alternative and Rotated Pebble Creek West would affect a portion of the north end of the interior forest habitat. With the proposed reduced median width and lack of sidewalk or multi-use trail adjacent to the roadway south of Sunset Drive, the Pebble Creek West Alternative would leave 0.53 acre of interior forest habitat. The Rotated Pebble Creek West alignment would leave 0.5 acre of interior forest habitat. The WDNR emphasized in its letter dated December 3, 2013, that for the Hardy Woods, maintaining an interior forest habitat is a significant resource to the wildlife and songbird habitat it provides. Pebble Creek Far West Alternative would remove 1.2 acres of the interior forest habitat effectively eliminating the habitat. SEWRPC's November 2013 assessment found that forest interior fragments as small as 0.5 acre can provide important foraging habitat and refuge for forest interior birds.

TABLE 3
Upland Impacts

Upland No.	Dominant Plant Species	PCW (ac.)	Rotated PCW (ac.)	PCFW (ac.)
U-18 (NW)	Common buckthorn, northern prickly ash, large-toothed aspen, white oak, red oak, sugar maple, hickory, black walnut, white cedar	4.1	4.2	9.7
U-19	Gray dogwood, quacking aspen, Kentucky bluegrass, common buckthorn, northern prickly ash, tall goldenrod	1.4	1.4	0.3
Interior Forest	[located within U-18 (NW)]	0.77	0.80	1.2

Discussion

At its core, the USEPA's and COE's conditional concurrence of the Pebble Creek West Alternative as the project's LEDPA in May 2014 acknowledged that leaving a functional parcel of interior forest habitat with the Pebble Creek West Alternative was a more beneficial environmental outcome than eliminating the habitat and reducing wetland impacts by 3.7 acres with the Pebble Creek Far West Alternative. The decision is in keeping with 40 C.F.R. Section 230.10(a), the basis for the LEDPA determination, which states that, except as provided in the Clean Water Act section 404(b)(2), a permit will not be issued "if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences."

In the view of Waukesha County and WisDOT, the reduced resource impacts associated with the Rotated Pebble Creek West alignment support its designation as the project's LEDPA. In light of these reduced impacts, the project sponsors are requesting that the sole remaining mandatory mitigation measure (i.e., the permanent, legal protection of the Buzz Hardy woods) become voluntary. The reasons why the remaining mitigation measure should become voluntary are

Environmental Factors

The starting point in this discussion is to acknowledge that the reason the Pebble Creek West Alternative was selected as the LEDPA in 2014, leaving enough interior forest to serve as important songbird habitat, is still a feature of the Rotated Pebble Creek West alignment. The Rotated Pebble Creek West alignment would affect 5.7 acres of woodlands south of Sunset Drive and leave 0.5 acre of interior forest habitat. The value of the interior forest habitat is clearly stated in Waukesha County's April 2014 memorandum to USEPA and the COE. Waukesha County and WisDOT believe that because of the property owner's passion to preserve the woods south of Sunset Drive, long-term protection will ultimately be achieved. Waukesha County will continue its coordination with Mr. Hardy to permanently protect his property.

From a wetland standpoint, the highlight of the Rotated Pebble Creek West alignment is avoiding W-8, the fen south of Sunset Drive. Direct and potential indirect impacts to W-8 have been a long-standing agency concern and the motivation for the mitigation measures required in 2014. By avoiding W-8, creating a wider buffer between the roadway and the fen, and ensuring that road runoff

will be directed away from the fen rather than draining directly into it, the Rotated Pebble Creek West alignment will provide a level of protection for W-8 that is not possible with the Pebble Creek Far West Alternative. Pebble Creek Far West would have a small direct impact to W-8 (<0.05 acres) and the same indirect impacts suggested in USEPA's October 13, 2015 comments on the project's Section 404 permit application.

As noted in Table 2, the Rotated Pebble Creek West alignment will affect 2.6 fewer acres of wetland than Pebble Creek West. The Rotated Pebble Creek West alignment would still affect 1.4 more acres of wetland than the Pebble Creek Far West Alternative. To put the 1.4-acre difference in perspective, nearly half of that amount (0.6 acre) are two low quality farmed wetlands, W-12 and W-13. While it is a goal of the Section 404 regulatory program to contribute to the national goal of no overall net loss of the nation's remaining wetlands base, there is also an emphasis on a goal of no overall net loss of values and functions. In SEWRPC's evaluation of the functional value of project wetlands, eight criteria were considered. For W-12 and W-13, SEWRPC ranked five of the 8 criteria as low, one as medium and two criteria were not present. Another indication of the low quality of W-12 and W-13 is that of the 13 wetlands south of the Wisconsin & Southern Railroad only those two are not considered ADID wetlands.

WisDOT and Waukesha County have conducted ground water studies in the area to determine the location of groundwater flows. As a result of these studies both the Pebble Creek Far West Alternative and the rotated Pebble Creek West alignment have been designed to be above the phreatic line and thus not interfere with groundwater flow. It should be noted that the precise location of the phreatic line is uncertain and while the roadway profiles are based on staying above the highest elevation of groundwater as measured in the study, there is a risk of encountering groundwater that increases as cuts become deeper. Additionally the ability to manage encountered groundwater becomes more difficult as cuts become deeper. The Rotated Pebble Creek West alignment is located lower on the hillside than Pebble Creek Far West and has shallower cuts and, therefore, there is a very low risk of interrupting groundwater flows with this alternative. The Far West Alternative would be located higher on the wooded slope and have cuts as deep as 25 feet thereby increasing the risk of groundwater impacts and cost to maintain groundwater flow if encountered.

Large retaining walls or significant quantities of excavation would be needed with the Far West Alternative. The difference in elevation between the Rotated Pebble Creek West alignment and the Far West Alternative can be seen in the quantity of excavation required to construct the alternatives in the area about 1,500 feet north and south of Sunset Drive. The Rotated Pebble Creek West alignment will excavate about 34,000 cubic yards less than the Far West Alternative would excavate. At present prices this represents a savings of approximately \$340,000 to this project.

Conclusions:

1: Impacts to Wetland 8. The Pebble Creek Far West Alternative will have direct and potentially indirect impacts to Wetland 8. Rotated Pebble Creek West alignment will not directly impact wetland - 8 and has a far lower potential for indirect impacts due to buffers created between the fen and the roadway. The 1.4 acres of additional wetlands impacted by the Rotated Pebble Creek West alignment compared to the Pebble Creek Far West Alternative (0.6 acres farmed and 0.8 acres ADID) will be mitigated at an approved mitigation bank.

2: Groundwater Impacts: Maintaining groundwater flow is crucial to the life of the wetlands in this area. Rotated Pebble Creek West has been designed to be above the phreatic line minimizing the risk of impacting groundwater flow into the adjacent wetlands. There is a higher potential risk to impact ground water flow due to the deeper grading cuts associated with the Pebble Creek Far West alternate, which would be highly damaging to these aquatic resources.

3: Uplands: Rotated Pebble Creek West allows a functioning forest interior habitat to remain while Pebble Creek Far West would remove that resource. In addition, Pebble Creek Far West will remove 9.7 acres of maintained forest, while Rotated Pebble Creek West alignment will remove 5.2 acres. The upland forest provides important habitat for upland species and herptiles that move between the Pebble Creek wetlands and the uplands.

4: Cost: The additional grading and retaining wall costs associated with Pebble Creek Far west will increase costs to the project compared to Rotated Pebble Creek West.

5: LEDPA: The Rotated Pebble Creek West is the LEDPA because of the balance it strikes between wetland impacts and interior forest impacts. Requiring the permanent protection of the Buzz Hardy woods does not enhance that balance. The Pebble Creek Far West Alternative is incapable of striking the same balance.

Recommendation

Based on the findings above, we request agency concurrence that the Rotated Pebble Creek West alignment eliminates the need for mandatory permanent, legal protection of the Buzz Hardy woods. Waukesha County and WisDOT will continue to work with Buzz Hardy on a voluntary basis to provide permanent, legal protection of the woods within our abilities and resources.

On behalf of the project team

We will be hosting a public informational meeting for the project in early April and would therefore appreciate your response to this memo in late March prior to the P.I.M.

Gary Evans, P.E. Project Manager

ATTACHMENT D

Kowal, Kathleen

From: Cain, Douglas - DOT <Douglas.Cain@dot.wi.gov>
Sent: Wednesday, February 24, 2016 1:33 PM
To: Eruchalu, Benedict C - DOT; 'westlake.ken@epa.gov'; 'Todd.M.Vesperman@usace.army.mil'; 'Yan Nenaydykh'; Holt, Daniel; Evans, Gary; Lumley, Lisa L - DOT; Webster, Craig M - DNR; 'ian.chidister@dot.gov'; Bussler, Allison; gregory.newhouse@dot.gov; Kerry.Meyer@CH2M.com; Kowal, Kathleen; 'Braun, Karen'; Elston, Sue; Charlie.Webb@CH2M.com; Thompson, Michael C - DNR; Waldschmidt, Jay - DOT; Marie Kopka; Pusch, Anita - DOT; Matthews, Linda - DOT; Olapo, Olubunmi - DOT; Lee, Scott - DOT; 'Daniel Dupies'; Peterson, Claudia - DOT; Jelinski, Drew S - DOT; 'Rebecca.M.Graser@usace.army.mil'
Cc: Cain, Douglas - DOT
Subject: RE: Waukesha Bypass Resource Agency Meeting Minutes January 19, 2016
Attachments: Final Resource agency MEETING MINUTES 1-19-16.docx

No comments were received.
The final meeting minutes are attached.
Here is a short update:

- The LEDPA memo is planned to be sent out the first week of March.
- A draft re-evaluation has been prepared and is in the internal review process.
- A tentative date of April 6 has been set for the final Public Involvement Meeting which will also present the Rotated Pebble Creek West alignment (refinement of the Pebble Creek West Alternative).
- The GP permit application for the County and State section from Kisdon Hill Drive to Northview Road is planned to be sent to the COE the first week of March.

Doug Cain
Project Manager, SE Region
Wisconsin Department of Transportation
(262) 548-5603
douglas.cain@dot.wi.gov

From: Cain, Douglas - DOT
Sent: Wednesday, February 10, 2016 3:42 PM
To: Eruchalu, Benedict C - DOT; 'westlake.ken@epa.gov'; 'Todd.M.Vesperman@usace.army.mil'; 'Yan Nenaydykh'; Holt, Daniel; Evans, Gary; Lumley, Lisa L - DOT; Webster, Craig M - DNR; 'ian.chidister@dot.gov'; Bussler, Allison; gregory.newhouse@dot.gov; Kerry.Meyer@CH2M.com; Kowal, Kathleen; 'Braun, Karen'; 'Elston, Sue'; Charlie.Webb@CH2M.com; Thompson, Michael C - DNR; Waldschmidt, Jay - DOT; Marie Kopka; Pusch, Anita - DOT; Matthews, Linda - DOT; Olapo, Olubunmi - DOT; Lee, Scott - DOT; 'Daniel Dupies'; Peterson, Claudia - DOT; Jelinski, Drew S - DOT

Subject: RE: Waukesha Bypass Resource Agency Meeting

Attached are the draft meeting minutes for your review. Please provide me any comments by February 19 and I will finalize the minutes and send out a final copy.

<< File: Draft Resource agency MEETING MINUTES 1-19-16.docx >>

Thanks,
Doug Cain
Project Manager, SE Region
Wisconsin Department of Transportation
(262) 548-5603
douglas.cain@dot.wi.gov

-----Original Appointment-----

From: Cain, Douglas - DOT

Sent: Tuesday, December 15, 2015 7:33 AM

To: Cain, Douglas - DOT; Eruchalu, Benedict C - DOT; 'westlake.ken@epa.gov'; 'Todd.M.Vesperman@usace.army.mil'; 'Yan Nenaydykh'; Holt, Daniel; Evans, Gary; Lumley, Lisa L - DOT; Webster, Craig M - DNR; 'ian.chidister@dot.gov'; Bussler, Allison; gregory.newhouse@dot.gov; Kerry.Meyer@CH2M.com; Kowal, Kathleen; 'Braun, Karen'; 'Elston, Sue'; Charlie.Webb@CH2M.com; Thompson, Michael C - DNR; Waldschmidt, Jay - DOT; Marie Kopka; Pusch, Anita - DOT; Matthews, Linda - DOT; Olapo, Olubunmi - DOT; Lee, Scott - DOT; 'Daniel Dupies'; Peterson, Claudia - DOT; Jelinski, Drew S - DOT

Subject: Waukesha Bypass Resource Agency Meeting

When: Tuesday, January 19, 2016 9:00 AM-10:30 AM (UTC-06:00) Central Time (US & Canada).

Where: State Office Building Waukesha DOT CR DTSD SE 325; DOT TEL DTSD SE TConf3 888-557-8511 Access 9040032

RESOURCE AGENCY MEETING JANUARY 19, 2016
WAUKESHA STATE OFFICE BUILDING, ROOM 325, 9 A.M.
MEETING MINUTES by Doug Cain

Attendance: EPA: Kathy Kowal, Sue Elston COE: Marie Kopka WDNR: Craig Webster, Mike Thompson Waukesha County: Gary Evans CH2M: Charlie Webb, Kerry Meyer, Dan Dupies Bloom: Yan Nenaydykh FHWA: Ian Chidister WisDOT: Doug Cain, Ben Eruchalu, Linda Matthews, Anita Pusch, Scott Lee, Jay Waldschmidt, Claudia Peterson, Drew Jelinski, Lisa Lumley

Agenda

1. Summary 11-5-15 Resource Meeting

- Preliminary plan revisions for Pebble Creek West Rotated shared
- Avoids wetland 8 (fen)
- Reduces wetland impacts by 2.6 acres
- Maintains 0.5 acre interior forest habitat
- Tree mitigation voluntary (work with WDNR)
- Brown's Fen protection not required now
- Hardy Woods conservation easement required
- EIS re-evaluation required
- COE permit to be withdrawn and resubmitted as separate permits

2. Pebble Creek West Rotated revision complete

- Drawing attached
 - No major changes to the design from our last meeting.
 - Send final design plan and cross sections to EPA and COE.

3. Pebble Creek West Rotated vs. Pebble Creek Far West

- 6.8 acres vs. 4.8 acres wetland impacts
- 0 acres vs. <0.05 acres wetland 8 (fen) impacts
- LEDPA / conservation easement
 - The Design team stated they are continuing to pursue the Hardy conservation easement.
 - The Design team asked if the Hardy conservation easement cannot be secured would the LEDPA still be the rotated Pebble Creek West alignment which has eliminated impacts to the fen and reduced wetland impacts an additional 2.6 acres.
 - EPA and COE stated the LEDPA is based on securing the Hardy easement as discussed in the EIS which documented the significance of the Hardy woods and maintaining 0.5 acres of interior forest supporting songbird habitat.
 - The question was asked if the Hardy Woods cannot be secured would protection of another resource be acceptable. COE and EPA agreed that this particular woods is unique to the area and an alternative woods would not be acceptable.

-It was agreed that the design team should prepare a memo documenting why the rotated Pebble Creek West alternative without the Hardy conservation easement would qualify as the LEDPA and send to the resource agencies for review/concurrence.

- Some of the issues to document in the memo would be*
 - cost impacts to further reduce wetland impacts*
 - groundwater concerns*
 - wetland impacts (fen, quality)*
 - impacts to the Hardy woods*

4. COE permit withdrawn

- Waukesha County permit *to be* submitted March 1 - GP
- WisDOT permit *to be* submitted August 1 – IP
- After this meeting further discussion with Marie on permit submittals
 - COE stated that if the projects are submitted independently that the phase 1 permit would not be held up while the re-evaluation is being completed.*

5. Re-evaluation

- Re-evaluation complete mid-February
- Public Hearing (45 day posting) vs PIM to be determined
 - Jay will take the lead on working with FHWA to resolve*

6. Buzz Hardy Easement

- Owner getting appraisal now

7. Initial WDNR coordination on tree mitigation started

- WDNR identified tree species, planting density, site prep and maintenance

MOVING FORWARD:

- 1. Continue working on the Hardy conservation easement*
- 2. Prepare a memo to document why the rotated Pebble Creek West alternative without the Hardy conservation is the LEDPA.*
- 3. Send for resource agency review/concurrence*
- 4. Finalize re-evaluation document*
- 5. Hold PIM or Public Hearing*

COE follow-up meeting:

-Separate permits need to document independent utility. Jay Waldschmidt is comfortable with this approach.

-Permit introduction should have brief overview of the entire project.

-Break out alternatives, proposed activities, and any deficiencies by permitting limits.

ATTACHMENT E

Date: August 27, 2015

To: Andrew Horton, USFWS
Lisie Kitchel, WDNR

Cc: Karla Leithoff, WisDOT
Alyssa Barrette, WisDOT

From: Olivia Munzer, Wildlife Biologist, Cardno ENTRIX/Natural Resources and Health Sciences
Dan Salas, Senior Ecologist, Cardno Restoration Services

RE: **West Waukesha Bypass Northern Long-Eared Bat (NLEB) Survey Results**

Cardno

6140 Cottonwood Drive, Unit A
Fitchburg, WI 53719
USA

Phone 608 661 2955

www.cardno.com

Dear Mr. Horton and Ms. Kitchel:

We are providing this memo to report the findings of the field surveys Cardno biologists completed for the presence/ absence of northern long-eared bat (*Myotis septentrionalis*; NLEB) within the limits of the West Waukesha Bypass Project.

Project Background

Wisconsin Department of Transportation (WisDOT) is proposing to construct the West Waukesha Bypass (project) to alleviate congestion from growing local and regional traffic volumes, and enhance traffic flow and safety. The approximately 5.3 mile (8.5 km) project will extend between Interstate 94 and Wisconsin State Highway 59 on the west side of the City of Waukesha, Waukesha County, Wisconsin (project area). The project will expand the northern section of the existing County Road (CR) TT (Merrill Hills Road), and the project will consist primarily of new construction south of Madison Street. Habitat types potentially impacted by the project include landscaped yards, agriculture, open fields, riparian woodlands, oak woodlands, mesic prairie, and wetlands.

The project occurs within the range of the northern long-eared bat (*Myotis septentrionalis*; NLEB); however, no records occur for the NLEB in Waukesha County according to Wisconsin Department of Natural Resources records (WDNR 2015). On April 2, 2015, NLEBs were listed as threatened under the Endangered Species Act by the United States Fish and Wildlife Service (USFWS). At the request of WisDOT, Cardno biologists performed presence/absence acoustic surveys and identified potential roost trees (PRTs) for the NLEB within the proposed project area.

Survey Guidelines

Acoustic surveys for NLEB were conducted in accordance with the U.S. Fish and Wildlife Service's (USFWS) 2015 *Range-wide Indiana Bat Summer Survey Guidelines* issued on April 2015 (*Guidelines*; USFWS 2015). Acoustic surveys for NLEBs were conducted from August 12–14, 2015 using SD2 AnaBat™ ultrasonic detectors (Titley Electronics Pty Ltd., NSW, Australia). Each Anabat unit was enclosed in a waterproof box and placed on a 5-foot tripod. Cardno deployed a total of 10 detectors in suitable habitat throughout the project area for 2 nights (totaling 20 detector nights), with at least 2 detector nights per each of the eight 1-kilometer sampling blocks (Figure 1). Cardno placed an additional 2 AnaBats (F and L) for 1 night near a pond and along Pebble Creek once Cardno was granted access by the landowner (Figure 1). Thus, this equates to 12 acoustic sampling sites for a total of 22 detector nights. Except for 3 AnaBats (F, G, and L), all sites were located greater than 656 feet (200 meters) apart. Acoustic monitoring began from approximately half hour before sunset until



half hour after sunrise except at Sites I and K, which began recording just prior to sunset on 12 August. For analysis of bat calls, Cardno initially used Echoclass Version 3.1 (Dr. Eric Britzke, U.S. Army Research and Development), an automated acoustic analysis program approved by the USFWS, to determine potential presence of NLEB.

Cardno biologists identified NLEB PRTs within the project area. Per the *Guidelines*, PRTs for NLEBs included live trees and/or snags with a diameter at breast height (DBH) > 3 inches that have exfoliating bark, cracks, crevices, and/or cavities. Cardno biologists collected data on the size, condition, and suitability of each PRT including species, potential roost structure type (i.e., cavity, crevice, exfoliating bark and/or crack), DBH, height, and decay state. Other significant data collected was distance to water, percent canopy closure at PRT, forest condition, and PRT canopy position. All PRTs were photographed and the location recorded with a sub-meter Trimble Geo XH.

Potential Roost Tree Findings

Cardno biologists identified a total of 95 PRTs within the proposed project area from August 12-13, 2015 (Figure 1). The majority of the PRTs are concentrated in forested habitat south of CR D and along the west side of CR TT south of Northview Road (Figure 1). PRT findings are summarized in Table 1 below. Additional information on roost tree characteristics were recorded for each of these PRT's, and are included in a full data table attached to this memo.

Table 1. Potential Roost Tree Findings

PRT ID	Property Owner	Species	DBH	Height	Habitat	Distance from Water (ft)	Condition	Primary Potential Roost Type	Notes
rt1	Private	Honey locust	8	56.8	Edge	395	Live-Damaged	Cavity	
rt2	Private	Honey locust	21.2	63	Edge	350	Live-Damaged	Bark	
rt3	Private	Honey locust	14.4	45	Edge	300	Live-Damaged	Bark	
rt4	Private	Weeping willow	24.8	40	Edge	275	Live-Damaged	Bark	
rt5	Private	Bigtooth aspen	17.1	50	Edge	275	Live-Damaged	Bark	
rt6	Private	Unknown	5.5	45	Edge	45	Snag	Bark	
rt7	Private	Unknown	9.8	45	Edge	40	Snag	Bark	
rt8	Private	Unknown	11	45	Edge	30	Snag	Bark	
rt9	Private	Unknown	3	30	Interior	60	Snag	Bark	
rt10-20	Private	Red pine	8	25	Interior	90	Snag	Bark	10 trees with 7-9dbh and 20-30 height
rt21	Private	Black walnut	33	75	Interior	25	Live-Damaged	Crevice	Crevice where branch cracked and bark split
rt22	Private	Black walnut	15.5	89	Interior	60	Live-Damaged	Bark	Bark flaking off also a large crack in bark
rt23	Private	Black cherry	9.5	60	Interior	125	Live-Damaged	Bark	
rt24	Private	Silver maple	9.5 - 9 trunks	61	Edge	190	Live	Bark	
rt25	Private	Silver maple	9.5 - 12 stems	61	Edge	240	Live	Bark	
rt26	Private	Silver maple	9.5 - 7 stems	61	Edge	260	Live	Bark	
rt27	Private	Boxelder	12	52	Interior	190	Live-Damaged	Cavity	
rt28	Private	Oak	21	65	Edge	300	Snag	Crevice	
rt29	Private	Mulberry			Interior	375	Live-Damaged	Crevice	
rt30	Private	Silver	31	50	Edge	435	Live	Bark	

PRT ID	Property Owner	Species	DBH	Height	Habitat	Distance from Water (ft)	Condition	Primary Potential Roost Type	Notes
		maple							
rt31	Private	Silver maple	24	50	Edge	455	Live-Damaged	Bark	
rt32	Private	American elm	22	60	Edge	805	Live-Damaged	Bark	Curly bark
rt33	Private	Boxelder	22	50	Interior	905	Live-Damaged	Bark	Sloughing bark in spots
rt34	State	Boxelder	10	33	Interior	905	Snag	Cavity	
rt35	Private	Unknown	26	40	Edge	590	Snag	Bark	
rt36	Private	Black cherry	22	60	Edge	200	Live-Damaged	Bark	
rt37	Private	Black cherry	17	50	Edge	115	Live-Damaged	Bark	
rt38	Private	Red pine	8	55	Interior	125	Snag	Cavity	Holes throughout tree
rt39	Private	Black cherry	15	75	Interior	90	Live-Damaged	Bark	Flaky bark
rt40	Private	Black cherry	12	65	Interior	90	Snag	Bark	
rt41	Private	Black cherry	13	65	Edge	40	Snag	Bark	Dead flaky bark
rt42	Private	Green ash	15	50	Interior	210	Snag	Bark	Dead flaky bark
rt43	State	Green ash	11	77	Interior	710	Live	Bark	Bark is shaggy in some areas
rt44	Private	White oak	33		Edge	935	Live-Damaged	Crevice	Crevices where thick pieces of bark are separating
rt45	Private	Unknown	14	60	Interior	980	Snag	Bark	Dead flaky bark
rt46	Private	Red oak	33	70	Edge	1100	Live-Damaged	Crevice	Crevices where branches have split off
rt47	Private	Shagbark hickory	22	60	Open	1200	Live	Bark	shaggy bark
rt48	Private	Shagbark hickory	22	60	Open	1070	Live	Bark	Shaggy bark
rt49	Private	White oak	29	55	Open	1045	Live	Crevice	Crack in trunk
rt50	Private	Shagbark hickory	26	80	Interior	950	Live	Bark	Shaggy bark
rt51	Private	Shagbark hickory	23	50	Edge	710	Live	Bark	Shaggy bark
rt52	Private	Boxelder	9	20	Edge	645	Snag	Cavity	
rt53	Private	Unknown	25	40	Open	660	Snag	Bark	
rt54	Private	Shagbark hickory	15	75	Interior	1075	Live	Bark	Shaggy bark
rt55	Private	Red oak	40	60	Interior	980	Live-Damaged	Crevice	Some cavities and crevices in bark and wood
rt56	Private	Black cherry	5	55	Interior	995	Live	Bark	
rt57	Private	Black cherry	4.5	40	Interior	1055	Live	Bark	
rt58	Private	Quaking aspen	6	25	Edge	975	Snag	Bark	
rt59	Private	Shagbark hickory	15	65	Interior	1080	Live-Damaged	Bark	Shaggy bark
rt60	Private	Shagbark hickory	4	40	Interior	1065	Live	Bark	Shaggy bark
rt61	Private	Shagbark hickory	6	55	Interior	1085	Live	Bark	Shaggy bark
rt62	Private	Shagbark hickory	10	60	Interior	1085	Live	Bark	

PRT ID	Property Owner	Species	DBH	Height	Habitat	Distance from Water (ft)	Condition	Primary Potential Roost Type	Notes
rt63	Private	Black cherry	21	35	Interior	1075	Live-Damaged	Crevice	
rt64	Private	Shagbark hickory	11	60	Interior	1130	Live	Bark	3 trunks with shaggy bark
rt65	Private	White oak	28	85	Interior	1185	Live	Bark	Some curls in bark
rt66	Private	Shagbark hickory	7	60	Interior	1180	Live	Bark	Shaggy bark
rt67	Private	Red oak	38.5	85	Interior	1230	Live	Cavity	Multiple large cavities
rt68	Private	Bigtooth aspen	12	55	Interior	1270	Snag	Bark	
rt69	Private	Shagbark hickory	8	60	Interior	1260	Live	Bark	Shaggy bark
rt70	Private	Shagbark hickory	6.5	50	Interior	1290	Live	Bark	Shaggy bark
rt71	Private	White oak	41	60	Interior	1310	Live-Damaged	Bark	Abundant flaky bark and crevices
rt72	Private	Red oak	36	90	Interior	1330	Live-Damaged	Cavity	Cavities in broken off branches
rt73	Private	Shagbark hickory	21	75	Interior	1320	Live	Bark	Shaggy bark
rt74	Private	Red oak	42	75	Interior	1250	Live-Damaged	Cavity	Cavity on south, crevices in bark all around
rt75	Private	White oak	27	85	Interior	1330	Live	Bark	Large curls in some bark
rt76	Private	Shagbark hickory	13	60	Interior	1335	Live	Bark	
rt77	Private	Shagbark hickory	6	45	Interior	1110	Live	Bark	
rt78	Private	Shagbark hickory	7	40	Interior	1110	Live	Bark	
rt79	Private	Shagbark hickory	8	55	Interior	1130	Live	Bark	
rt80	Private	Shagbark hickory	8	55	Interior	1110	Live	Bark	
rt81	Private	Shagbark hickory	9	60	Interior	1195	Live	Bark	
rt82	Private	Shagbark hickory	8	60	Interior	1195	Live	Bark	
rt83	Private	Shagbark hickory	9	60	Interior	1205	Live	Bark	
rt84	Private	Red oak	34	65	Interior	1120	Live-Damaged	Crevice	
rt85	Private	Unknown	12	30	Open	435	Snag	Cavity	
rt86	Private	American elm	13	35	Edge	820	Snag	Bark	Dead flaky bark
rt87	Private	Green ash	13	40	Edge	785	Snag	Bark	Dead flaky bark
rt88	Private	Silver maple	4 stems 20-40"	50	Open	30	Live	Bark	
rt89	Private	Unknown	17	30	Open	10	Snag	Cavity	
rt90	Private	Silver maple	28	60	Edge	20	Live	Bark	
rt91	Private	Silver maple	4 trunks 10-20"	65	Edge	20	Live	Bark	
rt92	Private	Silver maple	35	75	Edge	15	Live	Bark	
rt93	Private	Silver maple	multiple stems 10-25"	70	Edge	65	Live	Bark	

PRT ID	Property Owner	Species	DBH	Height	Habitat	Distance from Water (ft)	Condition	Primary Potential Roost Type	Notes
rt94	Private	Red oak	29	70	Interior	500	Live	Cavity	Multiple small cavities
rt95	Private	Boxelder	18	50	Interior	510	Live-Damaged	Cavity	1 small cavity

Acoustic Survey Findings

Acoustic surveys were completed from August 12–14, 2015 at 12 sites for a total of 22 detector nights (Figure 1 and Table 2). Coordinates and a brief description of the 12 AnaBat sites are in Table 2 below. Pictures and datasheets for each AnaBat site are attached to this memo. Weather conditions during acoustic surveys met the standards put forth by the USFWS (USFWS 2015).

Table 2. AnaBat Site Locations, Number of Detector Nights, and Descriptions

AnaBat Site	No. of Detector Nights	Latitude	Longitude	General Site Description
A	2	43°02'48.88"	88°17'13.51"	Corridor in upland deciduous forest
B	2	43°01'55.36"	88°17'09.66"	Edge of riparian forest
C	2	43°01'19.30"	88°17'11.52"	Edge of riparian forest and pond
D	2	43°00'58.34"	88°17'07.65"	Corridor in upland deciduous forest
E	2	43°00'37.49"	88°17'14.14"	Edge of riparian deciduous forest along an intermittent creek
F	1	42°59'38.75"	88°17'30.82"	Open grassland adjacent to a pond
G	2	42°59'36.08"	88°17'26.31"	Edge of upland, mixed forest
H	2	42°59'17.63"	88°16'42.36"	Open, riparian herbaceous area along perennial creek
I	2	42°58'49.51"	88°16'33.52"	Edge of upland mixed forest in open, herbaceous area
J	2	42°58'55.07"	88°16'23.30"	Emergent and herbaceous riparian area along perennial creek
K	2	43°00'19.25"	88°17'24.69"	Edge of mixed forest
L	1	42°59'38.61"	88°17'24.67"	Edge of riparian forest in open, herbaceous riparian area

EchoClass identified a total of 5,113 bat call, of which 1,666 files (32%) were identified to species (Table 3). A total of 9 species were identified by the acoustic analysis software EchoClass: hoary bat (*Lasiurus cinereus*), red bat (*Lasiurus borealis*), silver-haired bat (*Lasionycteris noctivagans*), big brown bat (*Eptesicus fuscus*), tri-colored bat (*Perimyotis subflavus*), little brown bat (*Myotis lucifugus*), NLEB, eastern small-footed myotis (*Myotis leibei*), and Indiana bat (*Myotis sodalis*). EchoClass identified only two bat calls from little brown bats, which is a common and widespread species in Wisconsin. Eastern small-footed myotis and Indiana bat are not known to presently occur in Wisconsin (Iberg 2004; WDNR 2013b); therefore, the calls were reclassified as little brown bat calls after qualitative analysis. A total of 23 bat call files were preliminarily identified by EchoClass as NLEB (Table 3).

Table 3. Summary of Bat Call Files Identified to Species by EchoClass, BCID, and Kaleidoscope Automatic Acoustic Analysis Programs Before Qualitative Analysis.

Site	Date	Program	Big Brown Bat	Red Bat	Hoary Bat	Silver-haired Bat	Tri-colored Bat	Little Brown Bat	NLEB	Indiana Bat*	Eastern small-footed Bat*	Unknown	
A	8/12/2015	Kaleidoscope	212	316	379	657	0	32	1	0	0	110	
		EchoClass	1	342	232	1	7	0	4	0	0	1705	
		BCID	8	21	1	42	4	5	0	0	0	3	
	8/13/2015	Kaleidoscope	6	31	11	5	0	19	0	0	0	14	
		EchoClass	0	30	0	0	0	0	6	0	0	65	
		BCID	1	0	0	0	2	0	2	0	0	2	
	B	8/12/2015	Kaleidoscope	6	10	2	9	1	12	0	0	0	8
			EchoClass	3	10	0	0	0	0	0	0	0	54
			BCID	0	0	0	1	1	1	0	0	0	3
8/13/2015		Kaleidoscope	4	5	3	19	0	12	0	0	0	9	
		EchoClass	2	9	1	1	0	0	1	0	0	53	
		BCID	0	0	0	0	1	2	1	0	0	0	
C	8/12/2015	Kaleidoscope	0	23	9	26	4	7	0	0	0	3	
		EchoClass	2	21	12	1	0	0	0	0	0	39	
		BCID	0	11	0	7	3	2	0	0	0	2	
	8/13/2015	Kaleidoscope	0	33	2	18	1	9	0	0	0	4	
		EchoClass	0	30	2	0	0	0	0	0	0	35	
		BCID	1	17	0	7	5	6	0	0	0	1	
D	08/12/15	Kaleidoscope	1	34	2	25	4	45	0	0	0	12	
		EchoClass	0	41	2	0	1	1	0	2	0	88	
		BCID	1	20	0	5	10	18	1	0	0	1	
	08/13/15	Kaleidoscope	2	58	17	39	4	18	0	0	0	22	
		EchoClass	1	53	4	0	0	0	2	0	0	118	
		BCID	1	16	0	8	6	4	0	0	0	0	
E	08/12/15	Kaleidoscope	1	27	15	24	1	15	0	0	0	9	
		EchoClass	0	26	5	0	2	0	0	0	0	64	
		BCID	2	5	3	1	4	4	0	0	0	3	
	08/13/15	Kaleidoscope	0	13	12	24	2	20	0	0	0	6	
		EchoClass	2	23	8	1	0	0	1	0	0	53	
		BCID	0	5	1	5	3	2	0	0	0	1	

Site	Date	Program	Big Brown Bat	Red Bat	Hoary Bat	Silver-haired Bat	Tri-colored Bat	Little Brown Bat	NLEB	Indiana Bat*	Eastern small-footed Bat*	Unknown
F	08/13/15	Kaleidoscope	15	14	0	22	3	10	0	0	0	5
		EchoClass	4	15	0	1	0	0	1	1	1	56
		BCID	3	3	0	8	0	2	1	0	0	3
G	08/12/15	Kaleidoscope	2	69	13	23	3	60	0	0	0	19
		EchoClass	0	70	6	1	0	0	3	2	0	151
		BCID	1	17	6	4	4	1	1	0	0	3
	08/13/15	Kaleidoscope	0	64	9	21	1	14	0	0	0	6
		EchoClass	0	63	5	0	0	0	0	0	0	59
		BCID	1	43	3	10	5	2	0	0	0	2
H	08/12/15	Kaleidoscope	0	9	5	31	1	8	0	0	0	5
		EchoClass	1	14	3	4	1	0	0	0	0	40
		BCID	2	3	2	10	4	3	0	0	0	0
	08/13/15	Kaleidoscope	1	11	2	14	2	5	0	0	0	2
		EchoClass	2	6	3	1	0	0	0	0	0	28
		BCID	2	2	1	7	5	3	0	0	0	0
I	08/12/15	Kaleidoscope	6	41	2	14	2	18	0	0	0	8
		EchoClass	2	29	1	0	0	0	2	0	0	69
		BCID	2	13	0	8	6	1	0	0	0	5
	08/13/15	Kaleidoscope	10	14	1	12	7	13	0	0	0	6
		EchoClass	4	17	0	1	0	0	0	0	0	55
		BCID	3	4	0	3	3	2	0	0	0	1
J	08/12/15	Kaleidoscope	2	22	10	306	0	69	0	0	0	8
		EchoClass	0	60	49	3	0	0	1	0	0	334
		BCID	2	3	7	43	5	3	0	0	0	2
	08/13/15	Kaleidoscope	3	12	0	12	0	49	0	0	0	10
		EchoClass	0	34	0	0	0	0	1	0	0	71
		BCID	0	1	0	2	1	4	0	0	0	0
K	08/12/15	Kaleidoscope	10	239	6	31	3	49	0	0	0	26
		EchoClass	2	201	8	1	1	1	0	0	0	180
		BCID	12	114	0	19	6	12	0	0	0	4
	08/13/15	Kaleidoscope	11	96	13	27	4	30	0	0	0	14
		EchoClass	6	84	7	0	0	0	0	0	0	122
		BCID	3	36	1	16	12	8	0	0	0	4

Site	Date	Program	Big Brown Bat	Red Bat	Hoary Bat	Silver-haired Bat	Tri-colored Bat	Little Brown Bat	NLEB	Indiana Bat*	Eastern small-footed Bat*	Unknown
L	08/13/15	Kaleidoscope	15	16	6	27	1	27	0	0	0	1
		EchoClass	5	38	3	1	0	0	1	1	0	66
		BCID	6	4	1	17	8	3	0	0	0	2
TOTAL		Kaleidoscope	307	1,157	519	1,386	44	541	1	0	0	307
		EchoClass	37	1,216	351	18	12	2	23	6	1	3,505
		BCID	51	338	26	223	98	88	6	0	0	39

*These species are not known to occur in Wisconsin and these bat call files were reclassified.

Due to aberrant results from EchoClass, the Cardno bat biologist ran the data through two other USFWS-approved automatic acoustic analysis programs: BCID Eastern USA v2.7c (Bat Call Identification, Inc.) and Kaleidoscope v3.1.2 (Wildlife Acoustics). BCID identified 869 bat call files and of those, 830 files (96%) were identified to species (Table 3). Kaleidoscope identified 4,262 bat call files and 307 files (7%) could not be identified to species by the program (Table 3). Both programs preliminarily identified calls to 7 species: hoary bat, red bat, silver-haired bat, big brown bat, tri-colored bat, little brown bat, and NLEB. BCID preliminarily identified 6 bat call files as NLEB and Kaleidoscope identified 1 call file as NLEB.

In general, Myotid call sonograms appear very similar and can be difficult to distinguish between species, particularly under certain conditions (Titley Scientific 2009; WDNR 2013a). Depending upon the species present during surveys, misidentification rates can range from 5-30% and can result in false-positives (Clement et al. 2014). Therefore, Cardno conducted a qualitative analysis of the bat calls that were identified by EchoClass, BCID, or Kaleidoscope as NLEB to further clarify presence or absence of this species in the project area. Although the initial results from the automatic analysis programs indicate potential presence of NLEB, manual review of the NLEB calls indicate they were likely misidentified by the programs. For example, EchoClass identified two calls as NLEB but the calls were from a red bat and silver-haired bat. The NLEB call identified by Kaleidoscope had an uncalibrated confidence score was 0.15; a lower value indicates less confidence in the species identification. Upon review of this call file, the Cardno bat biologist determined that the call was likely from a little brown bat.

For independent validation, Cardno coordinated with the endangered resource and bat biologists at the Wisconsin Department of Natural Resources (Lisie Kitchel, Paul White, and Heather Kaarakka WDNR) on manually vetting the findings of possible NLEB calls. The WDNR concluded that there was no definitive evidence of NLEB calls based on the data reviewed. Some of the calls provided to the WDNR did not have enough acoustic information to conclusively indicate presence of NLEB and they were designated as Myotid calls.

Conclusion

Cardno conducted acoustic surveys and potential roost tree surveys for the West Waukesha Bypass on August 12–14, 2015 using SD2 AnaBat™ ultrasonic detectors (Titley Electronics Pty Ltd., NSW, Australia). Potential roost surveys identified 95 potential roost trees within the project area.

Acoustic monitoring recordings were analyzed by three different analysis programs (EchoClass, Kaleidoscope, and BCID), each yielding differing results. Questionable results were manually reviewed by Cardno's bat biologist and independently by bat biologists from WDNR. Based on this analysis, it is our professional opinion that no Federal threatened or endangered bat species likely occur within the project area. However, two State threatened bat species including big brown bat and little brown bat likely occur within the project area, as well as several other species considered as State special concern (hoary bat, red bat, and silver-haired bat).



Attachments

The following attachments are included with this memo report:

- Photos of AnaBat™ placement locations
- Maps depicting AnaBat™ placements and PRT locations
- AnaBat™ site datasheets
- PRT data table – complete findings

Literature Cited

- Clement, M.J., T.J. Rodhouse, P.C. Ormsbee, J.M. Szewczak, and J.D. Nichols. 2014. Accounting for false-positive acoustic detections of bats using occupancy models. *Journal of Applied Ecology* 51:1460–1467.
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- WDNR. 2015. Northern Long-eared Bat Counties with documented hibernacula and generalized locations of documented maternity roosts as of May 9, 2015. Available online at: <http://dnr.wi.gov/topic/EndangeredResources/documents/NLEBMap.pdf>
- U.S. Fish and Wildlife Service (USFWS). 2015. 2015 Range-wide Indiana Bat Summer Survey Guidelines, April 2015. Available at: <https://www.fws.gov/MIDWEST/Endangered/mammals/inba/surveys/pdf/2015IndianaBatSummerSurveyGuidelines01April2015.pdf>



Photo 1. South view of AnaBat Site A.



Photo 2. South view of AnaBat Site B.



Photo 3. North view of AnaBat Site C.



Photo 4. East view of AnaBat Site D along a City of Waukesha Nature Trail.



Photo 5. Southwest view of AnaBat Site E along an unnamed tributary of Pebble Creek.



Photo 6. East view of AnaBat Site F.



Photo 7. East view of AnaBat Site G.



Photo 8. East view of AnaBat Site H along Pebble Creek.



Photo 9. Northeast view of AnaBat Site I.



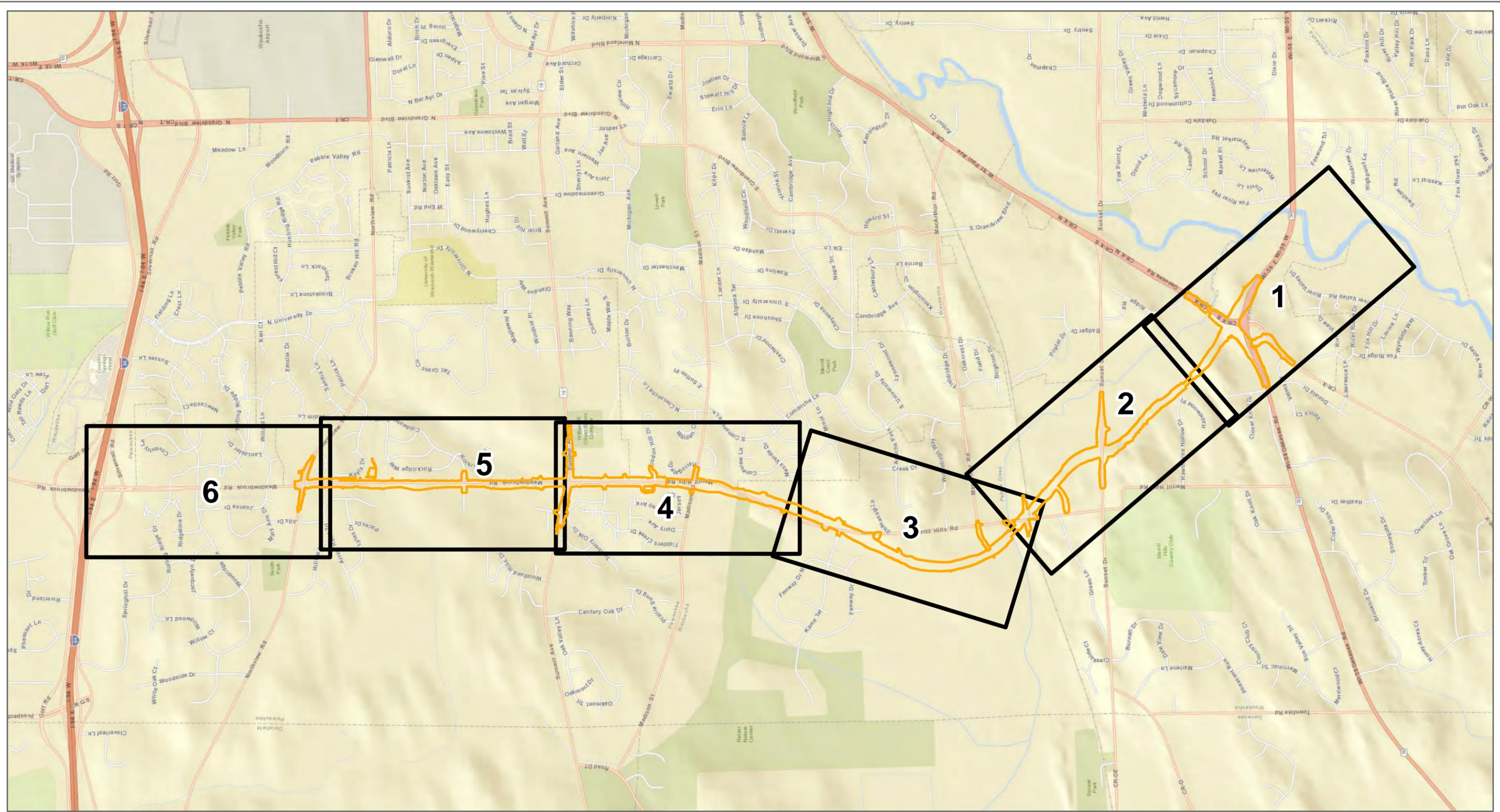
Photo 10. West view of AnaBat Site L along Pebble Creek.



Photo 11. North view of AnaBat Site K.



Photo 12. North view of AnaBat Site J along Pebble Creek.



Potential Roost Trees and AnaBat Sites: Overview

Waukesha Bypass NLEB Surveys
 Wisconsin Department of Transportation
 Waukesha County, Wisconsin



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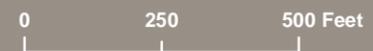


Legend

- Potential Roost Tree
- AnaBat Site - 1 night
- AnaBat Site - 2 nights
- Project Corridor
- Roads
- Waterway / Waterbody
- Municipalities

Potential Roost Trees and Anabat Sites: Page 1 of 6

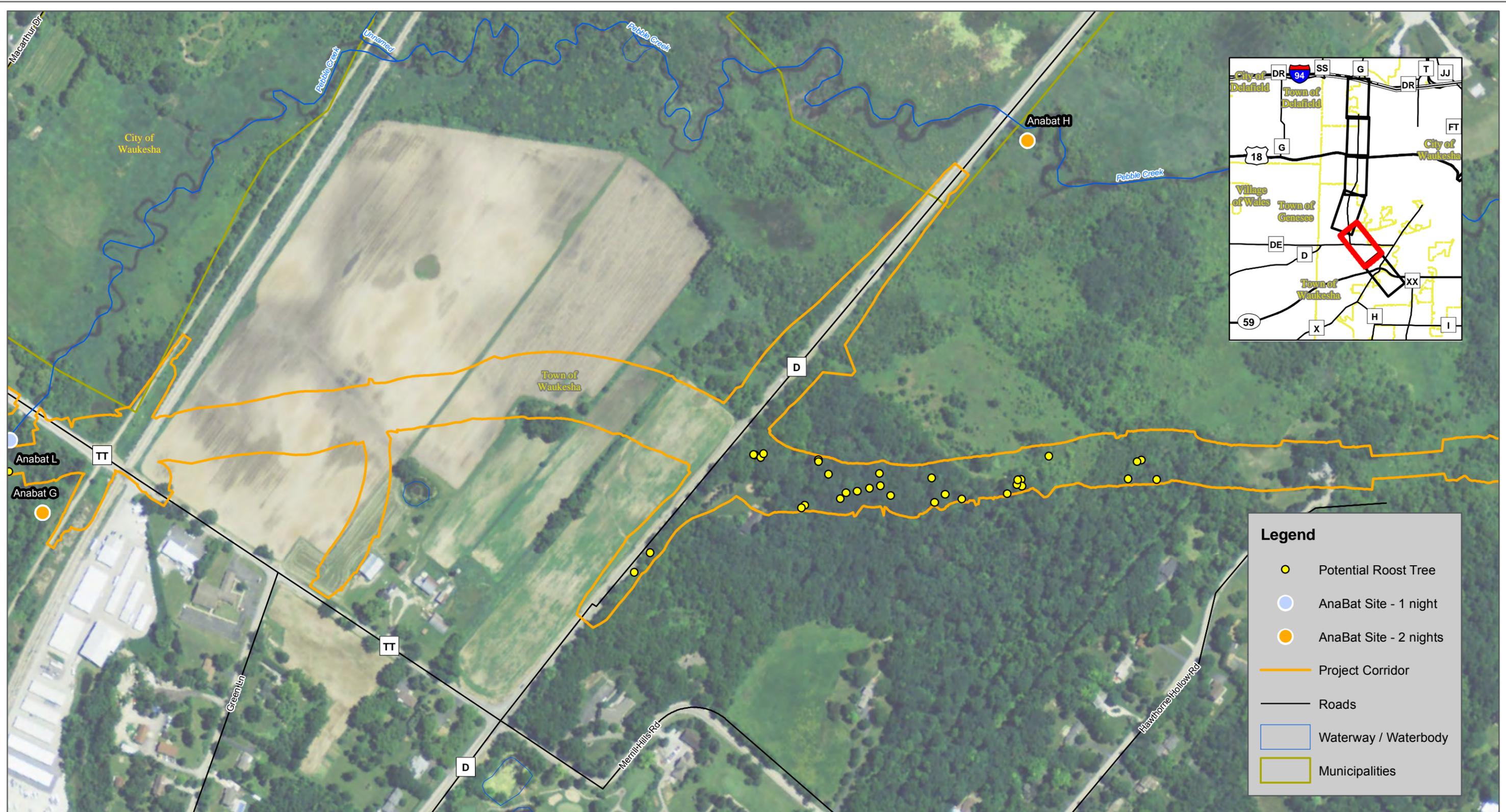
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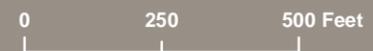


Legend

- Potential Roost Tree
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- Municipalities

Potential Roost Trees and AnaBat Sites: Page 2 of 6

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GIS Analyst: alex.cohen

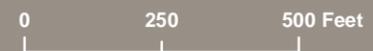


Legend

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Potential Roost Trees and Anabat Sites: Page 3 of 6

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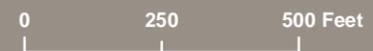


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Potential Roost Trees and Anabat Sites: Page 4 of 6

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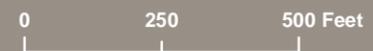


Legend

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Potential Roost Trees and AnaBat Sites: Page 5 of 6

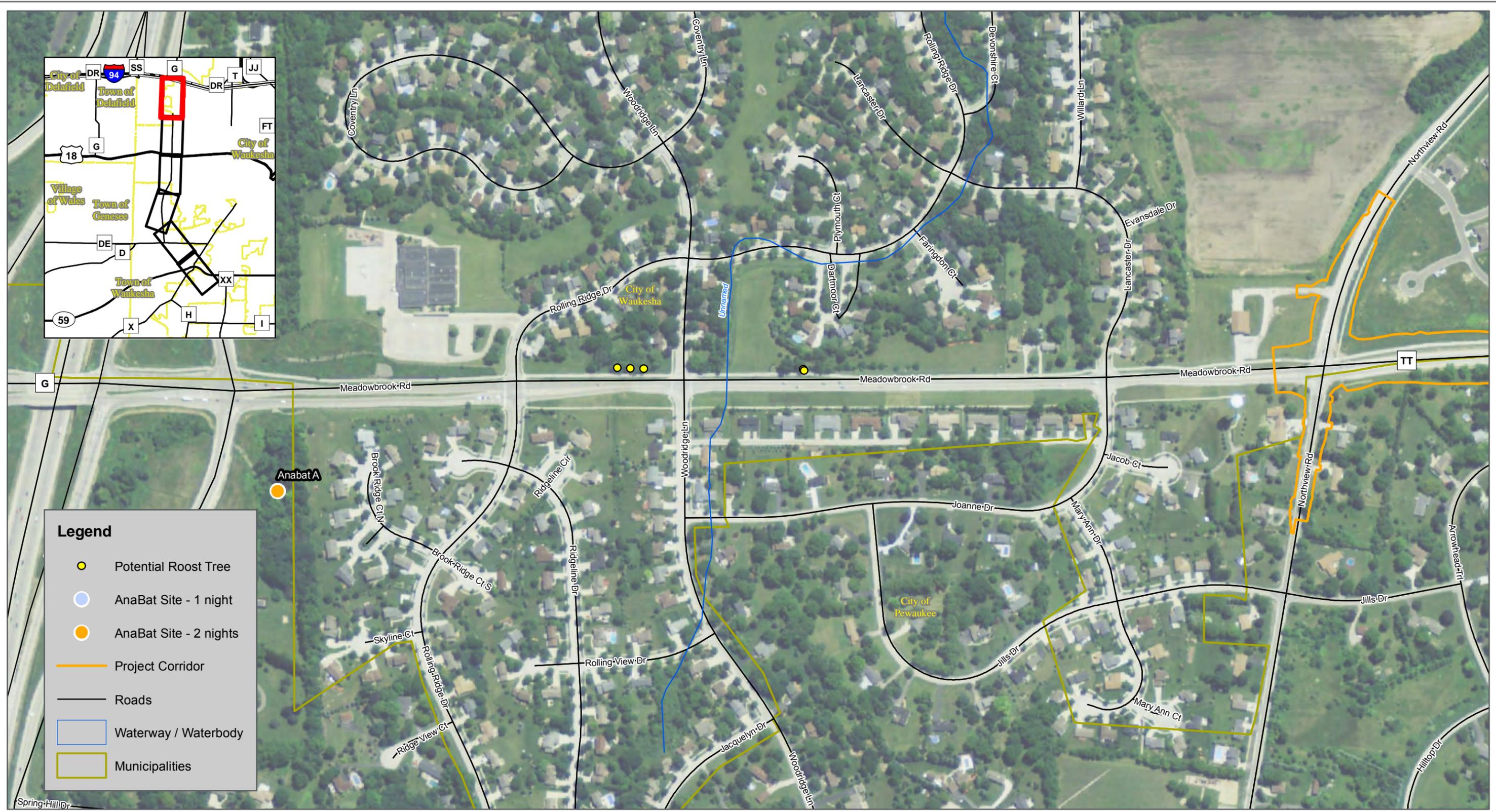
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ACOUSTIC MONITORING FORM

Project Name: Naukecha Bypass
 Site #: B

Date: 8/13/15
 Observer: om

Acoustic Site Information

Location: NAD 27 NAD83 UTM
 Zone: _____ Easting: 43° 1' 55.36" N Northing: 88° 17' 9.66" W

Detector Type: SD1 SD2 Other: _____
 Serial Number: _____
 Detector #: B

Placement: Ground Raised Raised System: N/A Pulley Fixed

Microphone Height: ~5.0ft Microphone Direction: N
 Station: Fixed Temporary

Microphone Location Type: Plastic Bin Bat Hat Other _____
 Sound Reception: PVC Elbow Reflector Plate Other _____

*Ag - ca. 450' across
 Arable ...*

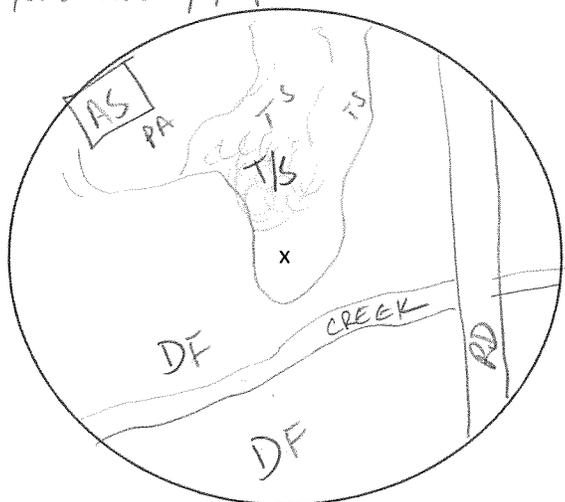
Site Habitat Information

Habitat Primary: DF
 Secondary: G/H
 Tertiary: _____

Landform (hillslope, terrace, plains): Plain
 Local Relief (concave, convex, none): None

Comments: Archet located in semi-open area surrounded by deciduous forest
House w/ grassy backyard closeby; ephemeral creek nearby (w/in 100ft), few large snags
nearby. site is urban/rural mix

Habitat Map
 50 m Radius



Habitat Types: CF - Coniferous Forest, DF - Deciduous Forest, MX - Mixed Forest, AS - Anthropogenic Structure
 MN - Mine, CV - Cave, PO - Pond, W - Wetland, R - Riparian, G - grassland, PA - Pasture, AG - Agriculture
 S - Shrub O - Other *H = herbaceous*

ACOUSTIC MONITORING FORM

Project Name: Waukesha Bypass
 Site #: C

Date: 8/13/15
 Observer: Om

Acoustic Site Information

Location: NAD 27 NAD83 UTM
 Zone: _____ Easting: 43°01'19.30 N Northing: 88°17'11.52" W

Detector Type: SD1 SD2 Other: _____
 Serial Number: _____
 Detector #: C

Placement: Ground Raised Raised System: N/A Pulley Fixed

Microphone Height: ca. 50ft Microphone Direction: SW
 Station: Fixed Temporary

Microphone Location Type: Plastic Bin Bat Hat Other _____
 Sound Reception: PVC Elbow Reflector Plate Other _____

Site Habitat Information

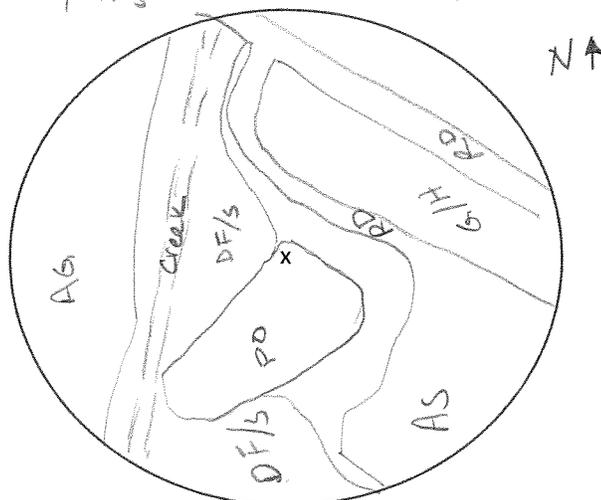
Habitat Primary: W
 Secondary: RF
 Tertiary: AS

*Ag - ca. 115 ft
 H2O - 0ft, ca 50ft
 to perennial creek*

Landform (hillslope, terrace, plains): plain
 Local Relief (concave, convex, none): concave

Comments: Adjacent to detention pond (likely man-made) with perennial creek nearby (50ft) w/in Deciduous forest, many snags of which several suitable roasts

Habitat Map
 50m Radius



Habitat Types: CF - Coniferous Forest, DF - Deciduous Forest, MX - Mixed Forest, AS - Anthropogenic Structure
 MN - Mine, CV - Cave, PO - Pond, W - Wetland, R - Riparian, G -grassland, PA - Pasture, AG - Agriculture
 S - Shrub O- Other

ACOUSTIC MONITORING FORM

Project Name: Hawkesha Bypass
 Site #: D

Date: 8/13/15
 Observer: om

Acoustic Site Information

Location: NAD 27 NAD83 UTM
 Zone: _____ Easting: 43°00'58.34" N Northing: 88°17'07.65" W

Detector Type: SD1 SD2 Other: _____
 Serial Number: _____
 Detector #: _____

Placement: Ground Raised Raised System: N/A Pulley Fixed

Microphone Height: 10.5 ft Microphone Direction: NW
 Station: Fixed Temporary

Microphone Location Type: Plastic Bin Bat Hat Other _____
 Sound Reception: PVC Elbow Reflector Plate Other _____

Site Habitat Information

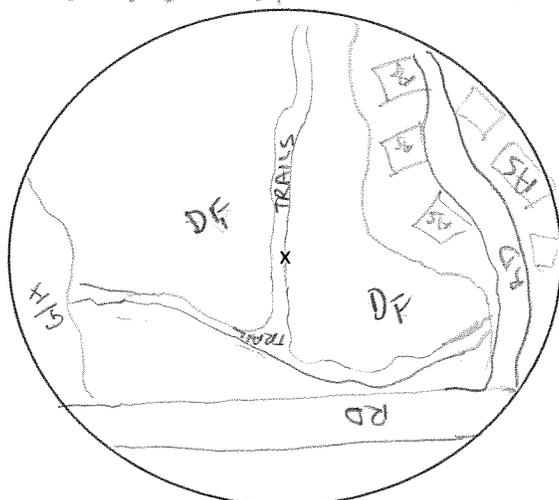
Habitat Primary: DF
 Secondary: AS
 Tertiary: G/H

Ag - ca. 2,000 ft
 Pond/lake - ca 1,300 ft
 open area - 115 ft

Landform (hillslope, terrace, plains): plains
 Local Relief (concave, convex, none): none

Comments: Urban trails; mature (mostly) hickory/oak forest; Ancient adjacent to trail; general area surrounded by urban development; A few snags/declining trees (white oak 1°)

Habitat Map
 50 m Radius



Habitat Types: CF - Coniferous Forest, DF - Deciduous Forest, MX - Mixed Forest, AS - Anthropogenic Structure
 MN - Mine, CV - Cave, PO - Pond, W - Wetland, R - Riparian, G - grassland, PA - Pasture, AG - Agriculture
 S - Shrub O - Other

ACOUSTIC MONITORING FORM

Project Name: Waukegan Bypass
 Site #: E

Date: 8/13/15
 Observer: one

Acoustic Site Information

Location: NAD 27 NAD83 UTM
 Zone: _____ Easting: 43°00'37.49" N Northing: 88°17'14.14" W

Detector Type: SD1 SD2 Other: _____
 Serial Number: _____
 Detector #: E

Placement: Ground Raised Raised System: N/A Pulley Fixed

Microphone Height: ca. 5 ft Microphone Direction: NW
 Station: Fixed Temporary

Microphone Location Type: Plastic Bin Bat Hat Other _____
 Sound Reception: PVC Elbow Reflector Plate Other _____

Site Habitat Information

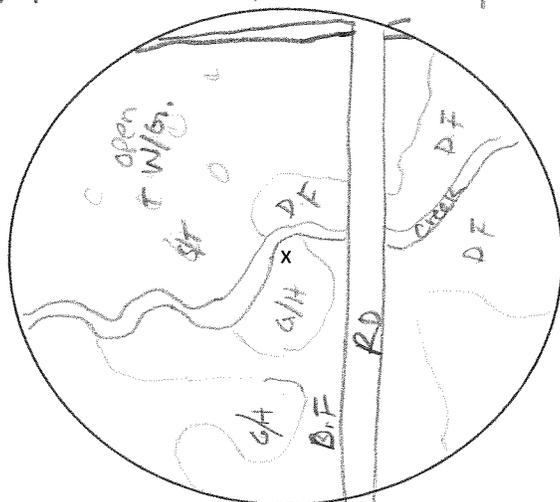
Habitat Primary: G/H (rip.)
 Secondary: DF (rip.)
 Tertiary: _____

Ag - ca 800 ft
 creek - 0 ft (perennial)
 open - 0 ft

Landform (hillslope, terrace, plains): plains
 Local Relief (concave, convex, none): none

Comments: Area in open area surrounded by patches of Deciduous/Riparian forest. Area part of Nature Preserve; open area mostly Reed Canary grass and other herb plants.

Habitat Map
 50 m Radius



Habitat Types: CF - Coniferous Forest, DF - Deciduous Forest, MX - Mixed Forest, AS - Anthropogenic Structure
 MN - Mine, CV - Cave, PO - Pond, W - Wetland, R - Riparian, G - grassland, PA - Pasture, AG - Agriculture
 S - Shrub O - Other

ACOUSTIC MONITORING FORM

Project Name: Waukecha Bypass

Date: 8/14/15

Site #: F (Extra site - 1 night only)

Observer: our

Acoustic Site Information

Location: NAD 27 NAD83 UTM
 Zone: _____ Easting: 42° 59' 38.75" N Northing: 86° 17' 30.82" W

Detector Type: SD1 SD2 Other: _____
 Serial Number: _____
 Detector #: F

Placement: Ground Raised Raised System: N/A Pulley Fixed

Microphone Height: ca. 5 ft Microphone Direction: E

Station: Fixed Temporary

Microphone Location Type: Plastic Bin Bat Hat Other _____
 Sound Reception: PVC Elbow Reflector Plate Other _____

Site Habitat Information

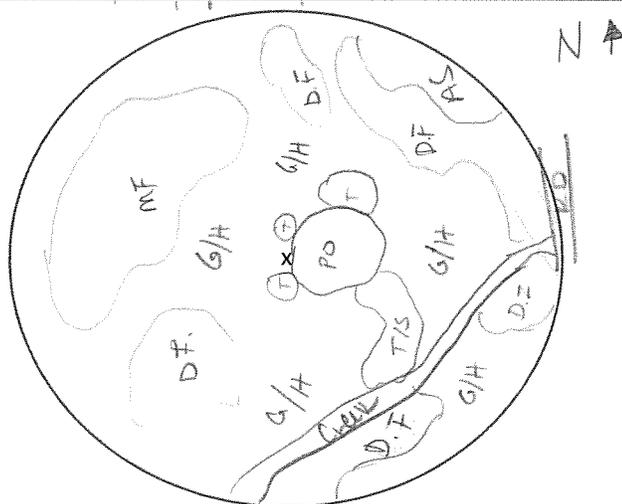
Habitat Primary: PD
 Secondary: G/H
 Tertiary: Mixed Forest

Aq - ca. 600 ft
 H₂O - off
 open area - off

Landform (hillslope, terrace, plains): plains
 Local Relief (concave, convex, none): none

Comments: Arxset in landscaper's nursery/yard; adjacent to pond in open grassy fields, creek nearby. A few snags w/in 200 ft, very open w/ scattered stands of deciduous/Riparian forest or mixed forest

Habitat Map
 50m Radius



Perennial
 creek

Within 650 ft of 2 other
 Arxset sites (L & G) but L and
 F are extra units and only out
 for 1 night due to landscaper
 permission

Habitat Types: CF - Coniferous Forest, DF - Deciduous Forest, MX - Mixed Forest, AS - Anthropogenic Structure
 MN - Mine, CV - Cave, PO - Pond, W - Wetland, R - Riparian, G - grassland, PA - Pasture, AG - Agriculture
 S - Shrub O - Other

ACOUSTIC MONITORING FORM

Project Name: Waukecha Bypass
 Site #: G

Date: 8/13/15
 Observer: DM

Acoustic Site Information

Location: NAD 27 NAD83 UTM
 Zone: _____ Easting: 42°59'36.08" N Northing: 88°17'26.31" W

Detector Type: SD1 SD2 Other: _____
 Serial Number: _____
 Detector #: G

Placement: Ground Raised Raised System: N/A Pulley Fixed

Microphone Height: ca. 5 ft Microphone Direction: E
 Station: Fixed Temporary

Microphone Location Type: Plastic Bin Bat Hat Other _____
 Sound Reception: PVC Elbow Reflector Plate Other _____

Creek - ca. 180 ft
 Ag - 410 ft

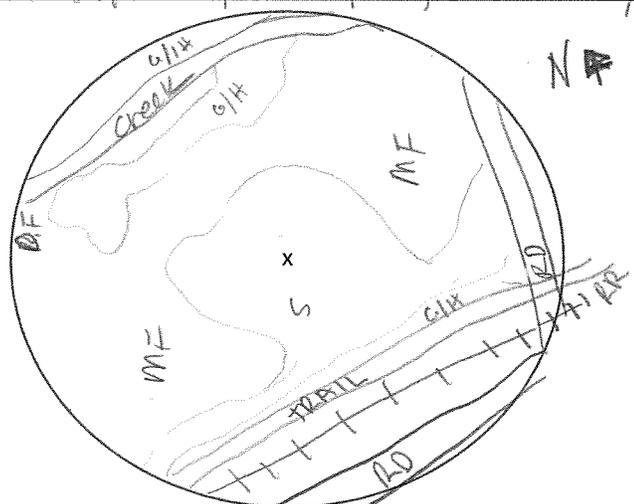
Site Habitat Information

Habitat Primary: S
 Secondary: MF
 Tertiary: AS

Landform (hillslope, terrace, plains): plains
 Local Relief (concave, convex, none): none

Comments: Archeat in shrubby area surrounded partially by mixed forest and on S side, Glacial Drumlin Stek Trail, RR tracks & development; semi-open; creek nearby (perennial)

Habitat Map
 50 m Radius



Habitat Types: CF - Coniferous Forest, DF - Deciduous Forest, MX - Mixed Forest, AS - Anthropogenic Structure
 MN - Mine, CV - Cave, PO - Pond, W - Wetland, R - Riparian, G - grassland, PA - Pasture, AG - Agriculture
 S - Shrub O - Other

ACOUSTIC MONITORING FORM

Project Name: Waukesha Bypass
 Site #: H

Date: 8/13/15
 Observer: am

Acoustic Site Information

Location: NAD 27 NAD83 UTM
 Zone: _____ Easting: 42°59'17.63"N Northing: 88°16'42.36"W

Detector Type: SD1 SD2 Other: _____
 Serial Number: _____
 Detector #: H

Placement: Ground Raised Raised System: N/A Pulley Fixed

Microphone Height: 10.5 ft Microphone Direction: E towards H2O
 Station: Fixed Temporary

Microphone Location Type: Plastic Bin Bat Hat Other _____
 Sound Reception: PVC Elbow Reflector Plate Other _____

Site Habitat Information

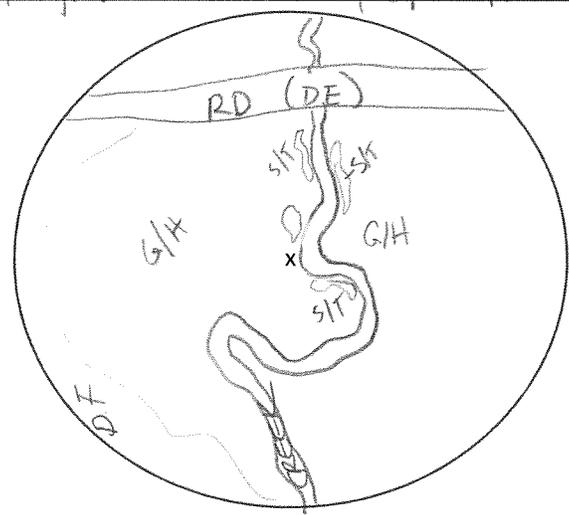
Habitat Primary: G/H
 Secondary: DF
 Tertiary: S

Ag - ca. 1,200 ft
 open - 0 ft
 H2O - 0 ft

Landform (hillslope, terrace, plains): plains (floodplain)
 Local Relief (concave, convex, none): None

Comments: Grassy/herbaceous riparian area with pockets of dogwood shrubs and small trees (dead & alive), adjacent to creek, very open, mostly undeveloped surrounding the area

Habitat Map
 50 m Radius



perennial creek
 large snags in distance

Habitat Types: CF - Coniferous Forest, DF - Deciduous Forest, MX - Mixed Forest, AS - Anthropogenic Structure
 MN - Mine, CV - Cave, PO - Pond, W - Wetland, R - Riparian, G - grassland, PA - Pasture, AG - Agriculture
 S - Shrub O - Other

ACOUSTIC MONITORING FORM

Project Name: Waukesha Bypass
 Site #: I

Date: 8/13/15
 Observer: OM

Acoustic Site Information

Location: NAD 27 NAD83 UTM
 Zone: _____ Easting: 42° 58' 49.51" N Northing: 88° 16' 33.52" W

Detector Type: SD1 SD2 Other: _____
 Serial Number: _____
 Detector #: I

Placement: Ground Raised Raised System: N/A Pulley Fixed

Microphone Height: ca. 5 ft Microphone Direction: NW
 Station: Fixed Temporary

Microphone Location Type: Plastic Bin Bat Hat Other _____
 Sound Reception: PVC Elbow Reflector Plate Other _____

Ag - ca. 3,900 ft
 H₂O (perennial creek) - 930 ft
 Open - 0 ft
 cattail wetland - 120 ft

Site Habitat Information

Habitat Primary: G/H
 Secondary: MF
 Tertiary: W

Landform (hillslope, terrace, plains):

Local Relief (concave, convex, none):

Comments: Ampt in small grassy/herbaceous clearing with small cattail wetland, a stand of willow trees/shrubs surrounded by forest (both mixed and deciduous)

Habitat Map
 50 m Radius



Habitat Types: CF - Coniferous Forest, DF - Deciduous Forest, MX - Mixed Forest, AS - Anthropogenic Structure
 MN - Mine, CV - Cave, PO - Pond, W - Wetland, R - Riparian, G - grassland, PA - Pasture, AG - Agriculture
 S - Shrub O - Other

ACOUSTIC MONITORING FORM

Project Name: Waukegan Bypass
 Site #: J

Date: 8/13/15
 Observer: dm

Acoustic Site Information

Location: NAD 27 NAD83 UTM
 Zone: _____ Easting: 42°58'55.07" N Northing: 88°16'23.30" W

Detector Type: SD1 SD2 Other: _____
 Serial Number: _____
 Detector #: J

Placement: Ground Raised Raised System: N/A Pulley Fixed

Microphone Height: ca. 5 ft Microphone Direction: N
 Station: Fixed Temporary

Microphone Location Type: Plastic Bin Bat Hat Other _____
 Sound Reception: PVC Elbow Reflector Plate Other _____

Site Habitat Information

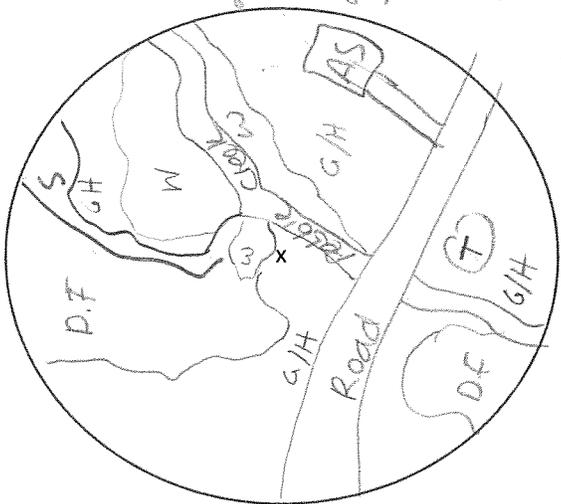
Habitat Primary: G/H
 Secondary: W
 Tertiary: _____

Bridge - 70 ft
 Creek - 0 ft
 open area - 0 ft
 Ag - 3,800 ft

Landform (hillslope, terrace, plains): plains (floodplain)
 Local Relief (concave, convex, none): None

Comments: Area adjacent to Perennial Creek in dense grass/herb. veg and on edge of cattail wetland area. Near large bridge/Road 'few snags within 300 feet

Habitat Map
 50 m Radius



Habitat Types: CF - Coniferous Forest, DF - Deciduous Forest, MX - Mixed Forest, AS - Anthropogenic Structure
 MN - Mine, CV - Cave, PO - Pond, W - Wetland, R - Riparian, G - grassland, PA - Pasture, AG - Agriculture
 S - Shrub O - Other

ACOUSTIC MONITORING FORM

Project Name: Waukesha Bypass
 Site #: K

Date: 8/13/15
 Observer: om

Acoustic Site Information

Location: NAD 27 NAD83 UTM
 Zone: _____ Easting: 43°00'19.25"N Northing: 88°17'24.69" W

Detector Type: SD1 SD2 Other: _____
 Serial Number: _____
 Detector #: K

Placement: Ground Raised Raised System: N/A Pulley Fixed

Microphone Height: ca. 5 feet Microphone Direction: S
 Station: Fixed Temporary

Microphone Location Type: Plastic Bin Bat Hat Other _____
 Sound Reception: PVC Elbow Reflector Plate Other _____

Site Habitat Information

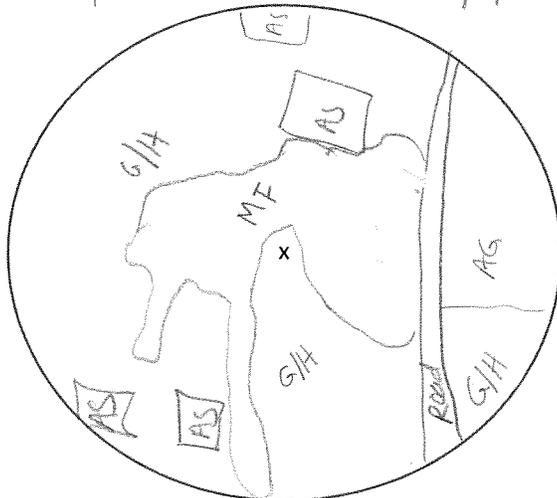
Habitat Primary: H/G
 Secondary: MF
 Tertiary: AS

Ag - ca. 420 ft
 Creek - 1,850 ft ca.

Landform (hillslope, terrace, plains): plains
 Local Relief (concave, convex, none): none

Comments: Semi-open area adjacent to small wood lot; urban/ag surround small wood lot; open area is grass and herbaceous veg primarily with some small shrubs

Habitat Map
 50 m Radius



Habitat Types: CF - Coniferous Forest, DF - Deciduous Forest, MX - Mixed Forest, AS - Anthropogenic Structure
 MN - Mine, CV - Cave, PO - Pond, W - Wetland, R - Riparian, G - grassland, PA - Pasture, AG - Agriculture
 S - Shrub O - Other

ACOUSTIC MONITORING FORM

Project Name: Waukesha Bypass
 Site #: L (1 night)

Date: 8/14/15
 Observer: am

Acoustic Site Information

Location: NAD 27 NAD83 UTM
 Zone: _____ Easting: 42° 59' 38.41" N Northing: 88° 17' 24.67" W

Detector Type: SD1 SD2 Other: _____
 Serial Number: _____
 Detector #: L

Placement: Ground Raised Raised System: N/A Pulley Fixed

Microphone Height: ca. 5 ft Microphone Direction: SW
 Station: Fixed Temporary

Microphone Location Type: Plastic Bin Bat Hat Other _____
 Sound Reception: PVC Elbow Reflector Plate Other _____

Ag - ca 230 ft
 open - 0 ft
 creek - 0 ft
 pond - 350 ft

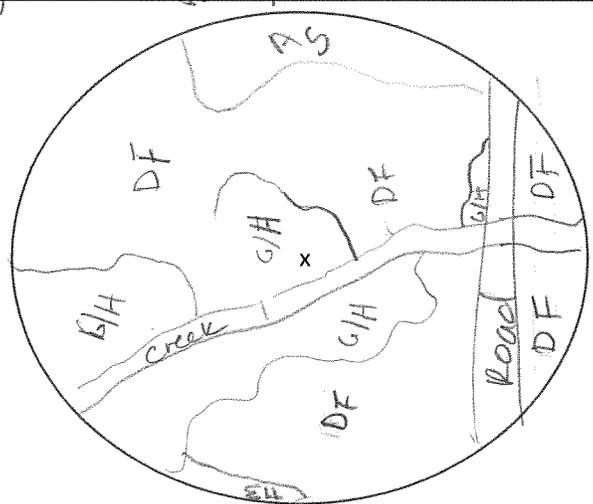
Site Habitat Information

Habitat Primary: G/H
 Secondary: DF
 Tertiary: AS

Landform (hillslope, terrace, plains): plains
 Local Relief (concave, convex, none): none

Comments: Archet in grassy/herbaceous habitat surrounded by deciduous forest; adjacent to perennial creek; a few snags w/in 200 ft

Habitat Map
~~50m Radius~~



Within 650 ft of Archet's F & G but this was extra and put out for only 1 night due to landowner permissions

Habitat Types: CF - Coniferous Forest, DF - Deciduous Forest, MX - Mixed Forest, AS - Anthropogenic Structure
 MN - Mine, CV - Cave, PO - Pond, W - Wetland, R - Riparian, G - grassland, PA - Pasture, AG - Agriculture
 S - Shrub O - Other

DATE	COLLECTOR	ID	PROP_OWNER	SPECIES	DBH	TREEHEIGHT	HABITAT	DIST_WATER	DNONFOREST	CONDITION	CANOPY_POS	DECAystate	BARK_COVER	USABLEBARK	BARK_DESCR	ROOST_TYPE	CANOPY_COV	ROO_HEIGHT	ROO_ASPECT	NOTES1
8/12/2015	JL	rt1	Private	honey locust		8	56.8 Edge		395	0 Live-Damaged	Co-Dominant	2	98	1 Tight	Cavity	Open	20		n, ne	
8/12/2015	JL	rt2	Private	honey locust		21.2	63 Edge		350	0 Live-Damaged	Co-Dominant	2	98	3 Sloughing	Bark	Open	13		e	
8/12/2015	JL	rt3	Private	honey locust		14.4	45 Edge		300	0 Live-Damaged	Co-Dominant	2	98	3 Sloughing	Bark	Open	17		e	
8/12/2015	JL	rt4	Private	weeping willow		24.8	40 Edge		275	0 Live-Damaged	Co-Dominant	2	100	5 Tight	Bark	Open	16		e	
8/12/2015	JL	rt5	Private	bigtooth aspen		17.1	50 Edge		275	0 Live-Damaged	Dominant	2	99	1 Tight	Bark	Open	18		e	
8/12/2015	JL	rt6	Private	unknown		5.5	45 Edge		45	0 Snag	Suppressed	6	5	5 Sloughing	Bark	Intermediate	10-40		w	
8/12/2015	JL	rt7	Private	unknown		9.8	45 Edge		40	0 Snag	Co-Dominant	6	15	5 Sloughing	Bark	Open	30		e	
8/12/2015	JL	rt8	Private	unknown		11	45 Edge		30	25 Snag	Co-Dominant	6	70	15 Sloughing	Bark	Open	20-45		n, s, e, w	
8/12/2015	JL	rt9	Private	unknown		3	30 Interior		60	65 Snag		6	60	30 Sloughing	Bark	Closed	10-25		all	
8/12/2015	JL	rt10-20	Private	red pine		8	25 Interior		90	60 Snag	Suppressed	6	40	30 Sloughing	Bark	Closed	15-25		all	10 trees with 7-9dbh and 20-30 height
8/12/2015	JL	rt21	Private	black walnut		33	75 Interior		25	50 Live-Damaged	Dominant	2	98	2 Tight	Crevice	Closed	17		e	crevice where branch cracked and bark split
8/12/2015	JL	rt22	Private	black walnut		15.5	89 Interior		60	55 Live-Damaged	Dominant	2	85	5 Tight	Bark	Intermediate	25-80		e	bark flaking off also a large crack in bark
8/12/2015	JL	rt23	Private	black cherry		9.5	60 Interior		125	85 Live-Damaged	Co-Dominant	2	80	15 Platy	Intermediate	Intermediate	10-60		all	
8/12/2015	JL	rt24	Private	silver maple	9.5 - 9 trunks		61 Edge		190	30 Live	Dominant	1	100	2 Tight	Bark	Closed	10-50		all	
8/12/2015	JL	rt25	Private	silver maple	9.5 - 12 stems		61 Edge		240	0 Live	Dominant	1	100	2 Tight	Bark	Closed	15-25		all	
8/12/2015	JL	rt26	Private	silver maple	9.5 - 7 stems		61 Edge		260	0 Live	Dominant	1	100	2 Tight	Bark	Closed	15-60		all	
8/12/2015	JL	rt27	Private	boxelder		12	52 Interior		190	30 Live-Damaged	Co-Dominant	2	98	1 Tight	Cavity	Closed	10		w	
8/12/2015	JL	rt28	Private	oak?		21	65 Edge		300	0 Snag	Dominant	4	10	10 Sloughing	Crevice	Intermediate	10-50		all	
8/12/2015	JL	rt29	Private	mulberry			Interior		375	30 Live-Damaged	Co-Dominant	2	90	5 Tight	Crevice	Closed	10-50		w	
8/12/2015	JL	rt30	Private	silver maple		31	50 Edge		435	0 Live	Dominant	1	100	15 Tight	Bark	Closed	15-50		all	
8/12/2015	JL	rt31	Private	silver maple		24	50 Edge		455	0 Live-Damaged	Co-Dominant	2	95	25 Tight	Bark	Closed	20-50		all	
8/12/2015	JL	rt32	Private	American elm		22	60 Edge		805	0 Live-Damaged	Dominant	2	98	3 Tight	Bark	Intermediate	30		all	curly bark
8/12/2015	JL	rt33	Private	boxelder		22	50 Interior		905	25 Live-Damaged	Co-Dominant	2	80	10 Tight	Bark	Intermediate	10-40		all	sloughing bark in spots
8/12/2015	JL	rt34	State	boxelder		10	33 Interior		905	25 Snag	Suppressed	6	5	3 Sloughing	Cavity	Closed	30-50		e	
8/12/2015	JL	rt35	Private	unknown		26	40 Edge		590	0 Snag	Dominant	3	80	40 Sloughing	Bark	Open	20-40		all	
8/12/2015	JL	rt36	Private	black cherry		22	60 Edge		200	0 Live-Damaged	Dominant	2	90	5 Platy	Bark	Open	10-50		e	
8/12/2015	JL	rt37	Private	black cherry		17	50 Edge		115	0 Live-Damaged	Co-Dominant	2	99	1 Platy	Bark	Open	30-60		e	
8/12/2015	JL	rt38	Private	red pine		8	55 Interior		125	55 Snag	Co-Dominant	4	30	5 Sloughing	Cavity	Intermediate	50-60		all	holes throughout tree
8/12/2015	JL	rt39	Private	black cherry		15	75 Interior		90	15 Live-Damaged	Co-Dominant	2	90	10 Platy	Bark	Closed	30-50		all	flaky bark
8/12/2015	JL	rt40	Private	black cherry		12	65 Interior		90	10 Snag	Co-Dominant	3	95	5 Platy	Bark	Closed			all	
8/12/2015	JL	rt41	Private	black cherry		13	65 Edge		40	0 Snag	Co-Dominant	3	85	15 Platy	Bark	Closed	30		all	dead flaky bark
8/12/2015	JL		Waterway														10-70			10' wide
8/12/2015	JL	rt42	Private	green ash		15	50 Interior		210	20 Snag	Dominant	3	90	5 Platy	Bark	Closed	5-65		all	dead flaky bark
8/12/2015	JL	rt43	State	green ash		11	77 Interior		710	50 Live	Co-Dominant	1	100	3 Tight	Bark	Closed	10-50		all	bark is shaggy in some areas
8/12/2015	JL	rt44	Private	white oak		33	Edge		935	0 Live-Damaged	Dominant	2	99	10 Tight	Crevice	Closed	15-40		all	crevices where thick pieces of bark are separating
8/12/2015	JL	rt45	Private	unknown		14	60 Interior		980	30 Snag	Co-Dominant	3	50	15 Sloughing	Bark	Closed	3-25		all	dead flaky bark
8/12/2015	JL	rt46	Private	red oak		33	70 Edge		1100	35 Live-Damaged	Dominant	2	97	3 Tight	Crevice	Closed	3-30		e	crevices where branches have split off
8/12/2015	JL	rt47	Private	shagbark hicko		22	60 Open		1200	0 Live	Dominant	1	100	60 Tight	Bark	Open	20		all	shaggy bark
8/12/2015	JL	rt48	Private	shagbark hicko		22	60 Open		1070	0 Live	Dominant	1	100	50 Tight	Bark	Open	3-70		all	shaggy bark
8/12/2015	JL	rt49	Private	white oak		29	55 Open		1045	0 Live	Dominant	1	99	3 Tight	Crevice	Open	3-25		e	crack in trunk
8/12/2015	JL	rt50	Private	shagbark hicko		26	80 Interior		950	45 Live	Dominant	1	100	75 Tight	Bark	Closed	15		all	shaggy bark
8/12/2015	JL	rt51	Private	shagbark hicko		23	50 Edge		710	0 Live	Co-Dominant	1	100	20 Tight	Bark	Closed	20		s	shaggy bark
8/12/2015	JL	rt52	Private	boxelder		9	20 Edge		645	0 Snag	Suppressed	3	65	5 Sloughing	Cavity	Intermediate	10-50		n	
8/12/2015	JL	rt53	Private	unknown		25	40 Open		660	0 Snag	Dominant	3	90	5 Tight	Bark	Open	5-50		all	
8/13/2015	JL	rt54	Private	shagbark hicko		15	75 Interior		1075	230 Live	Co-Dominant	1	100	5 Tight	Bark	Closed	5-40		all	curls in shaggy bark
8/13/2015	JL	rt55	Private	red oak		40	60 Interior		980	150 Live-Damaged	Co-Dominant	2	95	5 Tight	Crevice	Closed	5-25		all	some cavities and crevices in bark and wood
8/13/2015	JL	rt56	Private	black cherry		5	55 Interior		995	130 Live	Suppressed	1	100	50 Platy	Bark	Closed	10-20		all	
8/13/2015	JL	rt57	Private	black cherry		4.5	40 Interior		1055	135 Live	Suppressed	1	100	25 Platy	Bark	Closed	5-50		all	
8/13/2015	JL	rt58	Private	quaking aspen		6	25 Edge		975	0 Snag	Co-Dominant	4	85	5 Tight	Bark	Intermediate	5-20		all	
8/13/2015	JL	rt59	Private	shagbark hicko		15	65 Interior		1080	60 Live-Damaged	Co-Dominant	2	95	65 Tight	Bark	Closed	5-35		all	shaggy bark
8/13/2015	JL	rt60	Private	shagbark hicko		4	40 Interior		1065	30 Live	Suppressed	1	100	5 Tight	Bark	Closed	5-40		all	some shaggy bark
8/13/2015	JL	rt61	Private	shagbark hicko		6	55 Interior		1085	65 Live	Co-Dominant	1	100	10 Tight	Bark	Closed	10-20		all	shaggy bark
8/13/2015	JL	rt62	Private	shagbark hicko		10	60 Interior		1085	50 Live	Co-Dominant	1	100	10 Tight	Bark	Closed	5-45		all	
8/13/2015	JL	rt63	Private	black cherry		21	35 Interior		1075	45 Live-Damaged	Suppressed	2	95	7 Tight	Crevice	Closed	20-30		n	
8/13/2015	JL	rt64	Private	shagbark hicko		11	60 Interior		1130	60 Live	Co-Dominant	1	100	10 Tight		Closed	5-45		all	3 trunks with all same attributes
8/13/2015	JL	rt65	Private	white oak		28	85 Interior		1185	100 Live	Dominant	1	99	1 Tight	Bark	Closed	25		ne	some curls in bark
8/13/2015	JL	rt66	Private	shagbark hicko		7	60 Interior		1180	110 Live	Co-Dominant	1	100	15 Tight	Bark	Closed	10-40		all	shaggy bark
8/13/2015	JL	rt67	Private	red oak		38.5	85 Interior		1230	160 Live	Dominant	1	100	15 Tight	Cavity	Closed	5-30		nw	multiple large cavities
8/13/2015	JL	rt68	Private	bigtooth aspen		12	55 Interior		1270	245 Snag	Co-Dominant	4	65	10 Sloughing	Bark	Closed	5-25		all	
8/13/2015	JL	rt69	Private	shagbark hicko		8	60 Interior		1260	255 Live	Co-Dominant	1	100	10 Tight	Bark	Closed	10-50		all	shaggy bark
8/13/2015	JL	rt70	Private	shagbark hicko		6.5	50 Interior		1290	290 Live	Co-Dominant	1	100	5 Tight	Bark	Closed	25		n	shaggy bark
8/13/2015	JL	rt71	Private	white oak		41	60 Interior		1310	320 Live-Damaged	Co-Dominant	2	95	7 Tight	Bark	Closed	5-50		all	lots of flaky bark and crevices
8/13/2015	JL	rt72	Private	red oak		36	90 Interior		1330	295 Live-Damaged	Dominant	1	95	2 Tight	Cavity	Closed	25		nw	cavities in broken off branches
8/13/2015	JL	rt73	Private	shagbark hicko		21	75 Interior		1320	265 Live	Co-Dominant	1	100	30 Tight		Closed	35-50		all	shaggy bark
8/13/2015	JL	rt74	Private	red oak		42	75 Interior		1250	235 Live-Damaged	Dominant	2	75	10 Tight	Cavity	Closed	10-25		all	cavity on south, crevices in bark all around
8/13/2015	JL	rt75	Private	white oak		27	85 Interior		1330	150 Live	Co-Dominant	1	97	7 Tight	Bark	Closed	10-25		all	large curls in some bark
8/13/2015	JL	rt76	Private	shagbark hicko		13	60 Interior		1335	135 Live	Co-Dominant	1	100	5 Tight		Closed	10-25		all	
8/13/2015	JL	rt77	Private	shagbark hicko		6	45 Interior		1110	75 Live	Co-Dominant	1	100	15 Tight	Bark	Intermediate	5-35		all	
8/13/2015	JL	rt78	Private	shagbark hicko		7	40 Interior		1110	75 Live	Co-Dominant	1	100	10 Tight	Bark	Intermediate	15-25		all	
8/13/2015	JL	rt79	Private	shagbark hicko		8	55 Interior		1130	95 Live	Co-Dominant	1	100	30 Tight	Bark	Intermediate	10-30		all	
8/13/2015	JL	rt80	Private	shagbark hicko		8	55 Interior		1110	100 Live	Co-Dominant	1	100	10 Tight	Bark	Intermediate	15-30		all	
8/13/2015	JL	rt81	Private	shagbark hicko		9	60 Interior		1195	235 Live	Co-Dominant	1	100	15 Tight	Bark	Intermediate	5-40		all	
8/13/2015	JL	rt82	Private	shagbark hicko		8	60 Interior		1195	235 Live	Co-Dominant	1	100	15 Tight	Bark	Intermediate	20		all	
8/13/2015	JL	rt83	Private	shagbark hicko		9	60 Interior		1205	215 Live	Co-Dominant	1	100	25 Tight	Bark	Closed	15		all	
8/13/2015	JL	rt84	Private	red oak		34	65 Interior		1120	100 Live-Damaged	Co-Dominant	2	90	5 Tight	Crevice	Closed	20		south	
8/13/2015	JL	rt85	Private	unknown		12	30 Open		435	0 Snag	Dominant	4	20	3 Sloughing	Cavity	Open	20		n	

8/13/2015 JL	rt86	Private	American elm?	13	35 Edge	820	0 Snag	Co-Dominant	3	90	3 Tight	Bark	Closed	20	n	dead flaky bark
8/13/2015 JL	rt87	Private	green ash	13	40 Edge	785	0 Snag	Co-Dominant	3	95	3 Tight	Bark	Closed	30	n	dead flaky bark
8/13/2015 JL	rt88	Private	silver maple	4 stems 20-40"	50 Open	30	0 Live	Dominant	1	100	10 Tight	Bark	Open	5-30	all	
8/13/2015 JL	rt89	Private	unknown	17	30 Open	10	30 Snag	Dominant	3	90	1 Tight	Cavity	Open	20	s	
8/13/2015 JL	rt90	Private	silver maple	28	60 Edge	20	20 Live	Dominant	1	100	10 Tight	Bark	Closed	10-55	all	
8/13/2015 JL	rt91	Private	silver maple	4 trunks 10-20"	65 Edge	20	0 Live	Dominant	1	100	3 Tight	Bark	Closed	10-55	n	
8/13/2015 JL	rt92	Private	silver maple	35	75 Edge	15	0 Live	Dominant	1	100	30 Tight	Bark	Closed	20	all	
8/13/2015 JL	rt93	Private	silver maple	multiple stems 10-25"	70 Edge	65	20 Live	Dominant	1	100	35 Tight	Bark	Closed	20	all	
8/13/2015 JL	rt94	Private	red oak	29	70 Interior	500	40 Live	Co-Dominant	1	100	1 Tight	Cavity	Closed	10-50	s	multiple small cavities
8/13/2015 JL	rt95	Private	boxelder	18	50 Interior	510	40 Live-Damaged	Co-Dominant	2	90	1 Tight	Cavity	Closed	10-50	s	1 small cavity

ATTACHMENT F

From: White, John P - DNR (Paul)
Sent: Monday, August 24, 2015 11:16 AM
To: Olivia Munzer; Kaarakka, Heather M - DNR
Cc: Dan Salas; Kitchel, Lisie E - DNR
Subject: RE: Bat survey for Waukesha

Hi Olivia,

From the calls you gave us to analyze, both Heather and I agree, that we did not find definitive evidence of MYSE calls. A few calls I would have labeled as Myotis, but there wasn't enough acoustic information collected to conclusively indicate the presence of MYSE.

Thanks,
Paul

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

J. Paul White

Phone: (608) 267-0813

John.White@Wisconsin.gov

From: Olivia Munzer [<mailto:Olivia.Munzer@cardno.com>]
Sent: Monday, August 24, 2015 9:35 AM
To: Kaarakka, Heather M - DNR; White, John P - DNR (Paul)
Cc: Dan Salas
Subject: RE: Bat survey for Waukesha

Heather and Paul,

I've attached the Anabat files for your review. Thank you so much for taking the time to confirm that these are MYLU and not MYSE. At Site F, one of the calls was classified as MYSE by one of the programs but it looks like LANO –I just included it to make sure. If you have any questions, feel free to contact me.

Thanks again,
Olivia

Olivia Munzer

PROJECT SCIENTIST | CERTIFIED WILDLIFE BIOLOGIST
NATURAL RESOURCES & HEALTH SCIENCES DIVISION
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From: Kitchel, Lisie E - DNR [<mailto:Lisie.Kitchel@wisconsin.gov>]
Sent: Friday, August 21, 2015 6:13 PM
To: Olivia Munzer
Cc: Kaarakka, Heather M - DNR; White, John P - DNR (Paul)
Subject: RE: Bat survey for Waukesha

Olivia – please contact Paul or Heather to make arrangements to send whatever files are pertinent for them to determine if there are NLEB in the Waukesha Bypass Study area. Thank-you and let me know if you need other information to contact them.

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Lisie Kitchel

Phone: (608) 266-5248

Cell: (608) 220-5180

Lisie.Kitchel@wi.gov

From: White, John P - DNR (Paul)
Sent: Friday, August 21, 2015 1:03 PM
To: Kitchel, Lisie E - DNR
Cc: Kaarakka, Heather M - DNR
Subject: RE: Bat survey for Waukesha

We can take a look at them. I was worried there were thousands of calls, which can happen depending on how long the detectors are left out. Have her send the files and both Heather and I can take a look. The other option, like you mentioned, is to assume presence.

Thanks,
Paul

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

J. Paul White

Phone: (608) 267-0813

John.White@Wisconsin.gov

From: Kitchel, Lisie E - DNR
Sent: Friday, August 21, 2015 11:58 AM
To: White, John P - DNR (Paul)
Cc: Kaarakka, Heather M - DNR
Subject: FW: Bat survey for Waukesha

FYI – check out what Olivia had to say and see if you think its worth checking out – otherwise they will assumw NLEB are present, based on that on possible call.

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Lisie Kitchel

Phone: (608) 266-5248

Cell: (608) 220-5180

Lisie.Kitchel@wi.gov

From: Olivia Munzer [<mailto:Olivia.Munzer@cardno.com>]

Sent: Thursday, August 20, 2015 8:53 AM

To: Kitchel, Lisie E - DNR

Cc: Dan Salas

Subject: RE: Bat survey for Waukesha

Lisie,

Thank you for contacting me. Initially I used the EchoClass program, which identified the following Myotid species: MYSO, MYSE, very few MYLU, and even MYLE (only one sequence). I looked at the MYSO calls because I know that their range doesn't extend up there and the calls looked like MYLU to me. Some of the MYSE calls looked like they could be MYLU. Because the results were a bit questionable, I ran it through Kaleidoscope (free trial version) and got no MYSO/MYLE (as expected), mostly MYLU and 1 MYSE call. We are looking at upgrading our BCID license since it has expired and see what happens. I think for the client and everyone else's curiosity, it would be nice to have someone more experienced than me with identifying Myotid calls to vet the MYSE calls. I have a feeling the calls are all MYLU, but it would be nice for someone to check the ones that were perhaps flagged by EchoClass as MYSE (<25 files). Kaleidoscope identified 541 files as MYLU.

Olivia Munzer

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From: Kitchel, Lisie E - DNR [<mailto:Lisie.Kitchel@wisconsin.gov>]

Sent: Wednesday, August 19, 2015 6:40 PM

To: Olivia Munzer

Cc: Kitchel, Lisie E - DNR

Subject: Bat survey for Waukesha

Importance: High

Olivia – Craig Webster provided your contact information and Karla Leithoff indicated I should speak to you about verifying the acoustic surveys that you did for the Waukesha Bypass study. I have contacted our bat biologists who are experienced in verifying the species without using programs (that can misidentify the species) – but due to their limited time they wanted to know how many recordings are in need of analysis?

Any and all information you could provide would be most helpful in evaluating the data collected. Let me know if you have any questions.

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Lisie Kitchel

Conservation Biologist – Natural Heritage Conservation

Wisconsin Department of Natural Resources

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Cell Phone: (608) 220-5180

Lisie.Kitchel@wi.gov



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ATTACHMENT G



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

OCT 17 2014

REPLY TO THE ATTENTION OF E-19J

George Poirier
Federal Highway Administration
525 Junction Road, Suite 8000
Madison, Wisconsin 53717

Gary Evans
Waukesha County Department of Public Works
515 West Moreland Blvd.
Waukesha, Wisconsin 53188

Rebecca Burkel
Wisconsin Department of Technical
Services
Wisconsin Department of Transportation
P.O. Box 7965
Madison, Wisconsin 53707-7965

Re: Final Environmental Impact Statement for the West Waukesha Bypass – County TT,
I-94 to WIS 59, Waukesha County, Wisconsin - CEQ # 20140271

Dear Messrs. Poirier and Evans and Ms. Burkel:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-mentioned document provided by Federal Highway Administration (FHWA), Wisconsin Department of Transportation (WisDOT), and Waukesha County dated September, 2014. Our comments in this letter are provided in accordance with our responsibilities under the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act. EPA acknowledges and appreciates the efforts made by the project proponents to provide complete and current information on the natural resources located in the project area as well as to consider new alternatives and revise existing alternatives to meet the stated purpose and need while reducing resource impacts.

In our Draft EIS comment letter dated December 10, 2012, EPA stated concerns regarding a lack of conceptual mitigation; performance of the alternatives; cumulative effects; and impacts to state-listed threatened or endangered species. We stressed the need for a conceptual mitigation plan in order to assess project impacts and determine whether Pebble Creek will suffer adverse impacts as a result of the proposed project. Lastly, we recommended disclosure in the Final EIS of all available best management practices designed to eliminate surface water runoff from construction and operation of the road from entering the Pebble Creek wetland complex.

Our comments regarding alternatives, cumulative effects, and state-listed species have been adequately addressed. Our comments in this letter focus on issues that remain:

1) identification of and commitment to mitigation measures for impacts to aquatic and terrestrial resources, 2) ecopassages and exclusion fencing, and 3) non-native invasive plant species.

Mitigation for Aquatic and Terrestrial Resources in Conjunction with our Preferred Alternative Conditional Concurrence

In our letter dated May 7, 2014, EPA provided conditional concurrence with Pebble Creek West as the preferred alternative for the segment south of Sunset Drive, under the condition that the mitigation measures discussed in our May 2014 letter were incorporated into the project and committed to in the Record of Decision (ROD). We clearly stated that our concurrence on the preferred alternative was contingent upon the assurance that the following mitigation measures were included as a part of the project and included in the ROD. Those mitigation measures are as follows:

- Permanent, legal protection of the remaining wooded upland; EPA does not view property owner participation in the state forest management program as sufficient permanent, legal protection.
- Tree mitigation for any loss of trees in the upland area at a 1:1 ratio.
- Preservation of a fen, offsite but within the Upper Fox River watershed to mitigate for impact to Wetland-8. We recommended that WisDOT and FHWA mitigate for the entire acreage of the fen, regardless of actual acreage of direct impacts, to account for indirect impacts.

Our concurrence was conditionally provided based on the premise that the above-mentioned three mitigation measures would be met to mitigate for direct and indirect impacts to both aquatic and terrestrial resources. Our position has not changed. The Final EIS indicates the agencies are working toward fulfilling these mitigation measures. We encourage the agencies to continue working toward these goals. Because these measures were not committed to in the Final EIS nor disclosed to the public, we look to the ROD to contain commitments from FHWA, WisDOT, and Waukesha County to fulfill these mitigation measures. We further expect these three mitigation measures to be part of the mitigation package proposed in the project's Clean Water Act - Section 404 permit application. We have serious concerns regarding how impacts for these resources will be addressed and when the details concerning mitigation will be available. We reserve the right to withdraw our conditional concurrence on the preferred alternative if these mitigation measures are not committed to in the ROD. We plan to participate in the Section 404 permit process and reserve the right to comment on the project's compliance with Section 404 (b) (1) guidelines when the Section 404 Public Notice is issued by the U.S. Army Corps of Engineers (USACE). We welcome continued mitigation discussions with FHWA, WisDOT, Waukesha County, and USACE.

Ground Water and Best Management Practices (BMPs)

We anticipate that, as more detailed construction plans are developed, FHWA, WisDOT, and Waukesha County will need to ensure ground water flow to the sedge fens is maintained. EPA is available to discuss specific actions that may need to be taken to protect ground water flow once the specific alignment is developed. Likewise, EPA is available to discuss the use of BMPs to reduce and/or filter runoff.

Ecopassages and Exclusion Fencing

EPA acknowledges the response to our Draft EIS recommendation regarding ecopassages. We understand that WisDOT and Waukesha County met with DNR to discuss the need for and location of three ecopassages. Even though ecopassages were initially proposed as a mitigation measure for impacts to the Butler's garter snake and Blanding's turtle, which have since been de-listed, we request FHWA, WisDOT, and Waukesha County commit to installing these ecopassages to help sustain viable populations of wildlife and increase safety for motorists. We request this commitment be added to the ROD.

The response contained in the Final EIS concerning our request for fencing designed to minimize movement of snakes and turtles into work areas and to allow provisions to remove animals from work areas to reduce mortality during construction indicates that snake and turtle exclusion barriers will not be erected because these species no longer enjoy protected status. We strongly recommend FHWA, WisDOT, and Waukesha County reconsider this request to reduce mortality at construction sites.

Non-Native Invasive Plant Species (NNIS)

Because new right-of-way will be acquired from the edges of wetlands and NNIS can easily colonize a disturbed area to eventually compromise large portions of aquatic or terrestrial habitat, EPA recommended the agencies draft and commit to implementing a NNIS monitoring/eradication plan, particularly for high quality habitat parcels. The Final EIS indicates that WisDOT and Waukesha County will not commit to a NNIS monitoring/eradication plan at this time, but are willing to discuss the issue with EPA, the Wisconsin Department of Natural Resources (WDNR), and the Southeastern Wisconsin Regional Planning Commission. The Final EIS also indicates that WisDOT has undertaken this type of activity only once before. We believe controlling NNIS is important to prevent their spread as a result of the proposed project, particularly given the project's proximity to high-quality wetlands, Primary Environmental Corridors, and other valuable habitats. EPA strongly recommends FHWA, WisDOT, and Waukesha County draft and implement a NNIS monitoring and eradication plan. We also recommend this activity be committed to in the ROD.

Additionally, we look to the ROD to contain such commitments as incorporating bioretention facilities, as indicated in Section 3.12.8 of the Final EIS and avoidance of in-stream construction work during late May and mid-July to avoid impacts to spawning fish. In summary, EPA appreciates the efforts taken by the transportation agencies to reduce impacts while providing a safe and functional travel corridor. We anticipate the ROD will contain commitments to mitigate for upland loss, provide upland protection, and to mitigate for impacts to Wetland-8. We look forward to further dialogue regarding wetland mitigation and stormwater runoff treatment as detailed construction plans are developed.

If you have any questions, please contact Kathy Kowal of my staff at 312-353-5206 or via email at kowal.kathleen@epa.gov and Sue Elston of the Wetlands Section at 312-886-6115 or via email at elston.sue@epa.gov.

Sincerely,



Kenneth A. Westlake, Chief
NEPA Implementation Section
Office of Enforcement and Compliance Assurance

cc: Marie Kopka, U.S. Army Corps of Engineers
Michael Thompson, Wisconsin Department of Natural Resources
Don Reed, Southeastern Wisconsin Regional Planning Commission
Bethaney Bacher-Gresock, Federal Highway Administration
Karla Leithoff, Wisconsin Department of Transportation
Mark Chandler, Federal Highway Administration
Doug Cain, Wisconsin Department of Transportation