CONSERVATION PLAN
Eldamain Road Extension Project (Contract A)
Kendall County Highway Department
Kendall County, Illinois

West side of Eldamain Road at Rob Roy Creek. View looking north.

This Conservation Plan was prepared in response to improvements that are proposed to Eldamain Road in Kendall County, IL. The project was submitted to the Illinois Department of Natural Resources (IDNR) via their EcoCAT on 12-07-2016 (IDNR Project Number 1705074). The EcoCAT report included information on a recent record of the state-listed slippershell mussel in Rob Roy Creek, approximately 1.5 river miles upstream of where Eldamain Road crosses the creek. Proposed improvements include replacement of the existing crossing at Rob Roy Creek. The IDNR responded to the IDOT regarding the EcoCAT submittal on 02-10-2017. The IDNR recommended that a survey for mussels be conducted and, if mussels are collected, that the Illinois Department of Transportation (IDOT) seek authorization for the incidental take of the listed species. This Conservation Plan was prepared in accordance with Part 1080 17 Ill. Adm. Code.

A survey for presence of listed mussels was conducted on 05/17/2017. Malacologists collected 13 live slippershell mussels from Rob Roy Creek within the project footprint. The remainder of this document details measures that will be taken to ensure the continued existence of slippershells in the wild and to conserve the mussel fauna within and in the vicinity of the proposed improvement.

I. 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) Legal description and a detailed description including street address, map(s), and GIS shapefile. Include an indication of ownership or control of affected property.

The Eldamain Road extension project (contract A) is located in sections 24, 25, and 26, Township 37 North-Range 6 East, and Sections 19, 30, and 31, Township 37 North-Range 7 East, Kendall County, Illinois. Work in Rob Roy Creek is located in the SW/4, NW/4, Section 30 Township 37 North-Range 7 East.

Eldamain Road is under the jurisdiction of the Kendall County Highway Department. US 34 is under the jurisdiction of the Illinois Department of Transportation, District 3. River Road is under the jurisdiction of Bristol Township and Little Rock Township.

See cover photo of the existing culverted stream crossing.

B) Biological data on the affected species including life history needs and habitat characteristics.

The slippershell is a small species with a somewhat rectangular or rhomboidal shell measuring about an inch and a half across. Adults are very light yellowish brown or almost cream colored, to dark brown with few to many greenish rays on the posterior half of the shell. Shells can be somewhat rough in texture. The pseudocardonal teeth are triangular, bladelike, and weakly serrated. Lateral teeth are short, less than half the shell length, fine and somewhat indistinct.

Slippershells inhabit creeks and headwaters streams in sand, mud, or fine gravel. They are considered widespread, yet imperiled throughout most of their range. They are listed as threatened in Illinois and Wisconsin.

Relatively little is known about the biology of the slippershell mussel. Like most freshwater mussels of the family Unionidae, the slippershell mussel requires a fish host to complete its life cycle. Sperm is released into the water, and then taken in through the female mussel's siphon for fertilization. Eggs develop into larvae within the female mussel. The slippershell mussel is probably a long-term (bradytictic) breeder, holding the larvae internally for about a year. These larvae, called glochidea, then are released into the water and must attach to a suitable fish host in order to survive. Their host fish species include johnny darter (Etheostoma nigrum), mottled sculpin (Cottus bairdii), and banded sculpin (Cottus carolinae). Glochidea typically remain on fish hosts for a couple of weeks to several months depending on mussel species and other factors, although duration for the slippershell is unknown. During this time the mussel transforms into the adult form then drops from the host fish. The mussel then spends the remainder of its life in suitable substrate. The life span of

the slippershell mussel is not known.

Like all freshwater mussels, the slippershell mussel is a filter feeder, obtaining nutrition by filtering particles, such as algae, zooplankton and debris, from the water column. The slippershell requires clear, clean water and substrates for survival.

C) Description of project activities that will result in taking of an endangered or threatened animal species.

Activities that could result in a taking include in-stream work necessary to replace the existing crossing at Eldamain Road and Rob Roy Creek. The existing crossing is constructed of three 4-foot diameter by 26-foot long culverts laid side-by-side. The new crossing will be a single span concrete bridge. No bridge pier or permanent structure will be placed within the channel of Rob Roy Creek.

See attached bridge plan and profile drawing.

Practices to remove the culverts include an excavator positioned on the existing roadway. The excavator will remove all overburden from on top of the culverts first; and will then remove individual culverts using chains, straps, or the excavator bucket to lift the culverts straight up out of the stream channel. The area of disturbance to the stream channel from removal of the existing structure is expected to be approximately 312 square feet.

After the culverts are removed, the channel will be shaped to receive riprap to the lines and grades shown in the plans. Under the bridge, riprap will be placed across the entire 16-foot wide stream channel. Total length of riprap placement will be 98 feet—58 feet of which will be directly under the bridge. Total area of riprap placement and streambed disturbance will be approximately 16 feet width by 98 feet length, or 0.04 acres. IDOT standard specifications call for A5 riprap (8 inch diameter) 22 inches thick over an 8 inch bed. Riprap placement is necessary to reduce the scouring energy of floodwaters and to ensure the long-term integrity of the highway crossing.

See attached general plan drawing with riprap placement.

Dewatering may be necessary to construct the bridge abutments or to shape the stream channel for riprap placement. These activities would take place within the limits of proposed riprap placement and would not increase the area of permanent impact.

Timeline of the Eldamain Road extension project (contract A) is October 2017 through December 2018. Approximately four months would be required for the bridge work and this part of the entire project could start after highway work has begun. The mussel survey, completed on May 17, 2017, was positive; and all identified species were relocated upstream of the proposed work area at that time.

D) Explanation of the anticipated adverse effects on listed species.

Anticipated adverse effects on the slippershell include improper relocation, sediment burial, vibration, and physical destruction. Fish that may be carrying mussel glochidea are expected to swim away during construction activities. No cofferdams or permanent structures are proposed for placement in the stream channel.

II. Measures that will be taken to minimize and mitigate the impact on the listed animal species and the funding that will be available to undertake those measures.

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.

All work at Rob Roy Creek will occur within the existing and the newly acquired right-of-way

adjacent to the existing. Newly acquired right-of-way will add approximately 10 feet to each side of the existing. Total right-of-way width will be approximately 120 feet—60 feet of which will be under the bridge deck.

Rob Roy Creek is approximately 10 miles in length. Seven miles of Rob Roy Creek are upstream of Eldamain Road and three miles are downstream of it. The length of Rob Roy Creek (125 feet) within the right-of-way at the Eldamain Road crossing is approximately 0.22% of the total.

Hydrology of Rob Roy Creek will be maintained, or improved because the area of the opening under Eldamain Road will be increased.

Malacologists collected - fresh-dead, and - relict individual at Rob Roy Creek and Eldamain Road spring 2017. We estimate the total number of affected mussels to be equal to or less than the number identified during the spring 2017 survey. As such, the number of affected slippershell mussels is estimated to be six.

Affected habitat or stream bed is estimated to be 0.04 acres. Habitat loss would be permanent due to the placement of riprap in the stream channel.

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.

Approximately 0.04 acres of Rob Roy Creek will be affected by the proposed action. This area will receive riprap. Over time, sediments will deposit within the spaces between riprap and this area will provide habitat for aquatic animals. Management of this area will occur primarily through natural processes. Areas of the stream within the right-of-way and outside the zone of riprap placement will provide suitable habitat for mussels will require no management.

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

Relocation is one of the primary measures implemented to minimize the effects of the proposed action. As stated, malacologists collected several live Slippershell Mussels during the spring 2017 survey. These individuals, and other more commons species, were collected and relocated upstream to suitable habitat outside of the proposed limits of construction.

During in-stream work, all clean water permit conditions will be adhered to. On 12-19-2016, the US Army Corps of Engineers issued a Regional Permit No. 38 for the proposed improvements. This permit includes general and special conditions to ensure protection of clean water. The Illinois Environmental Protection Agency (IEPA) issued Section 401 Water Quality Certification for Regional Permit 38. The Water Quality Certification includes conditions to protect surface water. See attached RP 38.

A Storm Water Pollution Prevention Plan (SWPPP) was prepared for the proposed improvement. The plan was prepared to comply with the provisions of the National Pollutant Discharge Elimination System Permit No. 10, issued by the IEPA for storm water discharges from construction site activities. All requirements of this plan will be implemented. The SWPPP is attached to this document.

The IDNR, Office of Water Resources has granted permission to Kendall County Highway Department to replace the existing bridge crossing at Rob Roy Creek and Eldamain Road. The permit includes the following special condition: Disturbance of streamside vegetation shall be kept to a minimum during construction to prevent erosion and sedimentation. All disturbed areas shall be seeded or otherwise stabilized upon completion of construction.

Erosion control measures will be implemented in accordance with the IDOT's Bureau of Design and Environment Policy and Procedures Manual, IDOT's 2016 Specifications and Standards for Bridge and Road Construction, and the Illinois Urban Manual, latest revision. The resident engineer (RE) will provide day-to-day enforcement of soil erosion and sedimentation measures during construction.

Finally, Kendall County Highway Department will partner with Illinois Department of Natural Resources to provide mitigation to the maximum extent practicable by providing not less than $5,580 to the Department, to be placed in the Illinois Wildlife Preservation Fund and earmarked for mussel recovery.

D) Plans for monitoring the effects of the proposed actions on endangered or threatened species, such as species and habitat monitoring before and after construction, include a plan for follow-up reporting to IDNR.

Years two and five post-construction, a malacologist will conduct surveys for mussels within and in the vicinity of the proposed improvement. Surveys will follow protocols prepared by the IDNR or INHS. Survey reports will be submitted to the IDOT Bureau of Design and Environment and then forwarded to the IDNR, by January 31 of the year following each survey.

E) Adaptive management practices that will be used to deal with changed or unforeseen circumstances that affect the effectiveness of measures instituted to minimize or mitigate the effects of the proposed action on the endangered or threatened species.

Siltation during all phases of construction will be minimized through use of proper soil erosion and sediment control measures such as silt fences to prevent sediment from entering the river and affecting threatened mussel habitat. The RE will inspect and ensure maintenance of all silt fences, silt curtains, and other erosion control structures. If site inspections show that the measures in place are not functioning or are not adequate, different or additional measures will be added.

Mussels from the surveyed area will be collected from the project area and relocated to an appropriate location outside of the project area using approved methods for handling mussels with minimal stress. If any observations during construction suggest that additional measures are needed, these will be proposed and implemented by appropriately trained personnel.

The contractor will be responsible for having contingency plans for high water/flood conditions should they occur during construction such that further damage to habitat is minimized. This will include anchoring equipment, storing supplies and equipment on high ground and measures to ensure trapped sediment is not released into the waterway.

If unforeseen observations pertaining to listed species arise, coordination with IDNR staff will be sought.

F) Verification that adequate funding exists to support and implement all mitigation activities described in the conservation plan.

Full local project funding was approved by the Kendall County Board, a public agency, in September of 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 and parcel of this bridge replacement project and will be funded accordingly.

III. 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.

The No-Action alternative would leave the existing structurally deficient bridge in place. Over time this structure would fail and become unsafe, causing the closure of Kendall County Highway 7 or Eldamain Road. This would create a hardship for local residents, farmers, and emergency crews

and is not a viable alternative. In addition, the bridge structure or parts thereof could fall into the creek and cause damage to available habitat.

An alternative alignment for Eldamain Road would involve construction of a new roadway on new right- of-way, and would still include a crossing of Rob Roy Creek. The impacts from such an alternative would likely be greater than the preferred alternative of replacement in-place of the bridge structure.

IV. 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 area of permanent impact is very small, 0.04 acres of stream channel. The area of impact occupies a very small segment of the total reach of Rob Roy Creek, 125 feet of a ten mile stream. The opinion of the IDOT is that this loss or modification of existing suitable habitat represents a very small amount of the total.

Given the widespread distribution of this species, and the lack of living individuals at this location, this project is not likely to reduce the likelihood of the survival of this listed species. At most, it is anticipated a single individual would be taken and this would not imperil the local population of slippershell mussels.

V. Implementing Agreement - Eldamain Road at Rob Roy Creek Kendall County, Illinois.

A) The 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.

Mussel survey for the State-Threatened Slippershell Mussel was completed May 17, 2017 and was positive for the identified species. Individuals were collected and relocated upstream of the proposed project limits on said date.

Construction activities are expected to begin in the fall of 2017 and construction completion date is scheduled for December 31, 2018.

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.

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 take 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 slippershell mussel. 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.

DATE: May 24, 2017

Fran Klaas, P.E. – Kendall County Engineer

Attachments

Attachment – mussel report

ILLINOIS NATURAL HISTORY SURVEY
PRAIRIE RESEARCH INSTITUTE

AQUATIC SURVEY REPORT

Survey for Freshwater Mussels in Rob Roy Creek at the Eldamain Road (FAU 4000/CH 7) Crossing in Kendall County, Illinois

IDOT Sequence No. 19908

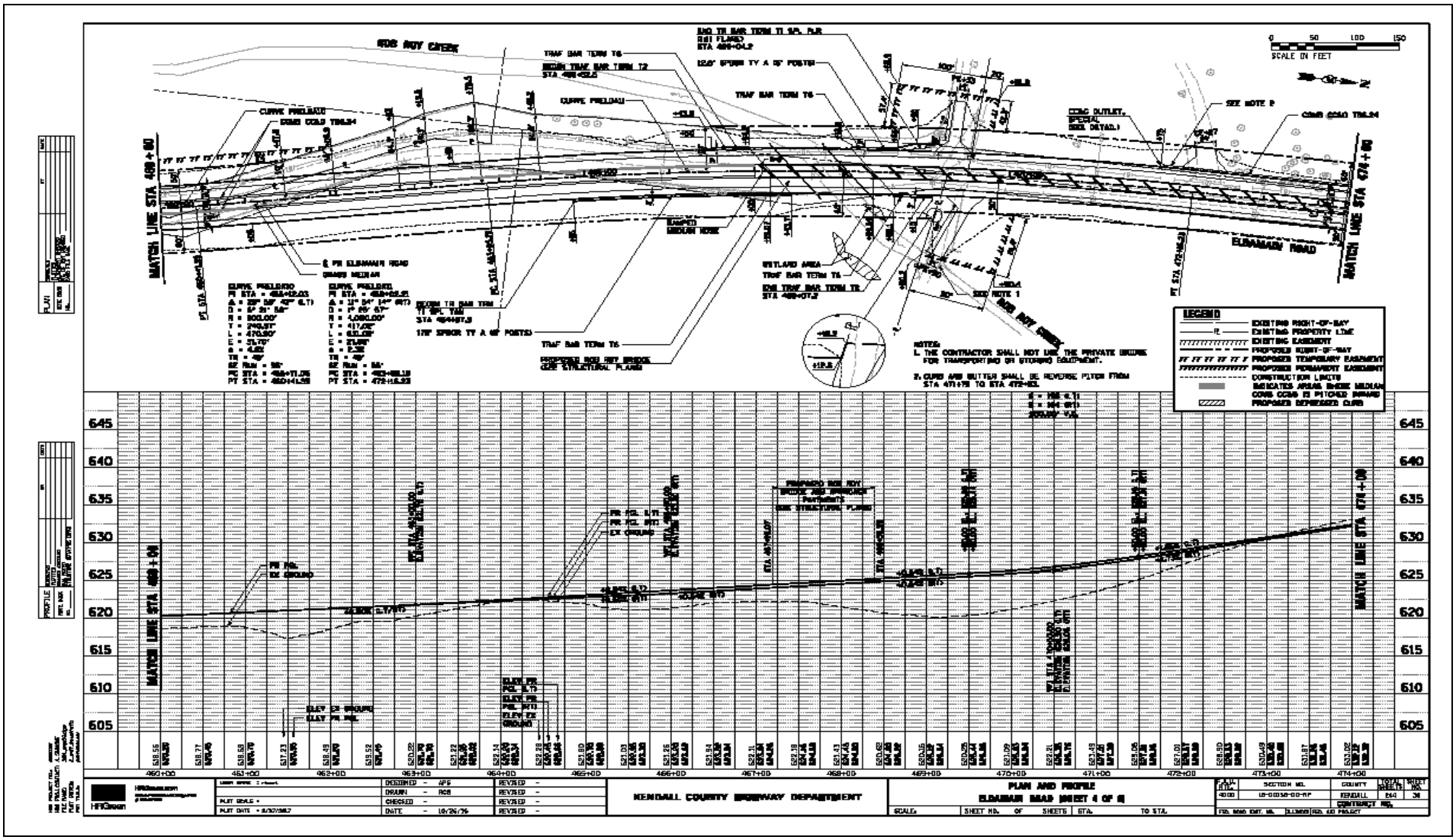
Prepared by:
Alison P. Stodola

INHS/IDOT Statewide Biological Survey & Assessment Program

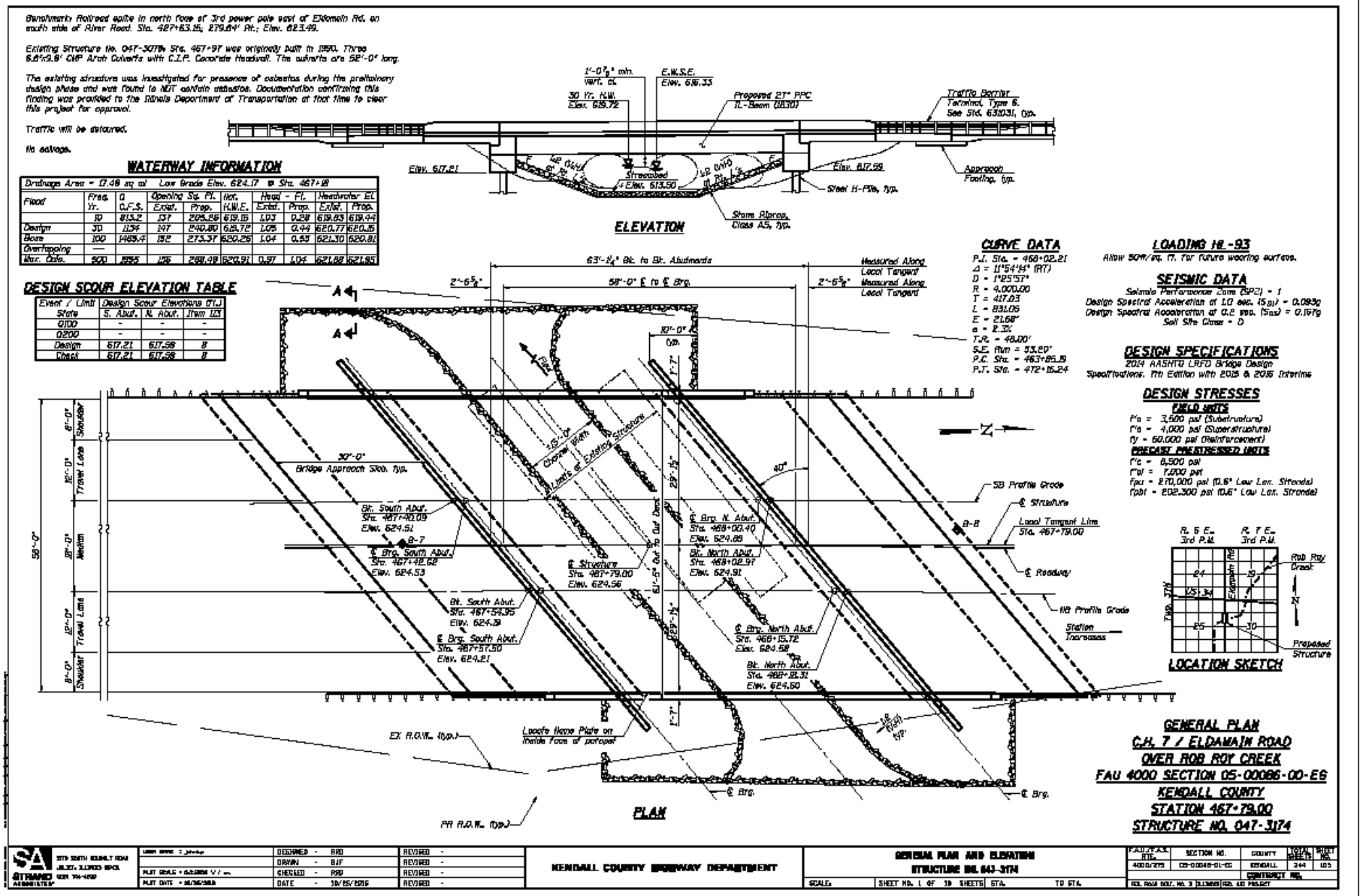
2017:32

23 May 2017

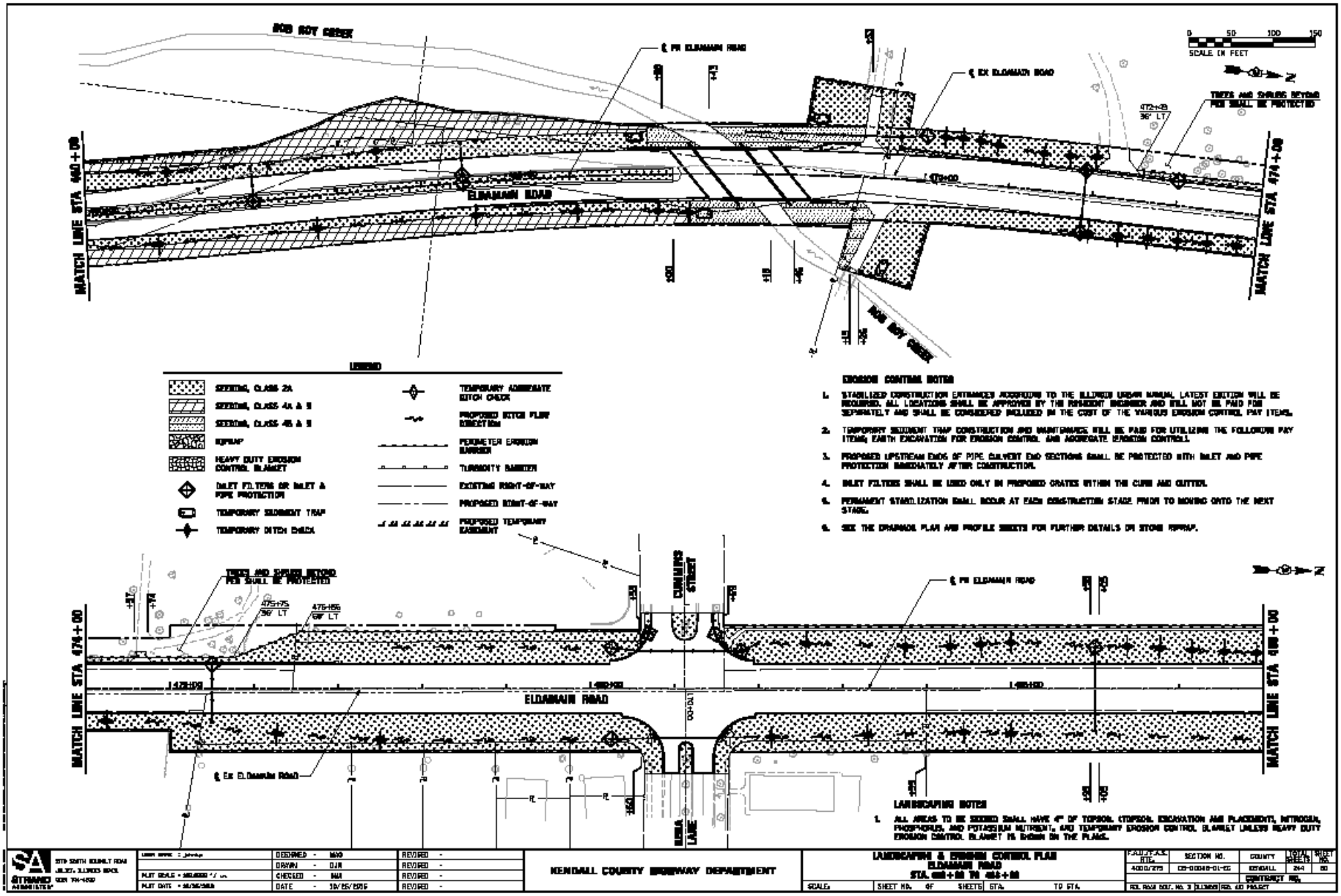
Attachment – Plan and Profile



Attachment – general plan with riprap placement



Attachment – landscaping and erosion control plan



DEPARTMENT OF THE ARMY PERMIT
Regional Permit 38
Fill Material Placed In Waters of the U.S. for Road Crossings
in the State of Illinois

Permittee:	General Public meeting the terms and conditions herein.
Number:	CEMVR-OD-P-2016-0049 (Regional Permit 38)
Expiration Date:	October 21, 2021
Issuing Office:	U.S. Army Corps of Engineers, Rock Island District Clock Tower Building-P.O. Box 2004 Rock Island, Illinois 61204-2004

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers (Corps) having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the Commanding Officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

1. **Authorized Work.**

   Proposed Limits. (a) Activities required for the construction, expansion, modification, or improvement of linear transportation projects that result in impacts of up to 1 acre of waters of the United States. (b) Temporary fills for construction are authorized. (c) The affected reach of stream must occur within 300 feet upstream and downstream of the centerline of the roadway (existing channel length), with a maximum distance of existing channel length impacted (filled or abandoned) not to exceed 500 feet).

2. **Project Location.** All waters of the United States in Illinois within the regulatory boundaries of the Rock Island District, St. Louis District and Memphis District.

3. **Permit Conditions:**

   A. **General Conditions:**

      1. The time limit for completing the work authorized ends on the expiration date of the permit. If underway or under contract by expiration date, you have one year to complete your project. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least two months before that date is reached.

      2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party, in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

      3. If you discover any previously unknown historic or archaeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

      4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

      5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

      6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Illinois Department of Transportation

Storm Water Pollution Prevention Plan

Route	Marked Route	Section
FAU 4000 / FAS 275	Eldamain Road	05-00086-01-EG
Project Number	**County**	**Contract Number**
	Kendall	tbd

This plan has been prepared to comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit No. ILR10 (Permit ILR10), issues by the Illinois Environmental Protection Agency (IEPA) for storm water discharges from construction site activities.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name	Title	Agency

Signature	Date

I. Site Description

A. Provide a description of the project location (include latitude and longitude):
See Attachment A.

B. Provide a description of the construction activity which is subject of this plan:
12 months

C. Provide the estimated duration of this project:
See Attachment A.

D. The total area of the construction site is estimated to be See Att acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is See Att acres.

E. The following is a weighted average of the runoff coefficient for this project after construction activities are completed:

F. List all soils found within project boundaries. Include map unit name, slope information and erosivity:

G. Provide an aerial extent of wetland acreage at the site:

H. Provide a description of potentially erosive areas associated with this project:

I. The following is a description of soil disturbing activities by stages, their locations, and their erosive factors (e.g. steepness of slopes, length of scopes, etc.):
See Attachment A.