

**Illinois Department of Natural Resources**  
**CONSERVATION PLAN**  
*(Application for an Incidental Take Authorization)*  
**Per 520 ILCS 10/5.5 and 17 Ill. Adm. Code 1080**

PROJECT APPLICANT: Kendall County Highway Department  
PROJECT NAME: Eldamain Road Extension Contract B, Sequence 19908A  
COUNTY: Kendall  
AMT OF IMPACT AREA: Total Project: 142 Acres  
Pier/Cofferdam/Causeway Footprint in Streambed: 0.2 acres

*This Conservation Plan was prepared in response to the proposed Eldamain Road Extension Contract B in Kendall County, Illinois. The project was submitted to the Illinois Department of Natural Resources (IDNR) via the EcoCAT database. The EcoCAT Review #2004627 found that the project area crosses the Fox River Illinois Natural Areas Inventory (INAI) site. The Illinois Natural Heritage Database (October 2019) indicated records for the State-listed slippershell (*Alasmidonta viridis*) and river redhorse (*Moxostoma carinatum*) near the proposed bridge crossing over the Fox River. IDNR's response to the EcoCAT database review (dated December 12, 2019) recommended a fish survey and mussel survey because the project has the potential to impact State-listed species and high-quality native mussel and fish communities. (See Appendix B). **As of the publication of this Conservation Plan, the State-listed slippershell has been delisted from the Illinois Natural Heritage Database and therefore is no longer being addressed as part of this conservation plan.***

*The Kendall County Highway Department has been coordinating the fish survey with the Illinois Department of Transportation (IDOT) and indirectly with the Illinois Natural History Survey (INHS). Prior to construction, the INHS is coordinating a fish survey.*

*The Eldamain Road Extension Phase I was evaluated as an Environmental Assessment (EA). The project was presented to the public on three occasions from 2000 to 2001 and again in 2011. Fish and mussel surveys were conducted in 2010 as part of the EA. The EA resulted in a Finding of No Significant Impact (FONSI) approved August 13, 2013. Coordination with the Illinois Department of Natural Resources occurred during the EA evaluation. The project was divided into two (2) segments for construction purposes, including Contract A (US 34 to River Road) and Contract B (River Road to IL 71). Contract A has been constructed. Contract B includes the proposed bridge over the Fox River.*

The incidental taking of endangered and threatened species shall be authorized by the Illinois Department of Natural Resources (IDNR) only if an applicant submits a conservation plan to the IDNR Incidental Take Coordinator that meets the following criteria:

**1. A description of the impact likely to result from the proposed taking of the species that would be covered by the authorization, including but not limited to the following.**

**A) Identification of the area to be affected by the proposed action, include a legal description and a detailed description including street address, map(s), and GIS shapefile. Include an indication of ownership or control of affected property. Attach photos of the project area.**

*The project (Contract B) is an extension of Eldamain Road from River Road to IL 71 and includes a new Fox River bridge crossing. The project is on a new alignment from River Road to High Point*

Road. Design approval for Contract B was obtained in 2014. The construction letting is targeted for September 2020.

The study area is located in Sections 1, 12, and 13 in Township 36 North, Range 6 East; Section 36 in Township 37 North, Range 6 East; and Section 31 in Township 37 North, Range 7 East in Kendall County, Illinois.

The project is fully within Kendall County right-of-way or Kendall County property except for the area within the Fox River.

See Photos in Appendix A.

**B) Biological data on the affected species including life history needs and habitat characteristics. Attach all pre-construction biological survey reports.**

The project area crosses the Fox River Illinois Natural Areas Inventory (INAI) site. The Illinois Natural Heritage Database (October 2019) indicates records for the State-listed river redhorse (*Moxostoma carinatum*) near the proposed bridge crossing over the Fox River.

A 2010 Fish and Mussel Survey completed for this project at the proposed Eldamain Road crossing identified the habitat as relatively high quality for fishes with gravel riffles and low siltation levels. Twenty-seven (27) species in seven families were collected. Three river redhorse individuals were observed. No other listed fish species were collected. The 2010 Fish and Mussel Survey is attached in Appendix C.

The river redhorse is a sucker species that inhabits deep pools over clean gravel or bedrock substrate with swift current. Adults may be 10 to 27 inches in length. It feeds on small aquatic invertebrates including small mollusks, snails and aquatic insects. Spawning occurs in May and June and the male excavates a nest in the gravel on the river bottom. The female and a second male come to the nest, both males fertilize the eggs and the action of the three fish stirs the eggs into the gravel. In Illinois, the river redhorse occurs only in the northern one third of the Illinois River basin (including the Fox River), the Upper Mississippi River, and the Ohio River. Due to rare populations and habitat degradation elsewhere in the Illinois, river redhorse is state listed as threatened.

**C) Description of project activities that will result in taking of an endangered or threatened species, including practices and equipment to be used, a timeline of proposed activities, and any permitting reviews, such as a USFWS biological opinion or USACE wetland review. Please consider all potential impacts such as noise, vibration, light, predator/prey alterations, habitat alterations, increased traffic, etc.**

The proposed project includes the construction of a new bridge over the Fox River. The bridge is approximately 1,600 feet long and includes seven (7) piers. Construction of five (5) of the seven (7) piers will require a cofferdam. This includes piers 2 through 6. Pier 2 is the only pier within the Fox River stream flow based on the estimated water surface elevation (EWSE) and in the approximate center of the Fox River streambed. The remaining four (4) piers are within the 100-year flood zone. The EWSE is a water elevation estimate used for structural design and is based on measured surface water elevations and adjusted based on factors such as the month measured, streambed elevation and top of bank elevation.

Sheet pile cofferdams will be used for construction for five (5) of the seven (7) piers to prevent surface water intrusion and groundwater intrusion into the work area while the piers are being constructed. Piers 2 and 3 will be constructed using Type 2 cofferdams and the remaining three piers will use Type 1. The difference between Type 1 and Type 2 cofferdams is the water elevation used to set the cofferdam height. The cofferdams are removed when pier construction is complete. Pier 2 will be the

only pier keyed into bedrock. The footing for the pier is 64 ft. by 24 ft. or 1,536 square feet (0.035 acres). The cofferdam installed around the working area of the footing is slightly larger and estimated to be 68 ft. by 28 ft. or 1,904 square feet. Appendix D includes the structure plan sheets for Pier 2.

Construction means and methods are designed by the contractor. A temporary causeway is likely the most feasible method to access Pier 2 for construction. Based on the pier location, it is anticipated that the causeway would be approximately 235 feet long and 30 feet wide (7,050 sq. ft.) to accommodate the construction equipment. Combined with the cofferdam footprint (1,904 sq. ft.) the total construction footprint within the streambed would be approximately 9,000 square feet (0.2 acres).

The temporary causeway will use clean coarse aggregate, which will be removed when no longer required for construction. Normal downstream flow will be maintained with the use of culverts in the causeway. The streambed will be restored to its pre-construction cross sectional elevation. All material shall be disposed of offsite or reused in construction. The contract documents specify following IDOT's Recurring Special Provision Check Sheet #8. This provides the specification requiring the use of coarse aggregates for the causeway and that the streambed be returned to its original cross-section or as called for in the plans.

Other near-stream work includes tree removal along the channel banks under and near the bridge and bank stabilization measures. The measure includes soil-bioengineering techniques that integrate native plantings and natural materials. Trees will be removed in accordance with federal Indiana bat and northern long-eared bat guidelines.

The full project construction is anticipated to take 285 working days. Bridge construction is expected to take 100 working days starting in winter 2020. A U.S. Army Corps of Engineers (USACE) 404 permit is required for the project. The project will comply with the terms and conditions of the Nationwide Permit 33 for Temporary Construction, Access and Dewatering. A preconstruction notification will be submitted to the USACE for approval prior to the start of construction. Additionally, the project will require a permit from IDNR's Division of Water Resource Management.

#### **D) Explanation of the anticipated adverse effects on listed species;**

- **How will the proposed actions impact each of the species' life cycle stages?**
- **Describe potential impacts to individuals and the population. Include information on the species life history strategy (life span, age at first reproduction, fecundity, recruitment, survival) to indicate the most sensitive life history stages.**
- **Identify where there is uncertainty, place reasonable bounds around the uncertainty, and describe how the bounds were determined. For example, indicate if it is uncertain how many individuals will be taken, make a reasonable estimate with high and low bounds, and describe how those estimates were made.**

River redhorse impacts could occur from damaging spawning areas or direct impacts to fish from causeway and cofferdam activity. All equipment, materials and debris will be removed from the channel following construction and the channel bottom restored. The estimate is based on the general known presence of the river redhorse in the Fox River, eliminating construction activity during spawning months, and monitoring cofferdams for presence and relocation of river redhorse.

**2) Measures the applicant will take to minimize and mitigate that impact and the funding that will be available to undertake those measures, including, but not limited to -**

**A) Plans to minimize the area affected by the proposed action, the estimated number of individuals of each endangered or threatened species that will be taken, and the amount of habitat affected (please provide an estimate of area by habitat type for each species).**

*Construction means and methods are designed by the contractor. A temporary causeway is likely the most feasible method to access Pier 2 for construction. Based on the pier location, it is anticipated that the causeway would be approximately 235 feet long and 30 feet wide (7,050 sq. ft.) to accommodate the construction equipment. Combined with the cofferdam footprint (1,904 sq. ft.) the total construction footprint within the streambed would be approximately 9,000 square feet (0.2 acres). An estimated 1-2 individual river redhorse might be taken during the construction.*

*Erosion and sediment control measures will be implemented to avoid sediment runoff into the Fox River. Erosion control measures will adhere to those presented in IDOT's BDE Design Manual. The resident engineer (RE) will provide enforcement of the soil erosion and sediment control measures during construction.*

**B) Plans for management of the area affected by the proposed action that will enable continued use of the area by endangered or threatened species by maintaining/re-establishing suitable habitat (for example, native species planting, invasive species control, use of other best management practices, restored hydrology, etc.).**

*Similar habitat exists both upstream and downstream of the project area. After work is complete, the streambed will be restored to its preexisting elevations and natural processes will then shape the riverbed.*

*Measures will be taken to minimize substrate disturbance in the area around the piers and there will be no permanent habitat loss outside of the 1,536 square feet filled by Pier 2. The fish will resume using the area after construction is complete.*

**C) Description of all measures to be implemented to avoid, minimize, and mitigate the effects of the proposed action on endangered or threatened species.**

- **Avoidance measures include working outside the species' habitat.**
- **Minimization measures include timing work when species is less sensitive, reducing the project footprint, or relocating species out of the impact area.**
- **Mitigation is additional beneficial actions that will be taken for the species such as needed research, conservation easements, propagation, habitat work, or recovery planning.**
- **It is the applicant's responsibility to propose mitigation measures. IDNR expects applicants to provide species conservation benefits 5.5 times larger than their adverse impact.**

*A stormwater pollution prevention plan will be prepared that includes erosion and sediment control best management practices that will minimize siltation in the channel. The construction of cofferdams will help contain any sediment displaced by the work and minimize siltation near pier construction areas. Soil conserving practices including silt fence, seeding, and erosion control blankets, will be implemented in the upland areas to minimize the eroded soil entering the river at the construction site. Soil bioengineering techniques that integrate native plantings and natural materials along with stone riprap protection will be used on the banks for long-term stabilization.*

*It is anticipated that the USACE will issue a regional permit for the project. A requirement of the regional permit is that the Illinois Environmental Protection Agency (IEPA) Section 401 Water Quality Certification requirements are met. The certification includes conditions to protect surface water quality. This is in conjunction with the erosion control measures implemented in accordance with IDOT's BDE policy and procedures.*

*Because completely avoiding temporary impacts to the Fox River was not practicable due to the fundamental nature of the project, the area of disturbance within the river is the minimum needed for construction purposes. Based on the previous commitment made during Phase I, no work in the river will occur between March 15 and May 15 to avoid work during river redhorse spawning.*

*Kendall County will retain a qualified biologist to monitor the construction. The biologist will be present during the cofferdam dewatering process to collect and relocate any fish that become trapped within the coffered areas. These fish will be released in suitable habitat downstream of the bridge construction area.*

#### Mitigation

*Kendall County Highway Department will continue to partner with the Illinois Department of Natural Resources. As compensatory mitigation of any potential impacts to the river redhorse will be provided to the IDNR in the amount of \$15,600 to be placed in the Illinois Wildlife Preservation Fund and earmarked for fish recovery.*

**D) Plans for monitoring the effects of the proposed actions on endangered or threatened species, such as monitoring the species' survival rates, reproductive rates, and habitat before and after construction, include a plan for follow-up reporting to IDNR. Monitoring surveys should be targeted at reducing the uncertainty identified in Section 1.d.**

*Kendall County will retain a qualified biologist to conduct an annual fish survey within the incidental take area two years and five years following completion of the proposed project. Survey results will be sent to the IDNR within 60 days of completion of each survey.*

**E) Adaptive management practices that will be used to deal with changed or unforeseen circumstances that may affect the endangered or threatened species.**

- **Adaptive management is a way to make decisions in the face of uncertainty by monitoring the uncertain element over time and adjusting to the new information. Adaptive management requires identifying objectives and uncertainties, thinking through a range of potential outcomes, developing triggers that will lead to different actions being taken, and monitoring to detect those triggers.**
- **Consider environmental variables such as flooding, drought, and species dynamics as well as other catastrophes. Management practices should include contingencies and specific triggers. Note: Not foreseeing any changes does not qualify as an adaptive management plan.**

*During on-site work, Kendall County will conduct daily inspections of the erosion and sediment control practices to ensure proper working order and maintenance. Additional inspections will be made immediately prior to and following events of heavy rain for the area as indicated in the stormwater pollution prevention plan. If eroded soil is observed leaving the limits of construction, additional soil conserving practices will be installed or measures taken to minimize soil erosion.*

*Siltation during all phases of construction will be minimized through use of proper soil erosion and sediment control measures such as floating silt fences to prevent sediment from entering the river. The*

*resident engineer will inspect and ensure maintenance of all silt fences, silt curtains, and other erosion control structures. If site inspections show that measures in place are not functioning or are not adequate, different or additional measures will be added.*

*If unforeseen observations or events pertaining to listed species are identified during construction, IDNR will be contacted.*

**F) Verification that adequate funding exists to support and implement all minimization and mitigation activities described in the conservation plan. This may be in the form of bonds, certificates of insurance, escrow accounts, or other financial instruments adequate to carry out all aspects of the conservation plan.**

*Kendall County has secured the necessary funds to complete the project. Full project funding was approved by the Kendall County Board, a public agency, in September 2016. The Kendall County Highway Department will be responsible for project implementation and oversight. The contractor will be required to post appropriate performance securities and insurance certificates. The avoidance, minimization, and mitigation measures described herein are part of this bridge construction project will be funded accordingly.*

**3) A description of alternative actions the applicant considered that would reduce take, and the reasons that each of those alternatives was not selected. A “no-action” alternative shall be included in this description of alternatives. Please describe the economic, social, and ecological tradeoffs of each action.**

- **Consideration of alternative actions is an important tool in conservation planning as it allows for thinking of other options and evaluating the potential outcomes in terms of all relevant objectives. However, to be useful it requires creativity in developing alternatives and systematic analysis in evaluating the alternatives.**
- **In evaluating alternatives, describe the economic, social, and ecological tradeoffs of each.**

*An Environmental Assessment (EA) completed for the project described its purpose and need. The purpose of the proposed action is to provide multi-modal transportation for a local crossing of the Fox River in the north-south corridor between Yorkville and Plano in northern Kendall County to provide local system continuity; address local system deficiencies; improve local transportation and safety associated with the existing and future populations of Yorkville, Plano and southern Kendall County; and improve access for public facilities and emergency services.*

*The EA evaluated four (4) alternatives that would possibly achieve the identified purpose and need for the project. Three of the alternatives required a new crossing of the Fox River and therefore had similar potential for impacts within the Fox River. The fourth alternative considered improving the existing Fox River crossings. However, this alternative was eliminated due to not meeting the continuity needs identified as part of the purpose and need. The no-action alternative was not the preferred alternative due to it not meeting any of the purpose and need objectives. Taking no-action would not address any of the system continuity issues, the local system deficiencies, the local transportation needs or improve access to any of the public facilities.*

**4) Data and information to indicate that the proposed taking will not reduce the likelihood of the survival of the endangered or threatened species in the wild within the State of Illinois, the biotic community of which the species is a part, or the habitat essential to the species existence in Illinois.**

*The potential for impact is generally limited to the construction activities. The only permanent impact is loss of streambed habitat in the amount of 1,536 sq. ft. (0.035 acres). This is a negligible loss of habitat.*

*Suitable habitat for the river redhorse is present both upstream and downstream of the work area. Due to the small area of impact and the relocation of any fish trapped within the cofferdam, the potential taking at this location is not expected to affect the survival of this species in the Fox River.*

*It should be noted there are multiple populations located within the Upper Illinois River Basin, which will not be affected by this project. Therefore, this project should not affect the survivability of the species in the wild in Illinois. At most, it is anticipated that 1-2 individuals of the river redhorse would be taken and this would not imperil the local population of river redhorse.*

5) An **implementing agreement**, which shall include, but not be limited to (on a separate piece of paper containing signatures):

- A) Names and signatures of all participants in the execution of the conservation plan;

*The Eldamain Road right-of-way at the project location is owned by the Kendall County Highway Department and their duly authorized representative has signed below committing to the execution of this Conservation Plan as a part of the project.*

- B) The obligations and responsibilities of each of the identified participants with schedules and deadlines for completion of activities included in the conservation plan and a schedule for preparation of progress reports to be provided to the IDNR;

*Kendall County Highway Department is solely responsible for completing this project through its designated consultants and contractors.*

*A fish survey was completed September 27, 2010 and was positive for the identified fish species.*

*Construction activities are expected to begin in the fall of 2020 and construction completion date is scheduled for 2021.*

*The IDNR and the IDOT Bureau of Design and Environment will be notified by Kendall County of the preconstruction meeting date, construction start date and construction end date.*

*A progress report to IDNR will be provided at the completion of construction.*

- C) Certification that each participant in the execution of the conservation plan has the legal authority to carry out their respective obligations and responsibilities under the conservation plan;

*See certification clause below.*

- D) Assurance of compliance with all other federal, State and local regulations pertinent to the proposed action and to execution of the conservation plan;

*See certification clause below.*

- E) **Copies of any final federal authorizations for a taking already issued to the applicant**, if any.

*No federal permits for taking have been issued.*

***CERTIFICATION: The Kendall County Highway Department hereby certifies that it has the authority and funding to complete the project and to address the issues proposed in this Incidental Take Conservation Plan for the state-listed river redhorse. The Kendall County Highway Department is in charge of construction and will assure that all applicable state, federal, and local laws will be adhered to during the completion of the project.***



06/17/2020

DATE:

\_\_\_\_\_  
**Fran Klaas, P.E. – Kendall County Engineer**



## References

- Butler, S. E. and D. H. Wahl. 2012. Evaluation of the distribution, movements, and habitat use of the River Redhorse.
- IDOT 2010. Erosion and Sediment Control Field Guide. Illinois Dept. of Transportation.
- Illinois Department of Natural Resources (Illinois DNR). 2015. Illinois Endangered Species Protection Board.
- Illinois DNR. 2017. Biodiversity of Illinois. Accessed at: <https://www2.illinois.gov/dnr/education/CDIndex/RiverRedhorse.pdf>
- Illinois DNR and Endangered Species by County.  
[http://www.dnr.illinois.gov/ESPB/Documents/ET\\_by\\_County.pdf](http://www.dnr.illinois.gov/ESPB/Documents/ET_by_County.pdf)
- Illinois Natural History Survey. 2010. Fish and Mussel Surveys Eldamain Road over Fox River. Job No. P-93-026-05.
- Illinois Natural History Survey Collection, Fish. Current November 11, 2017. Accessed December 13, 2017. <https://biocoll.inhs.illinois.edu/portalx/collections/datasets/datapublisher.php>
- Illinois DNR 2019. Letter to Vince Hamer dated December 12, 2019 “Eldamain Road Phase 2, Seq. 11908A Consultation Program EcoCAT Review #2004627.”
- Redhorse (*Moxostoma carinatum*) and Greater Redhorse (*Moxostoma valenciennesi*) in the upper Illinois River basin. Final Report to Illinois Endangered Species Protection Board, Springfield, IL. 65 pp. In Taylor, 2013b.

# ADDENDUM ENVIRONMENTAL SURVEY REQUEST

Prior to preparing and submitting this AESR, the user should carefully read the instructions

(<http://apps.dot.illinois.gov/environment/esrhome.html>), and associated IDOT policy (BDE Manual Chapter 27 & Local Roads Manual Chapter 20).

An AESR should **only** be submitted when changes in the project will affect areas outside the original surveyed area or when a change in the scope of work for the project would invoke a different criterion, listed in Types of Submittals section of the instructions, from the original survey.

The sequence number of the original project is required to complete the addendum form. If unknown or questions arise on the need for submitting addendum for a specific project, contact the BDE Project Coordinator for State projects and District Local Roads Field Engineer for Local projects for the district involved.

An AESR takes a minimum of 6 months to complete. Results of the environmental surveys must be completed in advance of the desired construction letting.

All fields must be completed unless the information is unavailable at the time of submittal or not applicable to the project.

## A. PROJECT INFORMATION:

- Biological
- Cultural
- State ROW Special Waste

Submittal Date:  (mm/dd/yyyy)

Sequence No:

PPS Project No.:

Contract #:

Job No.:  -  -

Section No.:

County(ies):

Route:

Marked:

Street:

Project Length:  Miles

Municipality(ies):

Township-Range-Section:

Quadrangle:

From To (At):

Survey Completion Target Date:  (mm/dd/yyyy)

(Six months minimum required)

Anticipated Design Approval Date:  (mm/dd/yyyy)

Anticipated NEPA Processing: EA

**B. REASON(S) FOR SUBMITTAL:** (Check all that apply; includes Special Waste Level 1 Screening Criteria)

Survey Types: B = Biological; C = Cultural; SW = Special Waste

B,C  Involves acquisition of additional ROW or temporary or permanent easements. 9.5 acres

SW  Crosses or involves RR Row on a state-maintained route.

B,C

Requires in-stream work (e.g., drainage structure runaround). Stream Name:

Fox River

C  Potential to affect a historic district or historic property.

C  Involves replacement or rehabilitation of a bridge/culvert 40 years old or older.

SW

Involves acquisition of State ROW; involves excavation on State ROW, or involves subsurface utility relocation on State ROW.

Other Update natural resource revi

- Biological
- Cultural
- State ROW Special Waste (ensure these checked boxes match with those above)

**C. ADDENDUM DESCRIPTION:** [255 character limit. If needed, use "Addl. Info" Memo to expand on this description.]

Project is currently in Phase II. Phase I approval was granted Jan. 8, 2014. The EA FONSI was signed Aug. 14, 2013. Original sequence is #15049.

Tree Removal? Yes

Number: or 16.3 Acres

Within Mahomet SSA Project Review Area?

Existing Bridge(s) Structure Number: NA - , - , -

**D. PROJECT CONTACT PERSON**

Name: Fran Klaas

Telephone #: ( 630 ) 553 - 7616 ext.

Title/Organization: Director

E-Mail: FKlaas@co.kendall.il.us

**E. ADDITIONAL INFORMATION**

Memo By: Sean LaDieu - HR Green

The Phase I EA addressed proposed Eldamain Road extension from US 34 to Walker Road. Kendall County completed Phase II design and construction of Eldamain Road (Contract A) from US 34 to River Road. Kendall County has initiated Phase II design for Eldamain Road from River Road to just south of IL 71. This segment includes the new bridge over the Fox River. EA coordination included references to an eagle survey need. This addendum ESR is also being submitted to update the biological review for T&E species (bats and RPBB). Mussel survey was conducted in Phase I for the Fox River. Proposed Eldamain Road will include one 12-foot PCC through lane in each direction separated by an 18-ft raised median. It will include 8-foot PCC shoulders and an open drainage system.

T37N-R6E-36;T37N-R7E-31;T36N-R6E-1,12,13

### Page 2 - ADDENDUM SPECIAL WASTE LEVEL II SCREENING

If the Special Waste box is checked in Section B above based on the type of work involved with the project, then Level 1 special waste screening fails and a PESA is required. Submitting this ESR initiates the PESA process. Optionally, you may proceed with a Level 2 special waste screening.

According to IDOT Policy, "due care" must be performed to determine whether regulated substances may be present on or adjoining a project. A PESA is IDOT's chosen initial and minimum method of demonstrating "due care". Thus, a PESA is required on every project where the Special Waste box is checked.

There are some select scenarios where the need for a PESA can be avoided and "due care" demonstrated based on the successful performance and documentation of a Level II Screening. The Level II Screening criteria have been carefully constructed and apply in project situations that are likely to pose minimal risk. ***If any response to Level 2 Screening questions in 2A below is "yes" or is undetermined, then a PESA is required.***

#### Level II Screening Criteria

**If for any reason, the presence of any environmental condition cannot be determined from the site reconnaissance or from database searches, please check this box, add an explanation below, and submit for PESA**

**2A. Does the project involve any of the following environmental conditions within the corresponding minimum search distance? Please answer Y/N to the following environmental conditions. Database search sites are provided.**

Environmental Condition	Minimum Search Distance	Database Search	Site Reconnaissance
Industrial and/or commercial property	0.25 miles		No ▾
Other Environmental Conditions (Please detail below.) <sup>1</sup>	Property & adjoining property		Yes ▾
Crosses or otherwise involves railroad ROW (Please detail below.) <sup>2</sup>	Property & adjoining property		Yes ▾
State UST	Property & adjoining property	No ▾	
State LUST	0.5 miles	No ▾	
State Voluntary Cleanup, Brownfield, or landfills	0.5 miles	No ▾	
Federal NPL; NPL delisted, SEMS; SEMS NFRAP	1.0 miles; 0.5 miles; 0.5 miles; 0.5 miles, respectively	No ▾	

Environmental Condition	Minimum Search Distance	Database Search	Site Reconnaissance
Federal RCRA CORRACTS facilities; RCRA non-CORRACTS TSD facilities	1.0 miles; 0.5 miles, respectively	No ▾	
Federal RCRA generators list	Property & adjoining property	No ▾	
Federal RCRA Brownfield sites	0.5 miles	No ▾	
Federal ERNS System	Property	No ▾	

<sup>1</sup> Other Environmental Conditions are identified through in-person site reconnaissance and include situations that may negatively affect the property including the presence of, for example, illegal dumping, unknown containers, waste associated with “crack” or methamphetamine houses (i.e., discarded hazardous material on the outside of a property), battery piles, paint spills, abandoned transformers, surface staining, vegetative damage, etc. Historic land uses that include any of these activities also qualify.

<sup>2</sup> Crosses or otherwise involves railroad ROW, other than a single rail rural ROW with no maintenance facilities.

**Describe Findings/Other Environmental Conditions:**

RECs noted for RR Crossing (cabinet at crossing); Petroleum pipelines at IL 71; Farmstead at Budd Rd and IL 71.

**2B. Were photographs taken of the site and/or surrounding area?** Yes ▾

**2C. Place a check next to each reference that is reviewed. (Optional)**

To identify a property or condition that may negatively affect the project site or potential historical, industrial and/or commercial use, the following sources of information can be helpful while screening the project.

- Google - type aerial maps
- Extranet data
- Historic Aerial Photos
- Survey Books
- Other Files & Photos
- City Directories
- County Assessor
- Sanborn Fire Insurance Maps
- Plat Books

Other source (describe):

ISGS PESA dated 12-10-09; ISGS #1967

*If any historical reference indicates the possible presence of a property or condition that may negatively affect the project site, then a PESA is required.*

*If all responses for database and site reconnaissance are conclusively “No”, then the Level II screening is successful and the District Special Waste Coordinator may sign-off the project. Ensure the “Special Waste” box in Section A is checked.*

*For local roads projects, the local public agency (LPA) shall complete the Level 2 Screening form for portions of the project affecting State right-of-way. The District Special Waste Coordinator must confirm the screening results and shall replace the LPA information in the sign-off box with their own information prior to submittal to BDE.*

*The Level II District Sign-off is valid for up to six months. After that, the District Sign-Off must be validated for the project to achieve design approval and ultimately cleared for letting. If any response for database search and site reconnaissance is “Yes”, or if a database search or site reconnaissance is not performed or is inconclusive, then a PESA is required. See BDE Manual 27-3 for additional instructions.*

**Special Waste Screen Preparation Date:** ISGS PESA 12-10-09

**Prepared By (name):** Sean LaDieu

**Organization/firm:** HR Green

**Telephone #:** ( 630 ) 508 - 7008

**Ext.**

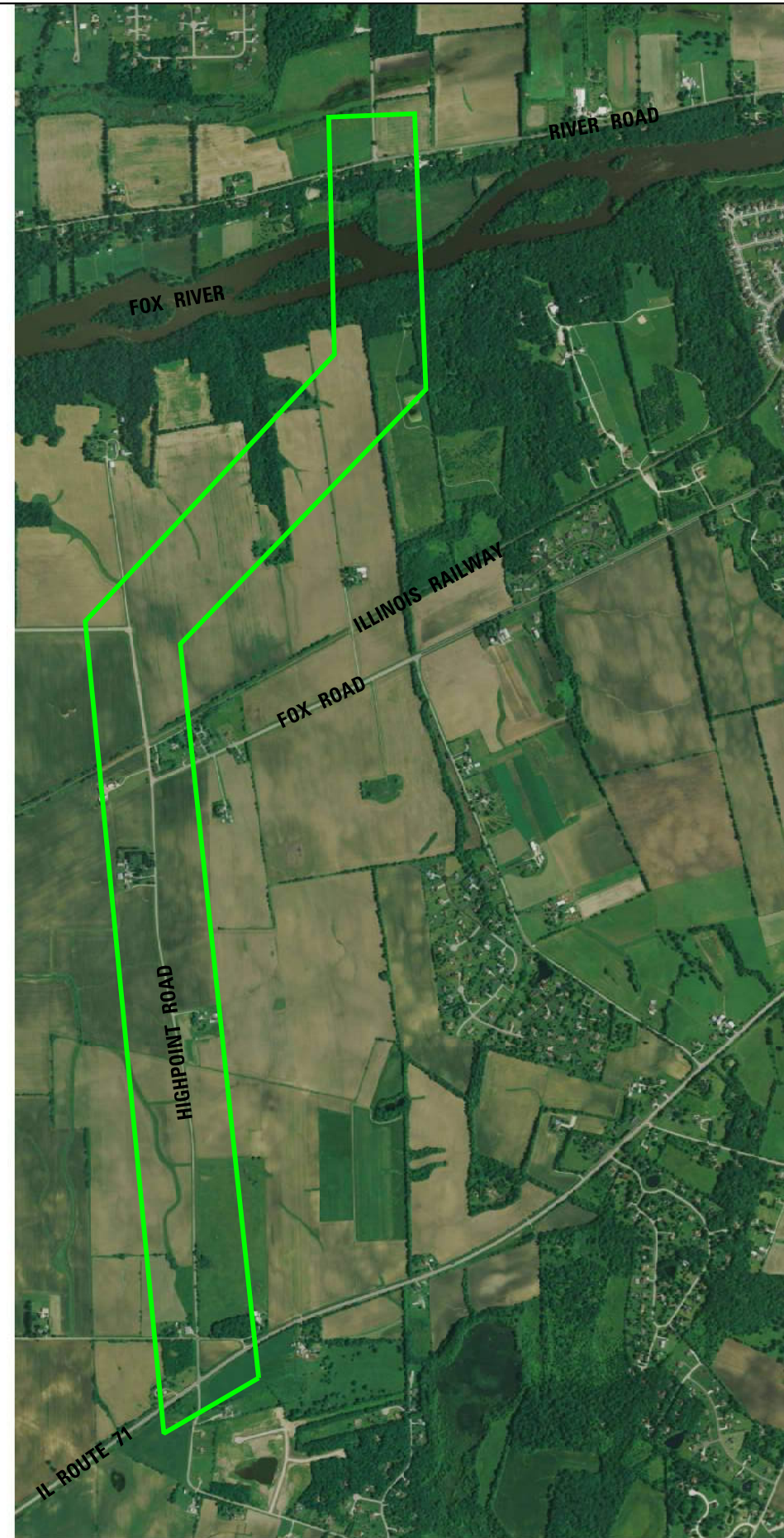
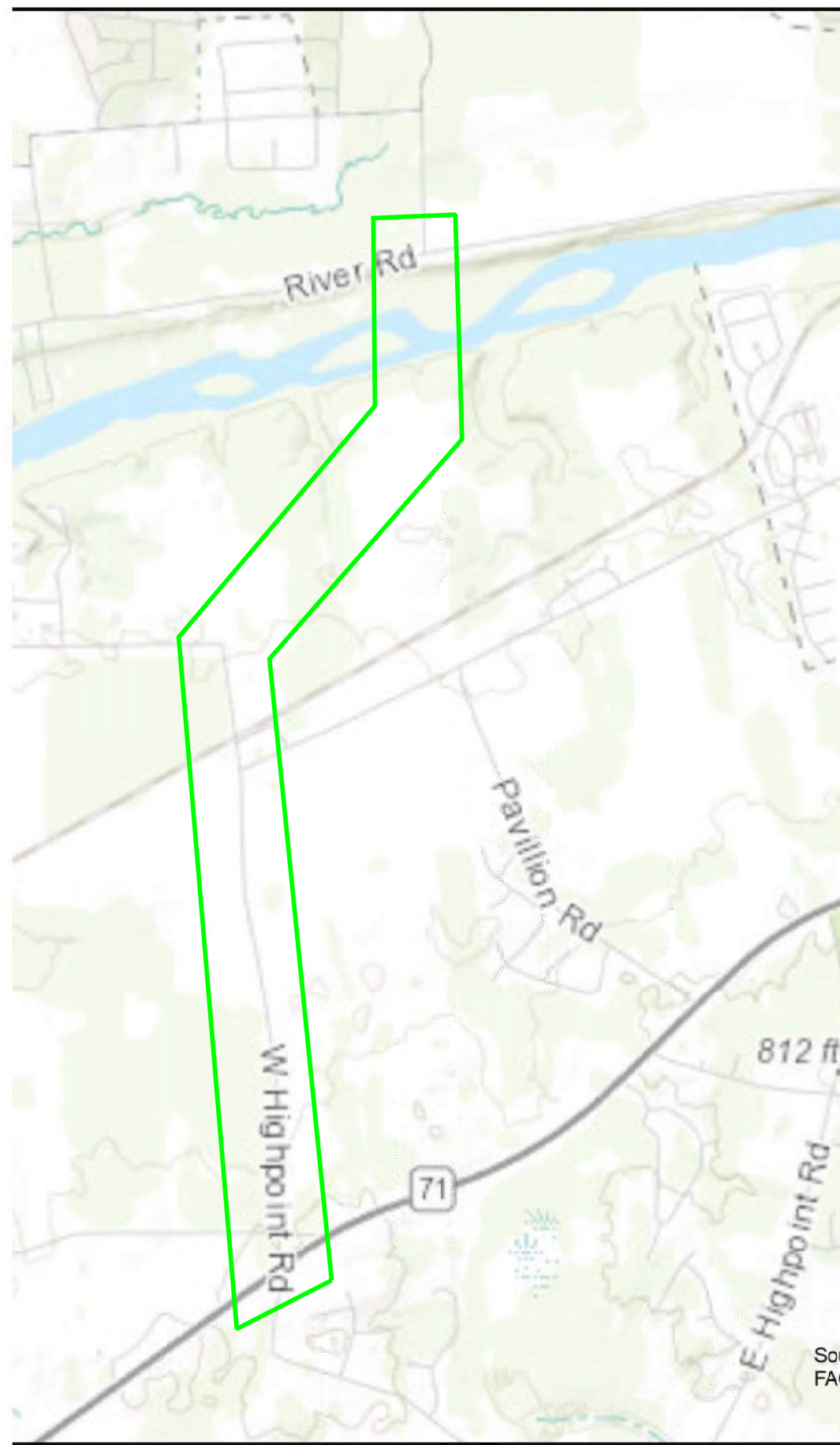
Email:

On behalf of (project developer):

Other Information:

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**PROJECT LOCATION MAP**  
 ELDAMAIN ROAD  
 RIVER ROAD TO IL ROUTE 71  
 KENDALL COUNTY  
 SECTION NO. 05-00086-00-EG

HRG PROJECT NO.: #890038/  
 HRG PROJ. CONTACT: 388B\_exhibit-location-map02.dgn  
 FILE NAME: 388B\_exhibit-location-map02.dgn  
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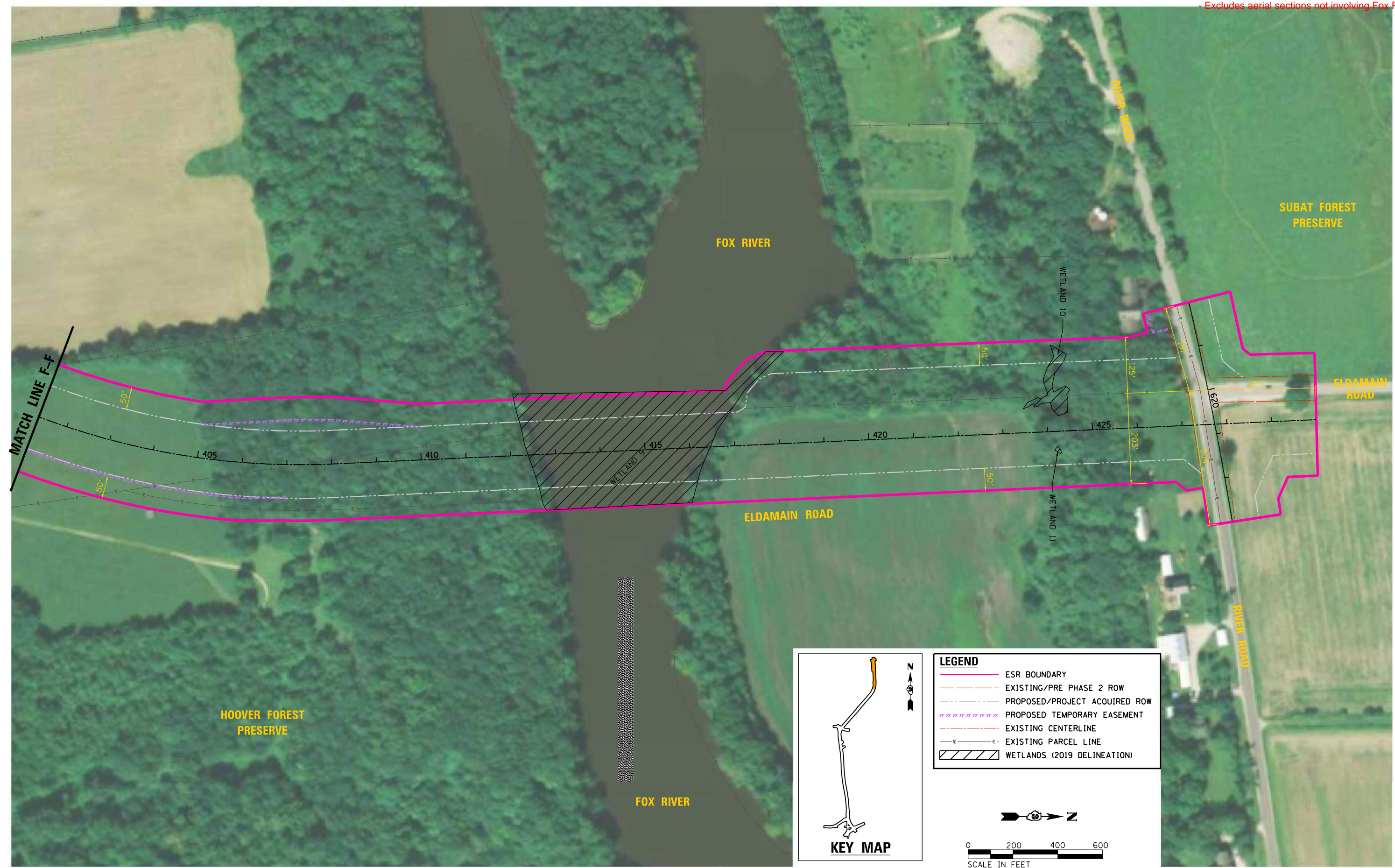
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**KENDALL COUNTY HIGHWAY DEPARTMENT**

**PROJECT LOCATION MAP**

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

F.A.U./F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4000	05-00086-00-EG	KENDALL	2	2
ADDENDUM ESR - SEQ. NO. 19908				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



HRG PROJECT NO.: 8803038/  
 HRG PROJ. CONTACT: 3818\_ESR\_exhibit\_07.dgn  
 FILE NAME: 3818\_ESR\_exhibit\_07.dgn  
 PEN TABLE: pen.tbl



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PLOT DATE = 11/11/2019	DATE -	REVISED -

**KENDALL COUNTY HIGHWAY DEPARTMENT**

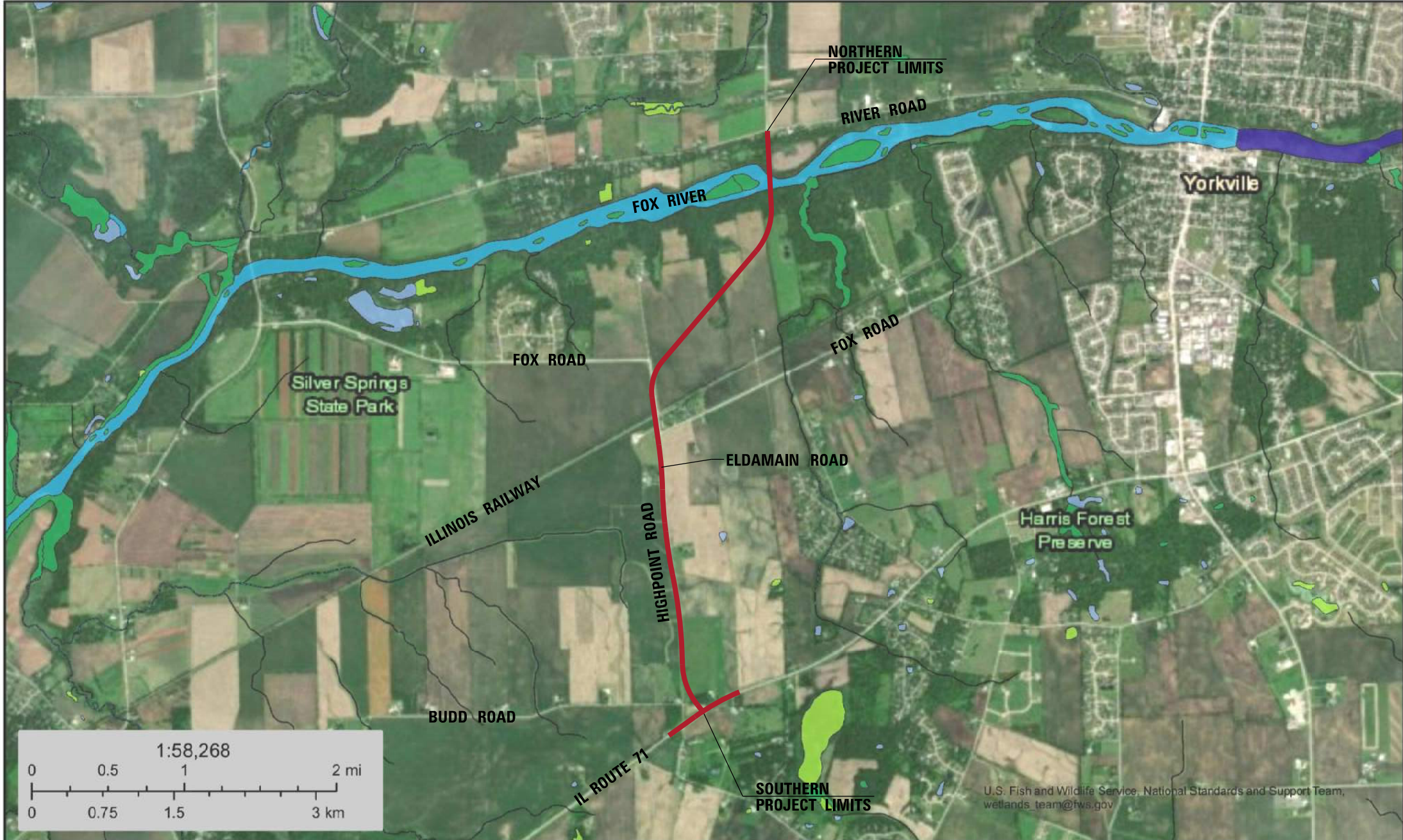
<b>ELDAMAIN ROAD ESR AERIAL EXHIBIT</b>				
SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.

F.A.U./F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4000	05-00086-00-EG	KENDALL	7	7
ADDENDUM ESR - SEQ. NO. 19908				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



**U.S. Fish and Wildlife Service**  
**National Wetlands Inventory**

**Eldamain Road**



October 18, 2019

- Wetlands**
- Estuarine and Marine Deepwater
  - Freshwater Emergent Wetland
  - Freshwater Forested/Shrub Wetland
  - Estuarine and Marine Wetland
  - Freshwater Pond
  - Lake
  - Other
  - Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)  
 This page was produced by the NWI mapper

HRG PROJECT NO.: 890038/  
 HRG PROJ CONTACT: 388B\_exhibit\_wetland.dgn  
 FILE NAME: 3818\_exhibit\_wetland.dgn  
 PEN TABLE:



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PLOT SCALE =	CHECKED -	REVISED -
PLOT DATE = 11/11/2019	DATE -	REVISED -

**KENDALL COUNTY HIGHWAY DEPARTMENT**

ELDAMAIN ROAD RECONSTRUCTION WETLANDS MAP				
SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.

F.A.U./F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4000	05-00086-00-EG	KENDALL	1	1
ADDENDUM ESR - SEQ. NO. 19908				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Eldamain Road –River Road to IL 71  
General Photos  
Project Section # 16-00136-00-RP

Appendix A - AESR Submittal with Photos  
- Excludes aerial sections not involving Fox River



Intersection of Highpoint Road and Fox Road



Fox River on the South Bank



Fox Road at RR Tracks



Open Agricultural Areas - Typical



## Illinois Department of Natural Resources

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

Bruce Rauner, Governor

Wayne A. Rosenthal, Director

December 12, 2019

Vince Hamer  
IDOT-BDE-Central Office  
Natural Resources Survey Coordinator  
2300 South Dirksen Parkway  
Springfield, IL 62764

**RE: Eldamain Road -Phase 2, Seq. 19908A  
Consultation Program  
EcoCAT Review #2004627  
Kendall County**

Dear Mr. Hamer:

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

The proposed action being reviewed in this letter consists of building a southern extension of Eldamain Road on new alignment, with a new bridge across the Fox river, connecting Eldamain Road with High Point Road in Yorkville, IL.

The project crosses the **Fox River Illinois Natural Areas Inventory** (INAI) site. This site is was designated as an INAI site for providing specific suitable habitat for State-listed species or State-listed species relocations and for housing unusual concentrations of flora or fauna. The Illinois Natural Heritage Database indicates records for the State-listed **slippershell** (*Alasmidonta viridis*) and **river redhorse** (*Moxostoma carinatum*) in the vicinity of the proposed bridge crossing over the Fox River. On the basis that this project has the potential to impact State-listed species and high-quality native mussel and fish communities, the Department recommends a fish survey and mussel survey be conducted. Results should be forwarded to the Department for a final determination on impacts.

Based on the results of the mussel survey, the Department may also request a mussel relocation effort be conducted, pursuant to *Fish and Aquatic Life Code* [515 ILCS 5/1-50], Title 17 *Illinois Administrative Code Part 860*.

Eldamain Road -Phase 2, Seq. 19908A, Consultation #2004627


The Illinois Natural Heritage Database also indicates records for the State and Federally-listed **rusty patched bumblebee (*Bombus affinis*)** in the vicinity of the project. The Department recommends a survey be conducted for the rusty patched bumblebee, as well as botanical surveys of the project area, to determine if the rusty patched bumblebee or suitable rusty patched bumblebee habitat is likely to be adversely affected by this project. Results should be forwarded to the Department for a final determination on impacts.

Consultation on the part of the Department is closed, unless the applicant desires additional information or advice related to this proposal. Consultation for Part 1075 is valid for two years unless new information becomes available which was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the action has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal and should not be regarded as a final statement on the project being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are unexpectedly encountered during the project's implementation, the applicant must comply with the applicable statutes and regulations.

Please contact me with any questions about this review.

Sincerely,



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

UNIVERSITY OF ILLINOIS  
AT URBANA-CHAMPAIGN

Institute of Natural Resource Sustainability  
Illinois Natural History Survey  
1816 South Oak Street  
Champaign, IL 61820



MEMORANDUM

TO: Barb Traeger  
Illinois Department of Transportation (IDOT)  
Bureau of Design and Environment, Room 330  
2300 S. Dirksen Parkway, Springfield IL 62764

FROM: Christopher A. Taylor, Ichthyologist  
Jeremy S. Tiemann, Malacologist  
Illinois Natural History Survey (INHS)  
1816 S. Oak St., Champaign IL 61820

DATE: 27 September 2010

SUBJECT: Fish and Mussel Surveys  
Eldamain Road over Fox River  
Section 05-00086-00-EG  
Job No. P-93-026-06  
Kendall County  
IDOT District 1

INTRODUCTION

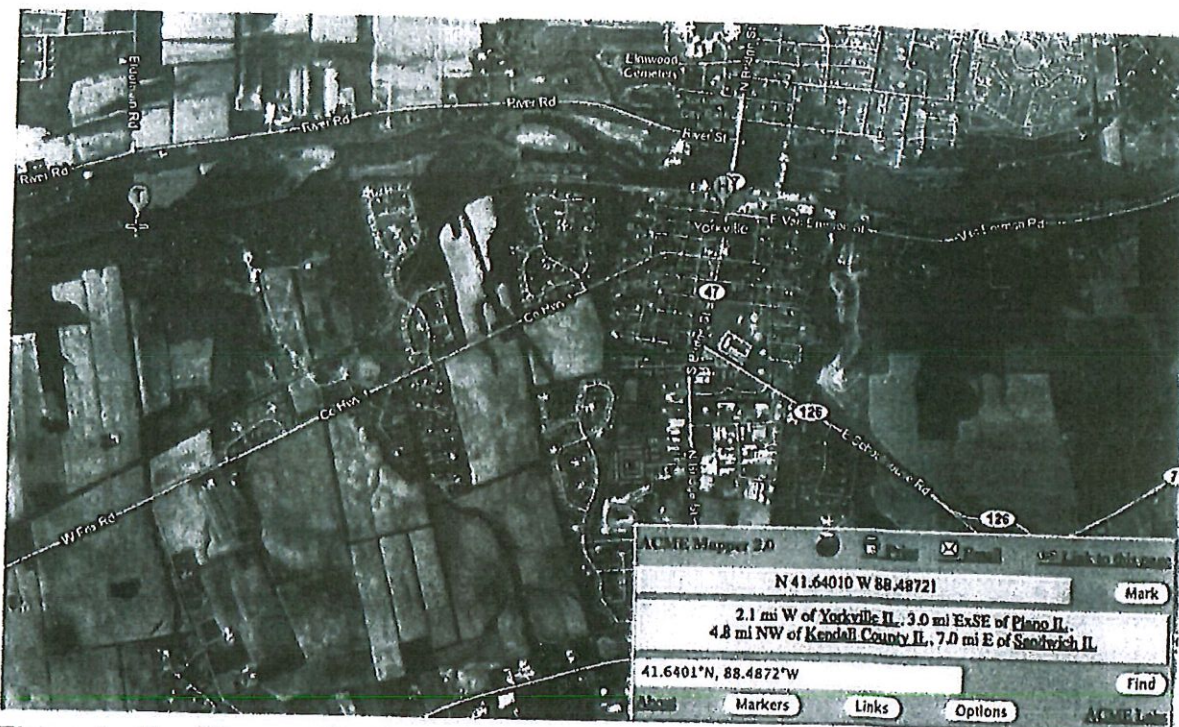
This memorandum is submitted in response to a request made by Barb Traeger of IDOT to Joe Merritt of INHS, dated 22 September 2009, for fish and mussel surveys in the area of the proposed Eldamain Road crossing of the Fox River, Kendall County, Illinois. IDOT proposes to build a new bridge spanning the Fox River at this site. This memorandum summarizes the results of field-work conducted on 8 July and 25 August 2010.

Nomenclature used for fishes discussed in this memorandum follows Robins et al. (1991) and Mayden et al. (1992), except that subspecies are not recognized. Nomenclature used for freshwater mussels discussed in this memorandum follows Cummings and Mayer (1992), and also includes changes discovered since 1992 in date of publication, original spelling, or priority of names.

The current status of threatened and endangered species of fishes and mussels discussed in this memorandum are taken from Illinois Endangered Species Protection Board (IESPB) (2010), or U.S. Department of Interior, Fish and Wildlife Service (USDI, FWS) (1996, 1997).

## PROJECT LOCATION

Sampling for fishes and freshwater mussels was conducted in the Fox River near the proposed Eldamain Road crossing, 2.1 mi W of Yorkville, Kendall County, Illinois (Second Principal Meridian: Township 37N, Range 6E, SE/4, Section 36). The specific locality information for this site is taken from the Acme Mapper 2.0 website (<http://mapper.acme.com/>) using a point centered on the proposed Eldamain Road crossing: latitude 41.6401°N, longitude -88.4872°W (NAD83/WGS84) (Figure 1).



**Figure 1.** Fox River, at the proposed IDOT Eldamain Road crossing (bullet T), 2.1 mi W of Yorkville (bullet T), Kendall County, Illinois (Second Principal Meridian: Township 37N, Range 6E, SE/4, Section 36) where surveys for fishes and freshwater mussels were conducted by INHS personnel in 2010. Figure taken from Acme Mapper 2.0 (<http://mapper.acme.com/>).

## HABITAT CHARACTERIZATION

On 8 July and 25 August 2010, INHS personnel examined a 300 m reach of the Fox River bisected by the proposed Eldamain Road crossing. Stream width through sampling corridor averaged 70 m, with depths ranging from 0.1 – 2.0+ m. Water was turbid at the time of our visit and substrates were dominated by fine gravel intermixed with firm mud. Some softer mud/silt accumulations were also present along the edges of the Fox River. Water willow was present around the margins of the island immediately downstream of the proposed crossing. Both banks

were tree-lined, however the west bank had a much wider wooded riparian corridor. Portions of the east bank had a narrower riparian corridor that was abutted by commercially/residentially-developed land. Flow was minimal in this stretch of the Fox River and appears to be affected by the low-head dam located approximately 2 mi downstream.

### BACKGROUND (Fishes)

Fishes recorded from the Fox River drainage in Illinois total 93 species in 17 families. Five state endangered and four state threatened (IESPB 2010) are known from this system.

Within the Fox River drainage, the state endangered pugnose shiner (*Notropis anogenus*) and blacknose shiner (*Notropis heterolepis*) and state threatened blackchin shiner (*Notropis heterodon*), starhead topminnow (*Fundulus dispar*), and banded topminnow (*Fundulus diaphanus*) currently exist only in the Fox River Chain of Lakes in Lake County. With one exception, collecting efforts over the past 20 years have failed to find these species in other areas of the Fox River drainage. A single blacknose shiner was collected from Nippersink Creek (in McHenry County) in 1992. The blackchin shiner, blacknose shiner, pugnose shiner, starhead topminnow, and banded topminnow all occur in clear, vegetated, sand bottomed pools and slow runs of creeks and small rivers or in clear vegetated lakes.

The state endangered weed shiner (*Notropis texanus*) has been collected once in the Fox River drainage. A single specimen captured near Algonquin was collected on 30 July 1901. The weed shiner occurs in clear, sand pools and runs of creeks and small rivers.

In addition to the Fox River Chain of Lakes, the state endangered Iowa darter (*Etheostoma exile*) is also known to occur in a tributary of Boone Creek, in McHenry County. Iowa darter populations also occur in the nearby Des Plaines, Kishwaukee, and Pecatonica River drainages. The preferred habitat of the Iowa darter is clear, well-vegetated lakes, sloughs, and low-gradient creeks.

The state threatened river redhorse (*Moxostoma carinatum*) occurs in the lower portions of the Fox River in Kane and Kendall counties, with several specimens having been collected there in the past 10 years. A single specimen was collected at the Mouth of Mill Creek 0.75 mi upstream of Illinois Route 56 bridge, Kane County, on 26 October 1993. Two specimens were also collected at West Dundee, Kane County on 3 June 2003. A total of five specimens were collected on two different days, 25 April and 1 May 1996, from a stretch of the Fox River running from approximately 0.2 to 2.0 km downstream of the U.S. Route 30 bridge, Kendall County. While the species has never been collected from the Fox River in LaSalle County, an IDNR Natural Heritage Database record lists 2 specimens as being collected from the Fox River at Millington in 1991. The river redhorse usually occurs in small to large rivers with rocky substrates.

The state endangered greater redhorse (*Moxostoma valenciennesi*) a species once thought to be extirpated from Illinois, has been collected on several occasions over the past ten years from the Fox, Illinois, and Vermilion Rivers. Prior to these collections, the species had been collected only once, from the Des Plaines River drainage, DuPage County, on 27 July 1901. Within the Fox River, three specimens have been collected: Yorkville, Kendall County, 29 August 1991; 0.75 mi upstream of Illinois Route 56 bridge, Kane County, 26 October 1993; and approximately 0.75 mi upstream Oswego, Kendall County, 1 May 1996. The species has also been collected



from the Illinois River in LaSalle County. A single specimen was collected approximately 1.5 mi SE Marseilles in July of 1985. Within the Fox River drainage, the greater redhorse has also recently been collected from Big Rock Creek in northern Kendall County; single specimens were collected at R. H. Klatt Park in Plano in August of 2002, and just upstream of Henning [Hennig] Road on 18 July 2007. The greater redhorse usually occurs in sandy or rocky pools and runs of small to large rivers.

### **METHODS (Fishes)**

A 300 m reach of the Fox River at the proposed Eldamain Road crossing was surveyed for fishes on 8 July 2010 by INHS personnel B. D. Cheek, C. A Taylor, and J. S Tiemann. Fishes were collected with a 230V boat-mounted electro-shocker for a period of one hour. In addition, three bottom trawl hauls of 100 meters were conducted using a modified "Missouri" trawl. The modified Missouri trawl measures approximately 3 m wide by 1 m high at its mouth. With the exception of one river redhorse, which was vouchered to confirm its identification, specimens were identified and counted in the field and returned to their habitat.

### **RESULTS (Fishes)**

Fishes collected from the Fox River at the proposed Eldamain Road crossing on 8 July 2010 number 27 species in seven families (**Table 1**). Three individuals of the state threatened river redhorse were collected in within the sampled project corridor. No other species listed at either the state or federal level as threatened or endangered were collected or observed. With the exception of the river redhorse, all other species collected were common inhabitants of the Fox River drainage and larger northern Illinois rivers.

### **DISCUSSION (Fishes)**

Habitat in the Fox River at the proposed Eldamain Road crossing was of relatively high quality for fishes. Both deeper runs (~1 m) and shallow gravel riffle areas with abundant water willow were present in the project corridor. Siltation levels in the project corridor were also low. This diversity of habitat is most likely responsible for the high level of fish diversity encountered at the site. The presence of clean rocky substrates in the form of gravel riffle areas is likely responsible for the occurrence of the river redhorse in the project corridor. The lower Fox River in Illinois represents one of the largest populations of this species in the state as evidenced by the recent collections of the species discussed in the above Background (fishes) section. Given the results of our current survey, the proximity of historical records, and the presence of suitable habitat, we believe that a healthy population of river redhorse occurs in and near the proposed Eldamain Road crossing site.

We believe that it is highly unlikely that populations of the blacknose, blackchin, pugnose, or weed shiners, northern starhead or banded topminnows, greater redhorses, or Iowa darter occur at the Eldamain Road project site. This belief is based on current and historical fieldwork and a lack of suitable habitat at the proposed project site.

**Table 1.** Fishes collected by INHS personnel from a 300 reach of the Fox River in the vicinity of the proposed Eldamain crossing 2.1 mi W of Yorkville, Kendall County, Illinois, on 8 July 2010. ST = state threatened

<b>Species</b>	<b># collected or observed</b>
<b>Clupeidae</b>	
<i>Dorosoma cepedianum</i>	8
<b>Cyprinidae</b>	
<i>Cyprinus carpio</i> common carp	12
<i>Cyprinella spiloptera</i> spotfin shiner	19
<i>Luxilus chrysocephalus</i> striped shiner	1
<i>Notropis atherinoides</i> emerald shiner	17
<i>Notropis ludibundus</i> sand shiner	17
<i>Notropis rubellus</i> rosyface shiner	1
<i>Pimephales notatus</i> bluntnose minnow	22
<i>Pimephales vigilax</i> bullhead minnow	4
<i>Semotilus atromaculatus</i> creek chub	1
<b>Catostomidae</b>	
<i>Carpionodes cyprinus</i> quillback	7
<i>Carpionodes velifer</i> highfin carpsucker	15
<i>Hypentelium nigricans</i> northern hogsucker	3
<i>Moxostoma anisurum</i> redhorse	4
<i>Moxostoma carinatum</i> - ST river redhorse	3
<i>Moxostoma erythrurum</i> golden redhorse	6
<i>Moxostoma macrolepidotum</i> shorthead redhorse	32
<b>Ictaluridae</b>	
<i>Ictalurus punctatus</i> channel catfish	5
<i>Pylodictus olivaris</i> flathead catfish	1

[Table 1 concluded on following page]

Table 1 (concluded).

Species	# collected or observed
<b>Centrarchidae</b>	
<i>Lepomis macrochirus</i> bluegill	8
<i>Micropterus dolomieu</i> smallmouth bass	2
<i>Micropterus salmoides</i> largemouth bass	4
<i>Pomoxis nigromaculatus</i> black crappie	1
<b>Percidae</b>	
<i>Etheostoma nigrum</i> johnny darter	1
<i>Etheostoma zonale</i> banded darter	1
<i>Stizostedion vitreum</i> walleye	1
<b>Sciaenidae</b>	
<i>Aplodinotus grunniens</i> freshwater drum	2
<b>Total number of species:</b>	<b>27</b>

### BACKGROUND (Freshwater Mussels)

The diverse and abundant mussel fauna of the Fox River basin in Illinois has suffered a dramatic decline since the 1950s. Of the thirty-four species historically reported from the basin, 23 species were collected alive in 1997-2001 (Schanzle et al. 2004). State-listed species have been particularly hard hit; only three (state-threatened slippershell, *Alasmidonta viridis*, the state-threatened spike, *Elliptio dilatata*, and the state-threatened black sandshell, *Ligumia recta*) have been collected alive in the basin since 1969. *Alasmidonta viridis* was collected alive in Blackberry Creek in 1997, East Branch Big Rock Creek in 1997, Rob Roy Creek in 1998, Waubensee Creek in 1998, and Tyler Creek in 2001. *Elliptio dilatata* was collected alive in Ferson Creek in 1998, Big Rock Creek in 2003, and the Fox River mainstem in 2000. *Ligumia recta* was collected alive in the Fox River mainstem in 2000.

A literature review and a search of the INHS Mollusk Collection and other museum collections for historical and recent records of freshwater mussels revealed that the Fox River in Kendall County, Illinois, once supported an abundant and species rich freshwater mussel fauna, but now it is sparse and depauperate. Historical data of freshwater mussels near the Eldamain Road project corridor in the Fox River basin revealed 23 native species (Table 2). No state-threatened or state-endangered freshwater mussels from the Fox River mainstem near the Eldamain Road project site have been collected in over 50 years.

### METHODS (Freshwater Mussels)

A freshwater mussel survey was conducted in the Fox River mainstem at the proposed Eldamain Road crossing on 25 August 2010 by INHS personnel J.S. Tiemann, K.S. Cummings, S.A. Bales, A.L. Price, D. Shasteen, and three hourly technicians. Freshwater mussels were collected by hand-picking for a total of 6 man-hours. Voucher specimens of each species collected were placed in the INHS Mollusk Collection, Champaign.

### RESULTS AND DISCUSSION (Freshwater mussels)

Four species of freshwater mussels were found alive during this present survey, but none of those currently are listed at the state or federal level; ten additional species were found only as shells, including relict purple wartyback, *Cyclonaias tuberculata*, and relict spike, *Elliptio dilatata* – both of which are listed as state-threatened (Table 2). All of the freshwater mussels collected alive during this study are common inhabitants of central Illinois streams.

**Table 2.** Historical data (pre-2005) for freshwater mussels known from the Fox River mainstem near the Eldamain Road project site in Kendall County, Illinois, and those species collected by INHS personnel on 25 August 2010. Data were taken from the Illinois Natural History Survey Mollusk Collection database in Champaign. Special status of freshwater mussels includes <sup>ST</sup> = state-threatened and <sup>SE</sup> = state-endangered.

Freshwater Mussel Species	2010 survey
<b>Anodontinae</b>	
<i>Alasmidonta marginata</i> – elktoe	D
<i>Anodontoides ferussacianus</i> – cylindrical papershell	R
<i>Lasmigona complanata</i> – white heelsplitter	6
<i>Lasmigona costata</i> – flutedshell	R
<i>Pyganodon grandis</i> – giant floater	5
<i>Strophitus undulatus</i> – creeper	
<i>Utterbackia imbecillis</i> – paper pondshell	
<b>Ambleminae</b>	
<i>Amblema plicata</i> – threeridge	1
<i>Cyclonaias tuberculata</i> – purple wartyback <sup>ST</sup>	R
<i>Elliptio dilatata</i> – spike <sup>ST</sup>	R
<i>Fusconaia flava</i> – Wabash pigtoe	D
<i>Pleurobema sintoxia</i> – round pigtoe	R
<i>Quadrula metanevra</i> – monkeyface	
<i>Quadrula pustulosa</i> – pimpleback	D
<i>Quadrula quadrula</i> – mapleleaf	D
<b>Lampsilinae</b>	
<i>Actinonaias ligamentina</i> – mucket	R
<i>Lampsilis cardium</i> – plain pocketbook	1
<i>Leptodea fragilis</i> – fragile papershell	
<i>Ligumia recta</i> – black sandshell <sup>ST</sup>	
<i>Potamilus ohioensis</i> – pink papershell	
<i>Toxolasma parvus</i> – lilliput	
<i>Venustaconcha ellipsiformis</i> – ellipse	
<i>Villosa iris</i> – rainbow <sup>SE</sup>	
Live native species	4
Total native species	14

## LITERATURE CITED

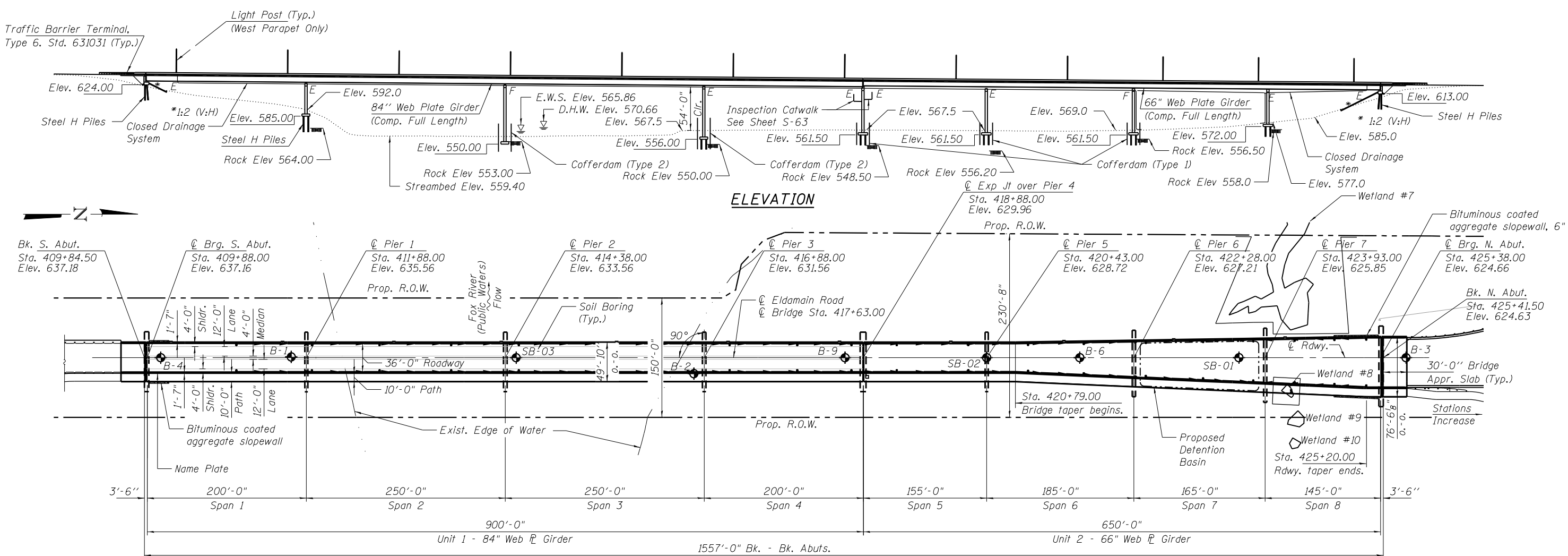
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- Illinois Endangered Species Protection Board (IESPB). 2010. *Checklist of Endangered and Threatened Animals and Plants of Illinois* < [http://dnr.state.il.us/ESPB/2010 Checklist FINAL for webpage 082010.pdf](http://dnr.state.il.us/ESPB/2010%20Checklist%20FINAL%20for%20webpage%20082010.pdf) > [effective 20 August; accessed: 25 September 2010].
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- U.S. Department of the Interior, Fish and Wildlife Service [USDI, FWS]. 1991. Endangered and threatened wildlife and plants. Animal candidate review for listing as endangered or threatened species. 21 November 1991, 50 CFR Part 17, Federal Register 56(225):58804-58836.
- U.S. Department of the Interior, Fish and Wildlife Service [USDI, FWS]. 1993. Endangered and threatened wildlife and plants. 23 August 1993. 50 CFR Part 17.11 and 17.12. 40 pp.

BENCHMARK: Railroad spike in north face of 3rd power pole east of Eldmain Road on south side of River Road.  
Elevation = 623.49, Eldmain Rd. Sta. 427+63.15 (279.64' right), River Rd. Sta. 623+55.14 (46.01' right).

EXISTING STRUCTURE: none

SALVAGE: none

UTILITIES: none



ELEVATION

PLAN

DESIGN SCOUR ELEVATION TABLE

Event/Limit State	Design Scour Elevations (ft.)									Item 113
	S. Abut.	Pier 1	Pier 2	Pier 3	Pier 4	Pier 5	Pier 6	Pier 7	N. Abut.	
Q100	625.0	592.0	553.8	564.0	564.3	563.5	563.9	577.1	615.0	8
Q200	625.0	592.0	553.7	563.6	563.9	563.2	563.6	577.1	615.0	
Design	624.0	585.0	553.0	556.0	561.5	561.5	561.5	572.0	613.0	
Check	624.0	585.0	553.0	556.0	561.5	561.5	561.5	572.0	613.0	

DESIGN SPECIFICATIONS

2015 & 2016 Interim to AASHTO LRFD Bridge Design Specifications, Seventh Edition, 2014

LOADING HL-93

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

DESIGN STRESSES

f'c = 3,500 psi  
f'c = 4,000 psi (Superstructure Concrete)  
fy = 60,000 psi (Reinf.)  
fy = 50,000 psi (Structural Steel M270 GR 50W)

SEISMIC DATA

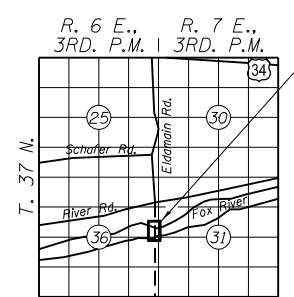
Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.093g  
Design Spectral Acceleration at 0.2 sec. (SD5) = 0.167g  
Soil Site Class = C

WATERWAY INFORMATION

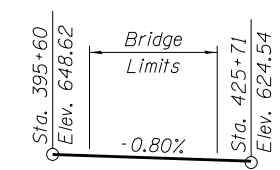
Drainage Area = 1880 Sq. Mi. Proposed Low Grade Elev. 624.9 @ Sta. 425+20

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Natural H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	10	11500	4420	5960	569.14	0.00	0.03	569.14	569.17
Base	30	15000	5960	7600	570.66	0.00	0.03	570.66	570.69
Max. Calc.	100	19000	7600	9700	572.27	0.00	0.03	572.27	572.30
	500	24500	9700	574.33	574.33	0.00	0.02	574.33	574.35

10 Year Velocity through Existing Bridge = N/A  
10 Year Velocity through Proposed Bridge = 2.6 fps



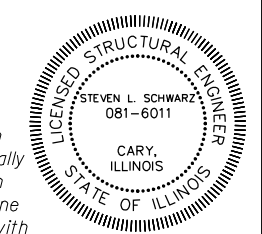
LOCATION SKETCH



PROFILE GRADE

To the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with the requirements of the current "AASHTO Standard Specifications for Highway Bridges".

Structural Engineer Expires: 11/30/2020  
HRGreen



GENERAL PLAN AND ELEVATION  
C.H. 7 / ELDAMAIN ROAD  
OVER FOX RIVER (PUBLIC WATER)  
FAU RTE 4000 - SEC. 19-00153-00-BR  
KENDALL COUNTY  
STATION 417+63.00  
STRUCTURE NO. 047-3175

HRG PROJECT NO.: 881028B  
HRG PROJ. CONTACT: 3818 Str. GPE-foxcapn  
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PLOT DATE = 3/30/2020	CHECKED - SLS	REVISED -
	DATE -	REVISED -

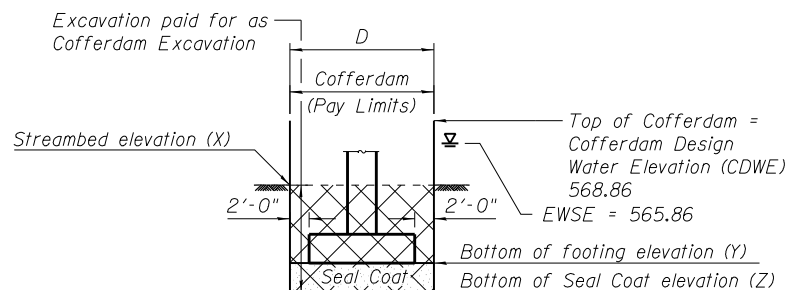
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION  
SN: 047-3175  
SHEET NO. S-1 OF S-72 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4000	19-00153-00-BR	KENDALL	490	178
CONTRACT NO.				
[ILLINOIS] FED. AID PROJECT				

**GENERAL NOTES**

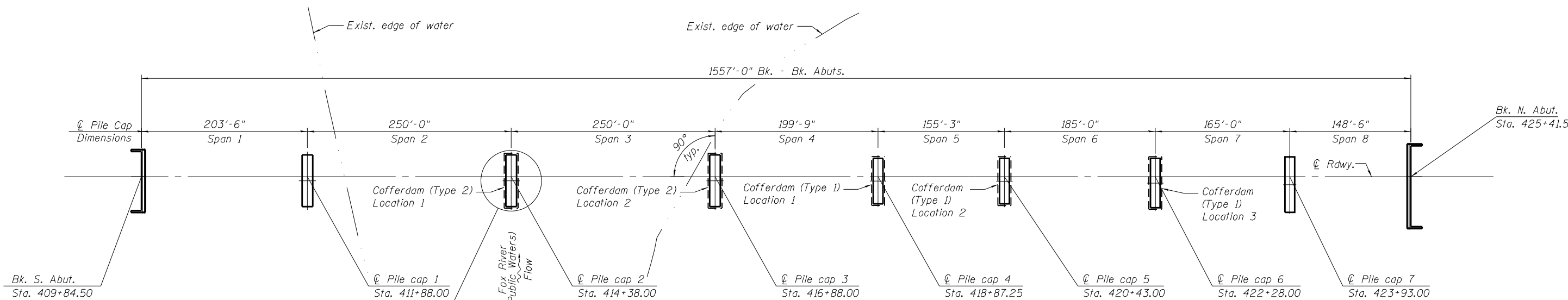
- The Contractor shall be responsible for a survey of the work zone upon project completion to demonstrate that the river has been restored to the condition prior to commencement of construction. Cost of survey incidental to cofferdam (Type 2), Location 1.
- The Contractor shall obtain a construction permit from the Illinois Department of Natural Resources (IDNR), Office of Water Resources for any temporary construction activity placed in the water. This shall include the placement of material for run-arounds, causeways, etc. Any permit application by the Contractor shall refer to the IDNR 3704 Floodway Construction permit number allowing permanent construction as shown in the contract plans. See Special Provisions for number of days Contractor shall include in his schedule for permit acquisition and how permit acquisition is paid for.
- Work shall conform to all provisions of the Erosion Control Plan.
- Haul Roads, In-Stream Work Pads and Causeways, if needed, shall be constructed in accordance with the Recurring Special Provision Check Sheet #8.
- Contractor shall review and adhere to the ACOE permit stipulations (copy in Special Provision). Note especially restrictions on the disposal of water pumped from the coffer dams.
- To minimize construction related effects on the River Redhorse, construction in the Fox River will not occur during the March 15 to May 15 fish spawning period and Erosion Control Plan shall be followed.



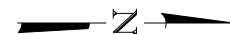
\* Weathered Shale Elevations from Soil Borings indicate that room for Seal Coat thickness above shale will be limited. Embedment of Cofferdam below bottom of footing and/or Seal Coat may not be feasible and additional members or other retention systems may be necessary for cofferdam construction. The Contractor shall submit a Cofferdam design including plan details and calculations for review and acceptance by the Engineer.

Pier	Weathered Shale Elevations
1	564.00
*2	553.00
*3	550.00
4	548.50
5	556.20
*6	556.50
7	558.00

Elevation	*Pier 2	*Pier 3	Pier 4	Pier 5	*Pier 6
X	559.40	567.50	567.50	567.50	569.00
Y	550.00	556.00	561.50	561.50	561.50
Z	---	550.00	558.50	558.50	558.50

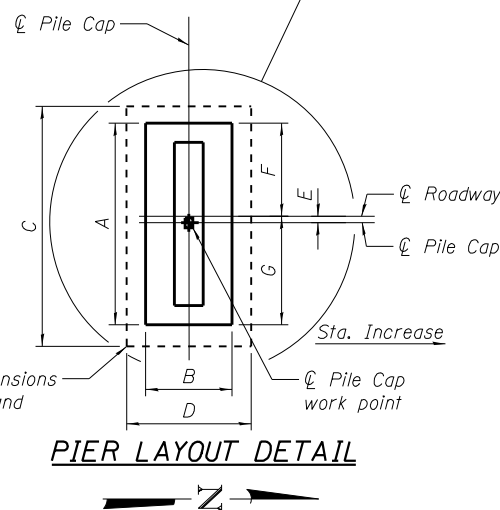


**SUBSTRUCTURE LAYOUT AND COFFERDAM PLAN**



**PILE CAP AND COFFERDAM DIMENSIONS**

Dimension	Pier 1	Pier 2	Pier 3	Pier 4	Pier 5	Pier 6	Pier 7
A	53'- 10"	64'- 0"	54'- 0"	54'- 0"	54'- 0"	63'- 0"	70'- 4"
B	15'- 0"	24'- 0"	17'- 0"	17'- 0"	17'- 0"	17'- 0"	17'- 0"
C	N/A	68'- 0"	58'- 0"	58'- 0"	58'- 0"	67'- 0"	N/A
D	N/A	28'- 0"	21'- 0"	21'- 0"	21'- 0"	21'- 0"	N/A
E	5'- 4"	5'- 4"	5'- 4"	5'- 4"	5'- 4"	7'- 4"	9'- 6 1/2"
F	21'- 7"	26'- 8"	21'- 8"	21'- 8"	21'- 8"	24'- 2"	25'- 7 1/2"
G	32'- 3"	37'- 4"	32'- 4"	32'- 4"	32'- 4"	38'- 10"	44'- 8 1/2"



**BILL OF MATERIALS**

Item	Unit	Total
Cofferdam (Type 2) (Location - 1)	Each	1
Cofferdam (Type 2) (Location - 2)	Each	1
Cofferdam (Type 1) (Location - 3)	Each	1
Cofferdam (Type 1) (Location - 4)	Each	1
Cofferdam (Type 1) (Location - 5)	Each	1
Seal Coat Concrete	Cu. Yd.	698
Cofferdam Excavation	Cu. Yd.	2,811

HRC PROJECT NO.: 881028  
 HRC PROJ. CONTACT: 3818 Srr\_Cofferdam.dgn  
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 PLOT DRIVER: il.pdf.dwg  
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HRGreen.com  
 Professional Design Firm  
 #184-001322

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

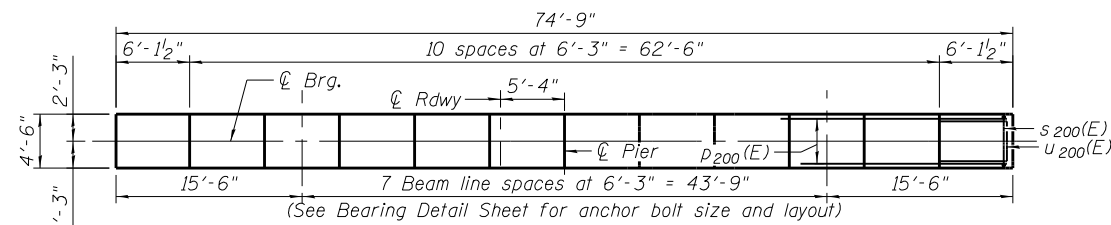
SUBSTRUCTURE LAYOUT AND COFFERDAM PLAN  
SN: 047-3175

SHEET NO. S-4 OF S-72 SHEETS

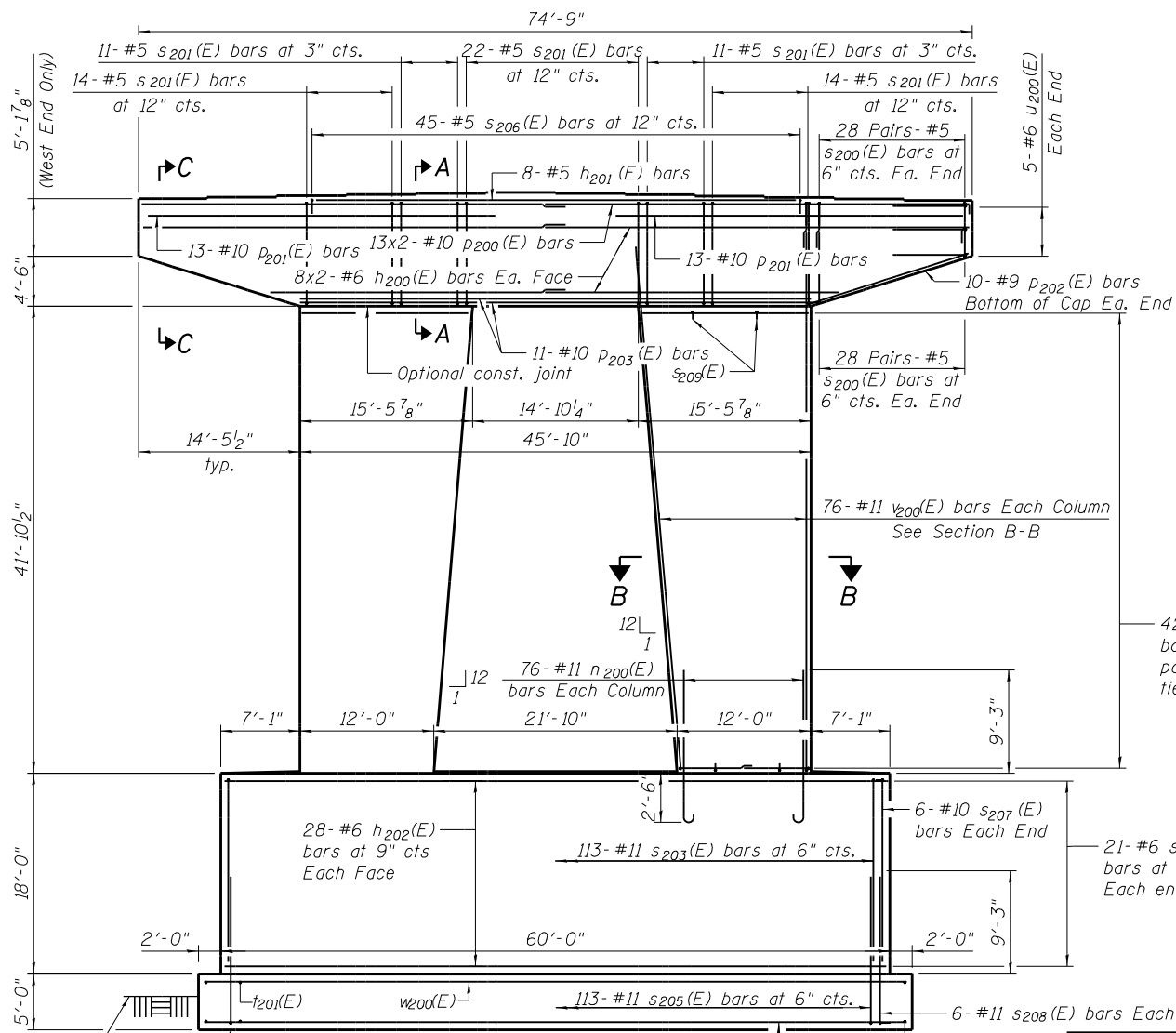
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4000	19-00153-00-BR	KENDALL	490	181
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



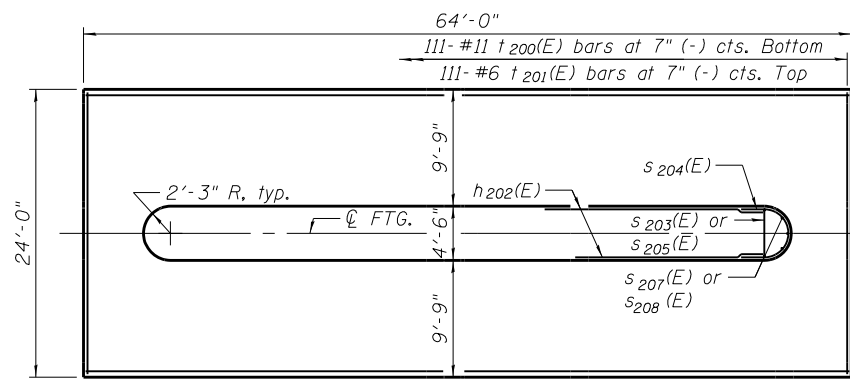
Notes:  
 Space reinforcement in cap to miss anchor bolts.  
 Pour steps monolithically with cap.  
 For details of piles, see sheet S-64.  
 For Sections, see sheet S-62.



TOP PLAN

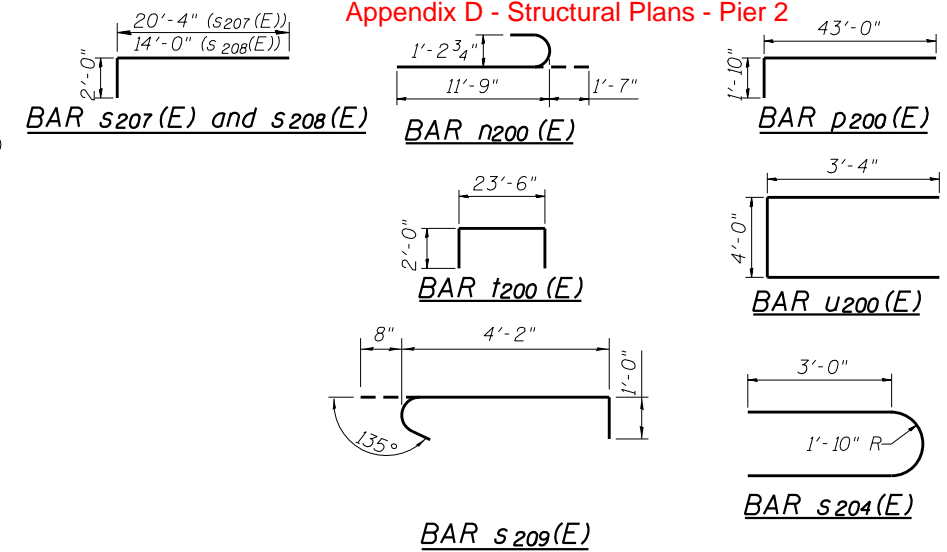


ELEVATION (Looking North)



FOOTING PLAN

Note:  
 1. Apply concrete sealer to all surfaces above water.



PIER 2

BILL OF MATERIAL

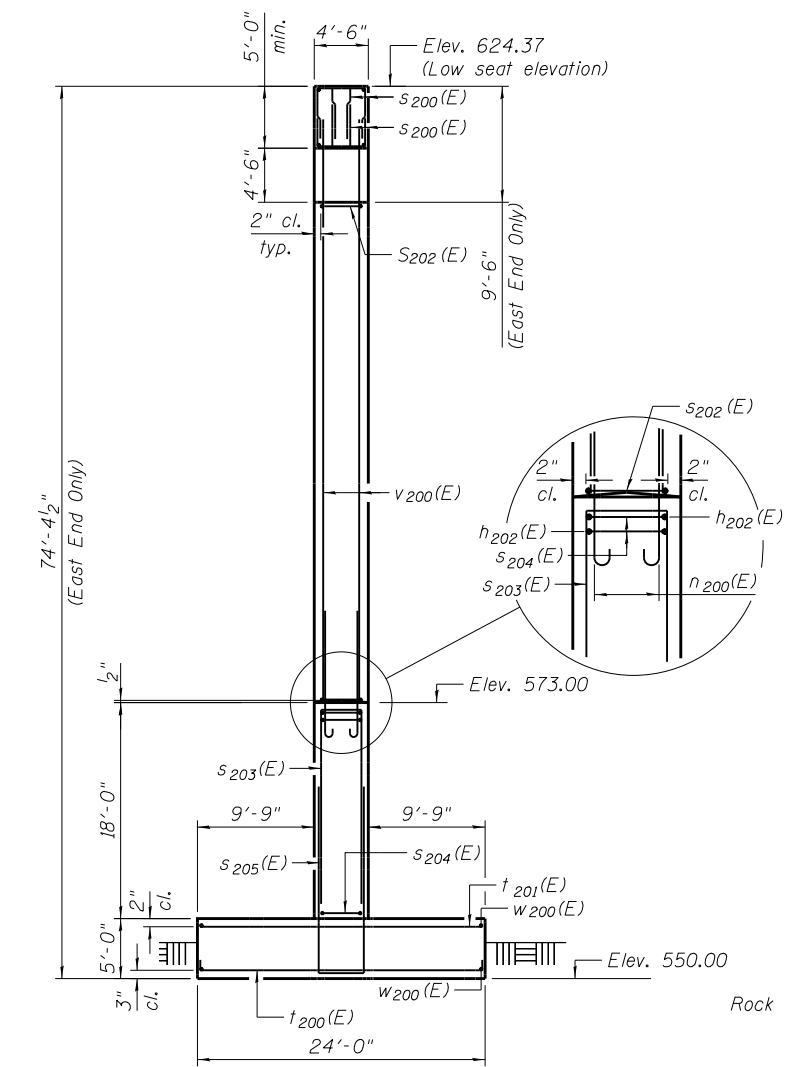
Bar	No.	Size	Length	Shape
h200(E)	32	#6	39'- 2"	—
h201(E)	8	#5	36'- 8"	—
h202(E)	56	#6	56'- 0"	—
n200(E)	152	#11	13'- 4"	⌋
p200(E)	26	#10	44'- 1 1/4"	┌
p201(E)	26	#10	28'- 0"	—
p202(E)	20	#9	14'- 11"	—
p203(E)	11	#10	45'- 8"	—
s200(E)	224	#5	14'- 4"	┌
s201(E)	72	#5	27'- 7"	┌
s202(E)	168	#6	22'- 0"	┌
s203(E)	113	#11	44'- 7"	┌
s204(E)	42	#6	11'- 9"	┌
s205(E)	113	#11	32'- 2"	┌
s206(E)	45	#5	7'- 6"	┌
s207(E)	12	#11	22'- 4"	┌
s208(E)	12	#11	16'- 0"	┌
s209(E)	168	#6	5'- 10"	┌
t200(E)	111	#11	27'- 6"	┌
t201(E)	111	#6	23'- 6"	—
u200(E)	10	#6	10'- 8"	┌
v200(E)	152	#11	49'- 0"	—
w200(E)	98	#7	63'- 6"	—
Concrete Structures		Cu Yd	765.2	
Reinforcement Bars, Epoxy Coated		Pound	163,552	

See Substructure and Cofferdam Layout Plan for excavation quantities

Beam Number	Seat Elevation	Step Height	
Future A	624.53	1 1/2"	
Future B	624.66	1 1/2"	
1	624.78	1 3/8"	
2	624.86	1 1/4"	
3	624.99	1 1/8"	
4	625.08	1 1/8"	
5	624.99	1 3/8"	
6	624.88	1 1/2"	
7	624.75	1 1/2"	
8	624.62	1 1/2"	
Future C	624.50	1 1/2"	
Future D	624.37	-	(East end)

MINIMUM BAR LAP

- #6 bar = 4'-4"
  - #7 bar = 5'-0"
  - #9 bar = 7'-1"
  - #10 bar = 11'-6" (Top Bar)
  - #11 bar = 9'-3"
- Unless noted otherwise

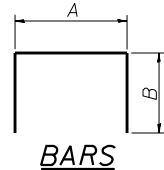


END VIEW (East End)

A & B DIMENSIONS

Bar	A	B
* s200(E)	2'-8"	5'-10"
s202(E)	4'-2"	8'-11"
s203(E)	3'-11"	20'-4"
s205(E)	4'-2"	14'-0"
s206(E)	4'-0"	1'-9"

\* Trim to fit



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 HRG PROJ. CONTACT: 3818 Str. Pier02.dgn  
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

PIER 2  
 SN: 047-3175

SHEET NO. S-56 OF S-72 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.				
ILLINOIS FED. AID PROJECT				