

ILLINOIS DEPARTMENT OF NATURAL RESOURCES
CONSERVATION PLAN
FOR
IRONCOLOR SHINER (Notropis chalybaeus)
STARHEAD TOPMINNOW (Fundulus dispar)



Mason County Highway 11 over Red Oak Ditch

Prepared by:
Hutchison Engineering, Inc.
On Behalf of
Mason County Highway Department

2023

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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

150-day minimum required for public review, biological and legal analysis, and permitting

PROJECT APPLICANT: *MASON COUNTY HIGHWAY DEPARTMENT*
PROJECT NAME: *COUNTY HIGHWAY 11 OVER RED OAK DITCH BRIDGE
REPLACEMENT*
COUNTY: *MASON COUNTY*
AREA OF IMPACT (acreage): *105 LINEAR FEET OF RED OAK DITCH
60 FEET BETWEEN NEW BRIDGE ABUTMENTS
0.14 ACRES OF IMPACT*

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 -

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 construction area involves the complete replacement of the structure on Mason County Highway 11 (CR 3100E Road) over Red Oak Ditch. The structure is located approximately 7.5 miles north-northwest of Mason City, and 0.7 miles south of U.S. Highway 136, in Township 21N, Range 6W, Section 3 / 4, of the 3rd Principal Meridian. The structure is included on the Forest City Quadrangle Topographic Map and may also be located as Latitude 40.293688°N, Longitude -89.771858°W.

Mason County has ownership of the roadway right of way through the project location. The existing right of way is 65 feet centered about the centerline of County Highway 11. Land ownership to the east and west of the roadway right of way is under private ownership. Zachary Charlton, et al owns the property to the west of the project. W. Williams Trust owns the property to the east of the project. Proposed right of way from both of these property owners will be necessary to complete the project.

Please see attached location map (Attachment A), topographic map (Attachment B), and project photographs (Attachment C). Electronic GIS shapefiles of the project area will also be submitted.

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

State-Listed Fish Species: *A fish survey was conducted within Red Oak Ditch in the vicinity of the proposed structure replacement on July 15, 2022. Among the live species collected were two state-threatened species, the Ironcolor Shiner (Notropis chalybaeus) and Starhead Topminnow (Fundulus dispar). No live federally-listed species were collected. The state listed fish species are described below.*

The Aquatic Survey Report completed by the Illinois Natural History Survey is attached (Attachment D).

Ironcolor Shiner (Notropis chalybaeus)

The Ironcolor Shiner is a small freshwater fish reaching lengths up to 2.5 inches at maturity. The fish has a yellowish colored back and sides with a distinct black lateral stripe stretching from the tail to the snout. The eyes are larger than the snout and the small mouth is black on the inside. The scales are darkly outlined except for an area just above the black stripe where a gold to orangish streak may exist.

Within the United States, the Ironcolor Shiner may be found primarily along the eastern seaboard in lowland areas from New York south to Florida and west to the Mississippi River delta. There are also some outlying populations within the San Marcos River basin in Texas, the upper Illinois River basin in Illinois and Indiana, the Cedar River basin in Iowa, the Wisconsin River basin and Lake Winnebago drainage area in Wisconsin, and the Lake Michigan drainage area of southern Michigan and northern Indiana. Ironcolor Shiners are found in pools and slow moving stretches of clear creeks and small rivers. The preferred habitat includes areas of well developed, submerged vegetation, including plants such as bladderwort, pondweed, and Elodea. They also prefer water bodies that have sandy bottoms and beds or swampy areas with soft substrates.

The lifespan of an Ironcolor Shiner is approximately two to three years. Spawning for this species occurs from mid-April through July in Illinois and the northern parts of its range. Females are chased by males during daylight hours through areas with little to no current as they broadcast their eggs to settle and fall on the sandy bottom. Both sexes of this species reach sexual maturity at one year of age. The diet of the Ironcolor Shiner includes small invertebrates such as small crustaceans and aquatic insects.

Stream siltation and water pollution, which can kill the submerged aquatic vegetation of their preferred habitat, are the biggest threats to the Ironcolor Shiner. Periods of extended drought may also eliminate the small pools and creeks where this species prefers to live. This is especially true for the disjunct populations that live in the small creeks and streams of the upper Midwest.

Starhead Topminnow (Fundulus dispar)

The Starhead Topminnow is a small freshwater fish reaching lengths between 1.5 and 2.5 inches at maturity. The fish has a light olive tan color to the back and upper sides, while the lower sides and belly are lighter to almost yellowish in color. They have a dark colored blotch under the eye that may resemble a teardrop shape, and a large iridescent gold spot on top of their head. The males have a series of three to up to 13 red to brown

lines along the sides of their body, while the females typically will have six to eight of the same lines. The dorsal fin is located further down the posterior end of the fish and directly above the anal fin.

Within the United States, the Starhead Topminnow may be found primarily in the central Mississippi River drainage basin from the Ouachita River drainage area in Louisiana, north to the Wisconsin River drainage area in Wisconsin, and east through the Kankakee River drainage area in Illinois and Indiana. More specifically, in Illinois records of Starhead Topminnow captures have been sporadic. There are previous records from the Fox River, Pecatonica River, Kankakee River, Illinois River, and the lower Wabash River drainage area. Starhead Topminnows are found in clear pools and very quiet areas of floodplain lakes, swamps, and streams. They prefer areas of very clear water with abundant submerged vegetation to live, spawn, and hide within. They also prefer water bodies that have sandy bottoms and beds or swampy areas with soft substrates.

Spawning for the Starhead Topminnow species occurs from late spring to early summer. Water temperature appears to be very critical for spawning of this species and must range between 65 and 85 degrees for success. Females will typically lay no more than 30 eggs, and in areas of vegetation where small clusters of the eggs will adhere to the vegetation during the two to three week incubation period. Both parents abandon the eggs once the fertilization process is complete. The diet of the Starhead Topminnow includes aquatic insects, aquatic vegetation, mollusks, and crustaceans.

The removal and decline of supportive aquatic vegetation, along with stream siltation and water pollution, which can kill the submerged aquatic vegetation, are the biggest threats to the Starhead Topminnow. Several references were also made to the increase in residential properties and the subsequent decline in natural stream conditions within several of watersheds known to include the Starhead Topminnow. Periods of extended drought may also eliminate the small pools and creeks where this species is known to live.

C) description of project activities that will result in taking of an endangered or threatened species, including practices 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 existing structure on Mason County Highway 11 over Red Oak Ditch will be completely removed and replaced with a longer and wider structure. The initial construction activities will include removal of the existing bridge deck and supporting abutments. The existing bridge deck is composed of a reinforced concrete bridge deck on top of steel beams. The steel beams are supported by reinforced concrete abutment caps that are founded on timber piling driven into the ground. The existing bridge is 45 feet in length from back of abutment to back of abutment and 28 feet 8 inches in total width.

Removal of the reinforced concrete bridge deck may include a combination of saw cutting and jackhammering to break the deck into pieces small enough that may be lifted and loaded onto trucks by an excavator. The steel beams may be lifted and removed by a crane and loaded onto trucks. The concrete abutment caps may be removed intact and hauled away, or they may be jackhammered into pieces small enough to be loaded onto

trucks by an excavator. The tops of the timber piling may be excavated and cut off below the existing ground line for removal.

Construction of the new bridge will begin with the bridge abutments. The proposed bridge will be 61 feet in length from back of abutment to back of abutment and 30 feet in total width. New steel piling will be driven into the ground, and a new reinforced concrete abutment cap will be formed and poured around the piling ends. The construction of the abutments should not have any impact on the channel of Red Oak Ditch as they will be located outside the ditch banks and behind the existing abutment locations; however, once the abutments are complete, and prior to placing the bridge deck, the channel banks will be lined with stone riprap directly under the proposed bridge. The stone rip rap will not be placed through the bottom of the creek channel. The width of this riprap placement will be 40 feet along the length of the creek channel. The stone riprap will be used to prevent erosion and scour under the new bridge along the channel banks.

The removal of the existing bridge deck has the potential to drop concrete pieces, dirt, and small debris into the channel of Red Oak Ditch and potentially increase the turbidity of the water. The area of the channel under the existing bridge does not contain any aquatic vegetation or bank vegetation, so no vegetation should be harmed with the structure removal. The placement of stone rip rap under the proposed structure along the channel banks will result in some stone pieces, dirt, and small debris being placed at the water's edge within the channel. This has the potential to increase the turbidity of the water. Finally, the use of heavy construction equipment will create loud noises and activity within the project area that will likely scare the fish species away from the project area during working hours.

It is anticipated the construction activities for this project will commence as early as August 1, 2023. This date is dependent on the approval of the ITA and review and approval of the construction plans, specifications, and estimates by the Illinois Department of Transportation. Construction is scheduled to be complete by November 30, 2023.

The U.S. Army Corp of Engineers has reviewed the project specifics for this structure replacement to determine compliance with Section 404 of the National Clean Water Act as a Linear Transportation Project. Their review considered cultural, historical, biological, and wetland resources as part of the Nationwide Permit Number 14 issuance. The project area was also reviewed by the U.S. Fish and Wildlife Service for any threatened or endangered species.

A copy of the U.S. Army Corp of Engineer's Nationwide Permit #14 approval letter is attached, along with the U.S. Fish and Wildlife Service review letter (Attachment E).

D) explanation of the anticipated **adverse effects on listed species**; how will the applicant's proposed actions impact each of the species' life cycle stages.

The construction of this project is anticipated to occur in late summer and fall of 2023, which will occur after the normal spawning timeframes for both the Ironcolor Shiner and the Starhead Topminnow. This timeframe will also be after all aquatic vegetation and bank vegetation has been established for the year. The construction activities and noise for this project will likely scare both species away from the immediate project area and

their natural habitat within the creek that is adjacent to the project location. The construction activities will also likely destroy some aquatic and bank vegetation within the immediate project location. Finally, the demolition of the existing bridge and placement of stone rip rap protection for the new bridge will likely create some debris in the creek channel and a slight increase in the water turbidity.

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).

The stone rip rap proposed for erosion protection under the new bridge will be 40 feet in width, which is just slightly wider than the new bridge width. Under normal circumstances, this stone rip rap would be placed from proposed right of way line to proposed right of way line, which in this case would be 105 feet. In addition, the stone rip rap in the bottom of the channel has been removed from the proposed plans as a means to leave as much natural habitat in place as possible in the streambed once construction is complete. The project will not utilize a temporary construction crossing of the creek as the existing and proposed bridges are not long and construction equipment activities should be accessible from one creek bank or the other.

The fish survey conducted on July 15, 2022 recovered seven live specimens of both the Ironcolor Shiner and Starhead Topminnow via pull-seining within a 125-foot stretch of Red Oak Ditch around the existing bridge. There were 80 additional specimens recovered of fish not listed as threatened or endangered during the survey. It is uncertain exactly how many live Ironcolor Shiners or Starhead Topminnows may be taken as part of this construction project; however, a reasonable estimate would be one to ten live specimens of each fish species.

The stone rip rap placed under the proposed structure in the toe or cleat area of the streambed will impact an area of approximately 800 square feet of silty / sandy streambed habitat, although this area is not vegetated. This will be a permanent impact as the stone rip rap will be left in place. The construction activities will also likely kill some aquatic vegetation on either side of the project location. The impacted area of aquatic vegetation disturbance will be approximately 400 square feet.

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.).

During construction, the adjacent areas of land will contain erosion and sediment control features. The IDOT erosion and sediment control policy will be followed and the project will be in compliance with Section 404 of the Clean Water Act as regulated by the U.S. Army Corp of Engineers, the water quality certification policies of the Illinois EPA, and the requirements of the NPDES construction permit. Other than the stone rip rap placement for erosion control under the structure, there should not be any in-stream

work. It is expected, after the in-stream work is completed, the area will be available for natural revegetation and resettlement by all species of fish.

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 or reducing the project footprint.
- 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 **applicants responsibility to propose mitigation measures**. IDNR expects applicants to provide species conservation benefits 5.5 times larger than their adverse impact.

Completely avoiding effects to the Ironcolor Shiner, Starhead Topminnow, and general fish population in the construction footprint will be next to impossible. As much as possible, the construction of the new bridge will be done outside the limits of the existing creek bottom. Once complete, the new bridge abutments will be completely outside the creek channel as the new bridge is proposed to be 61 feet in length versus the existing bridge length of 45 feet.

An additional effort to minimize the long-term effects of the construction project on the Ironcolor Shiner, Starhead Topminnow, and the general fish population will be to provide a creek bottom with similar suitable habitat as the existing creek bottom conditions. The typical construction practice for erosion control at bridge replacement projects is to place stone rip rap through the channel bottom and up the channel banks under the footprint of the newly constructed bridge. On this project, the proposed plans will include a toe or cleat at the bottom of the channel bank to hold the stone rip rap in place up the channel bank. The stone rip rap through the channel bottom will be eliminated and the channel bottom will be allowed to return to natural conditions once the construction process is complete. Please see the attached illustration of the stone riprap toe / cleat at the bottom of the channel bank. (Attachment F).

Mason County will make a mitigation payment to the Illinois Wildlife Preservation Fund to be earmarked for the conservation and protection of the Ironcolor Shiner and Starhead Topminnow. The mitigation value for this project has been calculated at \$5,580.00. The mitigation payment to the Illinois Wildlife Preservation Fund will be in the amount of \$5,580.00.

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.

Mason County will document the aquatic vegetation in the area of the project location prior to the start of construction. They will also document the limits and areas of vegetation impacted by the construction activities. Finally, during the first summer post construction, the county will again document the aquatic vegetation in the area of the project location to ensure the vegetation has been reestablished.

In addition to the aquatic vegetation monitoring by the county to ensure suitable habitat is reestablished, there will also be follow up fish surveys completed by the INHS. These surveys should be completed in years 2 and 5 following the completion of construction activities and will be conducted utilizing electrofishing tools and equipment. The INHS reports of fish species collected and the number of specimens collected will be forwarded to the IDNR and IDOT.

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

The project proposal is to completely remove and replace the existing bridge at this location. There is a very slight chance of complete structure failure during the removal process. The existing structure is composed of a reinforced concrete deck on steel beams. The concrete deck may be removed through a combination of saw cutting and jackhammering. There is a slight possibility that large portions of the reinforced concrete deck could fall into the creek during the removal process. Procedures will be taken to quickly and completely remove any large chunks of concrete that do fall into the creek.

Instructions will be added to the General Notes on the plan sheets to avoid dropping materials into Red Oak Ditch. Instructions will also be added to quickly and completely remove any and all material that does fall into Red Oak Ditch. The contractor will not be allowed to utilize a temporary creek crossing for construction activities.

The construction of this project is currently scheduled for late summer into early fall of 2023. Generally, these are dry times of the year, but there is always the possibility of a storm event that could produce flooding along Red Oak Ditch and within the proposed construction limits for this project. In the event there are flooding conditions forecasted or imminent, the contractor will be required per the project special provisions to move all construction equipment out of the flood zone to reduce or avoid the likelihood of contamination in Red Oak Ditch.

An emergency response plan will be developed for this project in the event there is an environmental concern during construction. The plan will be utilized to reduce the possibilities of environmental contamination within the waters and habitat of Red Oak Ditch. The plan will also include contact information for

emergency responders (IEPA, IDNR, Mason County EMA, Mason City Fire Protection District, Etc.) in the event there is an environmental issue during construction.

The aquatic vegetation regrowth will be monitored after the completion of the bridge replacement project. In the event of a drought or flood during the vegetation regrowth period following construction, the county will assess the vegetation damage, and will replant vegetation as required within the construction footprint of the project.

F) verification that adequate funding exists to support and implement all 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.

Mason County will enter into a federal aid agreement with the State of Illinois, Department of Transportation, for the construction and observation of this project. Approval of the agreement and expenditure of the federal funding is contingent upon the county, and contractor, following the approved Conservation Plan.

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.

No Build Alternative

The only alternative that would not result in the possibility of taking a state listed species is the “no build” alternative. However, this would result in leaving a structure which is structurally deficient in place to the traveling public. The structure is also load posted for legal loads only with a sufficiency rating of 59.9 out of 100. A new structure is needed for the safe passage across Red Oak Ditch for the residents of Mason County, as well as to allow heavier permit loads to cross Red Oak Ditch at this location. Leaving the existing structure in place will only result in more deterioration as time passes, and more weight and size restrictions on vehicles allowed to cross the structure. A structure posted with weight and size restrictions will have a negative impact on the agricultural community in this area. Forcing detours around this location for farming implements and loaded grain delivery trucks will have a negative impact on the economy in this area.

New Structure Utilizing Existing Abutments

This alternative would reconstruct the bridge superstructure (beams and deck surface) but leave the existing abutments in place. This alternative eliminates the removal process of the existing abutments and the construction of new abutments adjacent to the creek banks. Utilizing this alternative will not alleviate the structurally deficient status of the bridge and the load posting requirement for the new structure, as the existing abutments are founded on failing timber piling. In addition, utilizing 68 year-old abutments with a new superstructure results in an incompatible structure that will ultimately fail as the abutments fail and long before the new superstructure fails. This would not be a prudent use of public

tax funding. As with the no build alternative, a structure posted with weight and size restrictions will have a negative impact on the agricultural community in this area. Forcing detours around this location for farming implements and loaded grain delivery trucks will have a negative impact on the economy in this area.

Complete New Structure

This alternative would completely reconstruct the bridge over Red Oak Ditch at this location. This alternative includes removing the existing bridge and constructing the new bridge with abutments outside the creek banks. In an effort to minimize long term effects to the creek channel and the habitat of the Ironcolor Shiner and Starhead Topminnow, the rip rap erosion protection will be excluded from the bottom of the creek channel. Rip rap erosion protection will be placed on the creek banks under the new bridge and a toe or cleat will be used at the base of the creek bank to hold the rip rap and creek bank in place. Utilizing this construction technique will provide for a natural silty / sandy bottom to the creek channel. This alternative is the only one that can be built economically and minimizes the impacts to the creek. This alternative also eliminates the load posting for the structure over Red Oak Ditch, which will allow free flow of goods and services over Red Oak Ditch and additional economic opportunities for the surrounding area of Mason County.

The new structure with abutments outside the creek banks was chosen for construction at this location.

- 4) Data and information to indicate that the proposed taking **will not reduce the likelihood of the survival or recovery** 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.

Suitable habitat exists both upstream and downstream of the proposed bridge construction site in Red Oak Ditch. Due to the small area affected by construction of the new bridge, and the lack of aquatic vegetation habitat under the existing bridge today, it is expected the Ironcolor Shiner and Starhead Topminnow will continue to exist in this reach of Red Oak Ditch both upstream and downstream of the project.

It should also be noted there are multiple other populations of the Ironcolor Shiner and Starhead Topminnow located in Illinois that will not be affected by this project. Therefore, this project should not affect the survivability of the species in the wild in Illinois.

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

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

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;

- 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;
- D) assurance of compliance with all other federal, State and local regulations pertinent to the proposed action and to execution of the conservation plan;
- E) **copies of any final federal authorizations for a taking already issued to the applicant**, if any.

Please see the attached Implementing Agreement.

PLEASE SUBMIT TO: Incidental Take Authorization Coordinator, Illinois Department of Natural Resources, Office of Resource Conservation, Division of Natural Heritage, One Natural Resources Way, Springfield, IL, 62702 OR DNR.ITAcordinator@illinois.gov

December 2016

Implementing Agreement
For
Incidental Take Authorization

Mason County
County Highway 1.1 over Red Oak Ditch

The Mason County Highway Department will be responsible for the activities related to the County Highway 11 over Red Oak Ditch bridge replacement project. Mason County, in conjunction with the Illinois Department of Transportation, will oversee the activities of the contractor. Construction is scheduled to begin as early as August 1, 2023. This date is dependent on the approval of the ITA and review and approval of the construction plans, specifications, and estimates by the Illinois Department of Transportation. Construction is scheduled to be complete by November 30, 2023. Once the construction project is complete, a report will be submitted to the IDNR summarizing the pre-construction site conditions, impacts during construction, and the post-construction site conditions.

As part of the project implementation, Mason County pledges to contribute \$5,580.00 to the Illinois Wildlife Preservation Fund to be earmarked for the conservation and protection of the *Ironcolor Shiner* (*Notropis chalybaeus*) and *Starhead Topminnow* (*Fundulus dispar*).

Coordination of this project has taken place with the following agencies:

1. U.S. Army Corp of Engineers
2. U.S. Fish & Wildlife Service
3. Illinois Environmental Protection Agency
4. Illinois Department of Natural Resources
5. Illinois Historic Preservation Agency
6. Illinois Department of Transportation

The U.S. Army Corp of Engineers has issued a Nationwide Permit #14 for Linear Transportation Projects under Section 404 of the National Clean Water Act for the proposed project. A copy of the Nationwide Permit #14 approval letter is attached.

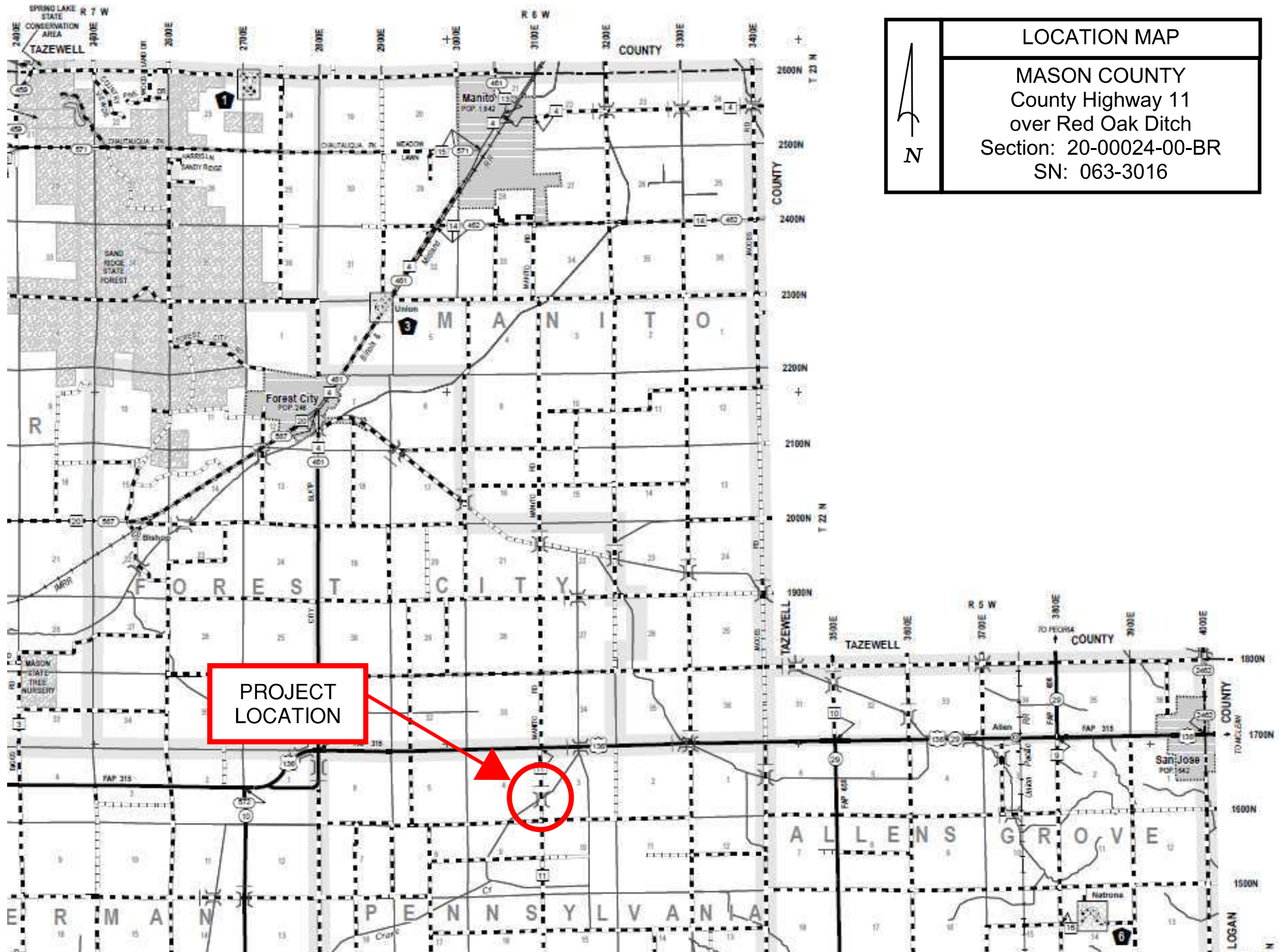
Mason County certifies it has the authority to complete the construction project and to address the items proposed in the Conservation Plan in the event state listed threatened, or endangered, species are encountered during construction. Mason County, in conjunction with the Illinois Department of Transportation, will be in responsible charge of the construction project and will assure all applicable federal and state laws will be adhered to during the completion of the project.


Mason County Board Chairman

2/14/23
Date

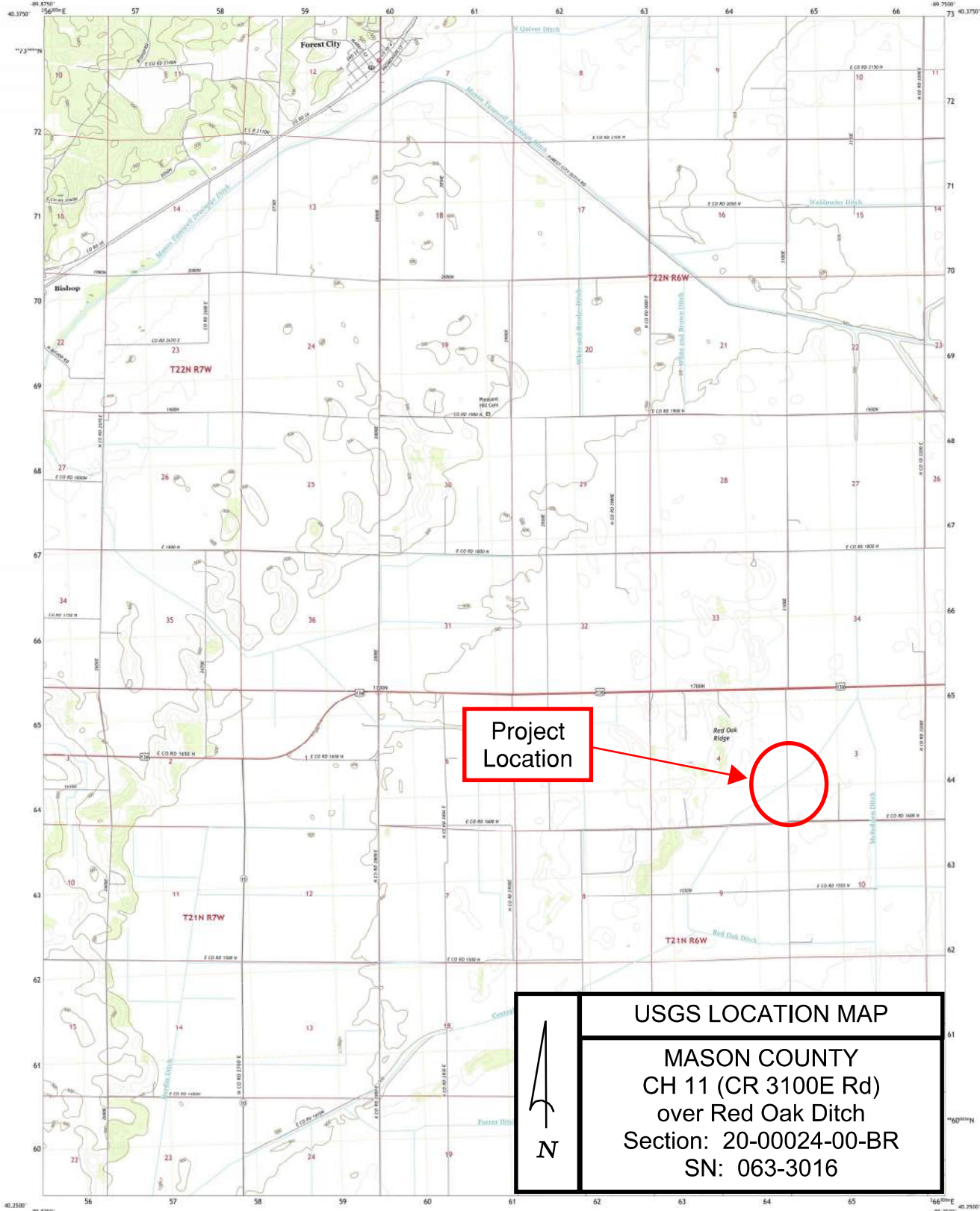
Attachment A

Project Location Map



Attachment B

USGS Topographic Map

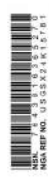
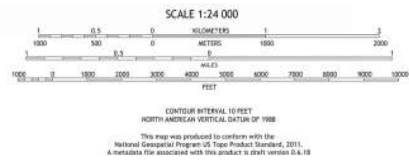
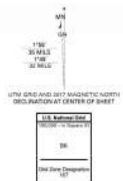


Project Location

USGS LOCATION MAP
MASON COUNTY
CH 11 (CR 3100E Rd)
over Red Oak Ditch
Section: 20-0024-00-BR
SN: 063-3016

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84), Projection and
1,000-meter grid (Universal Transverse Mercator, Zone 16T)
This map is not a legal document. Boundaries may be
generalized for this map scale. Private lands within government
microfilm may not be shown. Obtain permission before
entering private lands.

Imagery: NADP July 2013 October 2015
Roads: U.S. Census Bureau 2012
Name: National Hydrography Dataset 1982 2016
Hydrography: National Hydrography Dataset 2004 2012
Contour: National Elevation Dataset 2008 2012
Boundaries: Multiple sources see metadata file 2014 2016
Public Land Survey: Bureau of Land Management 2017
Wetlands: FWS National Wetlands Inventory 1983 1989



Attachment C

Existing Site Photographs

Mason County – County Highway 11 (CR 3100E Road) over Red Oak Ditch

Section: 20-00024-00-BR



Looking North Across Existing Bridge



Looking South Across Existing Bridge



Looking West at Upstream Channel



Looking East at Downstream Channel



Looking East at Upstream Opening / Face of Existing Bridge



Looking Southwest at Downstream Opening / Face of Existing Bridge



Looking South at South Abutment



Looking North at North Abutment



Existing Bridge Deck Surface

Attachment D

INHS Aquatic Survey Report

**Survey for Fishes in Red Oak Ditch
at the County Highway 11 (County Road 3100E) bridge,
15 miles east of Havana, Mason County, Illinois**

IDOT Sequence Number: 24650



Prepared by:
Jeremy S. Tiemann

INHS/IDOT Statewide Biological Survey & Assessment Program
2022:28

July 2022



PROJECT SUMMARY

This report is submitted in response to a request from IDOT to INHS for a fish survey in Red Oak Ditch (Crane Creek – Sangamon River drainage) at the County Highway 11 (County Road 3100E) bridge, 15 miles east of Havana, Mason County, Illinois. Specifically, this tasking asked for the presence of the state-threatened Ironcolor Shiner (*Notropis chalybaeus*) within the project corridor.

Fishes were collected from Red Oak Ditch within the County Highway 11 (County Road 3100E) project corridor on 15 July 2022 by INHS personnel. Fishes were collected from approximately 50 feet downstream (southwest) of the County Highway 11 (County Road 3100E) bridge to approximately 75 feet upstream (northeast) of the bridge via pull-seining (= 15-minute effort). A total of nine species were collected during our survey, including seven individuals of the state-threatened Ironcolor Shiner and seven individuals of the state-threatened Starhead Topminnow (*Fundulus dispar*). No other fishes captured are listed as endangered or threatened at the state or federal level, nor are under consideration for such listing, and all fishes are common inhabitants of northern Illinois streams.

Red Oak Ditch within the County Highway 11 (County Road 3100E) project corridor contained optimal habitat for both the Ironcolor Shiner and Starhead Topminnow – rooted aquatic vegetation in areas with minimal to no stream velocity. However, the area directly underneath the bridge lacked the dense beds of aquatic vegetation seen elsewhere in the project area, likely because of the shadow created by the bridge, thus blocking direct sunlight the vegetation needs to thrive.

Surveys Lead By: Jeremy S. Tiemann, Associate Aquatic Ecologist
 Andrew R. Kuhns, INHS Herpetologist
 Kat E. Conatser, INHS Hourly Assistant

Edited by: Mark J. Wetzel, INHS Research Affiliate

GIS Layers: Janet L. Jarvis, INHS GIS and Remote Sensing Specialist

 University of Illinois
 Prairie Research Institute
 Illinois Natural History Survey
 Statewide Biological Survey and Assessment Program
 1816 South Oak Street
 Champaign, Illinois 61820

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Cover photo: Red Oak Ditch downstream of the County Highway 11 (County Road 3100E) bridge, 15 miles east of Havana, Mason County, Illinois (Latitude 40.29371° North, Longitude 89.77180° West) on 15 July 2022 (J.S. Tiemann photo). Picture is facing upstream (northeast).

INTRODUCTION

This report is submitted in response to a request made by Vincent Hamer of the Illinois Department of Transportation (IDOT) to Wendy Schelsky of the Illinois Natural History Survey (INHS), dated 28 March 2022, for a fish survey in Red Oak Ditch (Crane Creek – Sangamon River drainage) at the County Highway 11 (County Road 3100E) bridge, 15 miles east of Havana, Mason County, Illinois [IDOT Seq. No. 24650; IDOT Section No. 20-00024-00-BR; IDOT SN: 063-3016; INHS Project No. FS-1602]. Specifically, this tasking asked for the presence of the state-threatened Ironcolor Shiner (*Notropis chalybaeus*) within the project corridor. In this report, we summarize the results of the fish survey conducted by INHS personnel on 15 July 2022 at this site.

PROJECT LOCATION

This project consists of one stream crossing:

Red Oak Ditch at the County Highway 11 (County Road 3100E) bridge (IDOT Sequence No. 24650), 15 miles east of Havana, Mason County, Illinois (Latitude 40.29371° North, Longitude 89.77180° West) (**cover photo**; **Figure 1**). Red Oak Ditch flows in a southwesterly direction at this location.

Appendix 1 references a shapefile with sampling point information for the stream crossing, as discussed in this report.

HABITAT CHARACTERIZATION

During our visit to the project area on 15 July 2022 to conduct a survey for fishes, Red Oak Ditch in the immediate vicinity of the County Highway 11 (County Road 3100E) bridge was approximately 3 yards wide and 2 feet deep and had no flow (**cover photo**). Stream substrates were predominantly mud and silted sand/gravel. Aquatic vegetation and some woody debris were present throughout the study area, but no undercut banks were observed. The riparian areas along each bank were narrow band of grass surrounded by row-crop agricultural fields.

BACKGROUND

Red Oak Ditch is a small (<20 mi²) agricultural ditch in Mason County, Illinois. This ditch, at certain water levels, connects Crane Creek (Sangamon River drainage) and Main Ditch (Quiver Creek – Illinois River drainage). Similar to many other streams in Mason County, Red Oak ditch is a highly modified basin and is altered by channelization and dredging to benefit row-crop agriculture (Page et al. 1992). Despite these disturbances, nearly 20 species have been reported in the Red Oak Ditch, including the state-threatened Ironcolor Shiner (*Notropis chalybaeus*).

The Ironcolor Shiner (**Figure 2**) occurs in clear vegetated sand-bottomed pools and slow runs of creeks and small rivers (Smith 1979; Becker 1983). Spawning behaviors of the Ironcolor Shiner is poorly studied; however, it is believed to spawn from mid-May to early August, and vegetated pools are important in its breeding (Smith 1979; Becker 1983). The range of the Ironcolor Shiner has diminished in Illinois due to the drainage of marshes, sloughs, and natural lakes and other factors that reduce aquatic vegetation (Smith 1979). The Ironcolor Shiner has been collected three times from Red Oak Ditch at the County Highway 11 (County Road 3100E) bridge since

1967, most recently in 2003 by the Illinois Department of Natural Resources (IDNR) (IDNR Natural Heritage Program database, Springfield).

METHODS

A survey for fishes was conducted in Red Oak Ditch in the County Highway 11 (County Road 3100E) bridge project corridor on 15 July 2022 at 1000 hrs by INHS personnel J.S. Tiemann, A.R. Kuhns, and K.E. Conatser. Fishes were collected from approximately 50 feet downstream (southwest) of the County Highway 11 (County Road 3100E) bridge to about 75 feet upstream (northeast) of the bridge via pull-seining (= 15-minute effort).

All fishes were identified, counted, and released except for a few specimens that were vouchered and deposited into the INHS Fish Collection, Champaign. Nomenclature for fishes discussed in this report follows Page and Burr (2011) except that subspecies are not recognized. The current status of threatened and endangered species of fishes discussed in this report are taken from U.S. Department of Interior, Fish and Wildlife Service (USDI, FWS) (1996, 1997) and Illinois Endangered Species Protection Board (IESPB) (2020). All fishes were collected and processed according to Institute of Animal Care and Use Committee (IACUC) protocol # 16057.

RESULTS AND DISCUSSION

A total of nine species of fishes were collected from Red Oak Ditch within the County Highway 11 (County Road 3100E) project area by INHS personnel on 15 July 2022, including seven individuals of the state-threatened Ironcolor Shiner and seven individuals of the state-threatened Starhead Topminnow (*Fundulus dispar*) (**Table 1**). No other fishes captured during this survey are listed as endangered or threatened at the state or federal level (IESPB 2020), nor are under consideration for such listing, and all are common inhabitants of northern Illinois streams.

Much like the Ironcolor Shiner, the Starhead Topminnow (**Figure 3**) occur in clear, vegetated, bodies of water (Smith 1965; Smith 1979). Spawning occurs in late spring and early summer when water temperatures are around 70° F (Becker 1983). The Starhead Topminnow inhabits quiet, sheltered areas and spawns in aquatic vegetation, where the small clusters of eggs adhere to aquatic vegetation and their incubation period can last a couple of weeks (Becker 1983; Taylor and Burr 1997). Anthropogenic disturbances, including extensive residential development of shorelines, high nutrient and siltation loads, and removal of aquatic vegetation, are among the biggest threats to the species (Smith 1965; Taylor et al. 1997). The distribution range of the Starhead Topminnow has diminished in Illinois as a result of the drainage of marshes, sloughs, and natural lakes – factors that have the potential to reduce aquatic vegetation, increase turbidity in streams, support the establishment of non-native species (Smith 1971; Smith 1979; Taylor et al. 1997). To our knowledge, the Starhead Topminnow has never been reported in Red Oak Ditch, but has been routinely reported from Crane Creek (IDNR Natural Heritage Program database, Springfield).

Red Oak Ditch within the County Highway 11 (County Road 3100E) project corridor contained optimal habitat for both the Ironcolor Shiner and Starhead Topminnow – rooted aquatic vegetation in areas with minimal to no stream velocity. However, the area directly underneath

the bridge lacked the dense beds of aquatic vegetation seen elsewhere in the project area, likely because of the shadow created by the bridge, thus blocking direct sunlight the vegetation needs to thrive.

ACKNOWLEDGMENTS

A.R. Kuhns (INHS) and K.E. Conatser (INHS) assisted in the field survey; J.L. Jarvis (INHS) prepared the map in **Figure 1** and associated shape file referenced in **Appendix 1**; N. Maass (IDNR) provide element occurrence records; and M.J. Wetzel (INHS) edited the report.

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- U.S. Department of Interior, Fish and Wildlife Service (USDI, FWS). 1997. Endangered and threatened wildlife and plants. Federal Register, 50 CFR Part 17.11 and 17.12. October 31, 1996. 46 pp. [This document is a compilation and special reprint, current as of October 31, 1996, that was printed by the U.S. Government Printing Office in 1997].

Table 1. List of fish species and number of individuals collected in Red Oak Ditch at the County Highway 11 (County Road 3100E) bridge, 15 miles east of Havana, Mason County, Illinois (Latitude 40.29371° North, Longitude 89.77180° West) by INHS personnel on 15 July 2022. Special status: ST = Illinois state-threatened

Family	Scientific name	Common name	# indiv.
Leuciscidae	<i>Cyprinella whipplei</i>	Steelcolor Shiner	1
	<i>Lythrurus umbratilis</i>	Redfin Shiner	23
	<i>Notropis chalybaeus</i> ST	Ironcolor Shiner	7
Ictaluridae	<i>Ameiurus melas</i>	Black Bullhead	4
Aphredoderidae	<i>Aphredoderus sayanus</i>	Pirate Perch	3
Esocidae	<i>Umbra limi</i>	Central Mudminnow	5
Fundulidae	<i>Fundulus dispar</i> ST	Starhead Topminnow	7
	<i>Fundulus notatus</i>	Blackstripe Topminnow	28
Poeciliidae	<i>Gambusia affinis</i>	Western Mosquitofish	16



Fish survey area on Red Oak Ditch near CR 3100 East (Sequence no. 24650) Mason County, Illinois.



Figure 1. Map of the County Highway 11 (County Road 3100E) bridge project corridor (IDOT Sequence No. 24650), 15 miles east of Havana, Mason County, Illinois (Latitude 40.29371° North, Longitude 89.77180° West). where a survey for fishes was conducted by INHS personnel on 15 July 2022. Red Oak Ditch flows in a southwesterly direction at this location. (Map created by J.L. Jarvis, INHS GIS and Remote Sensing Specialist).



Notropis chalybaeus Collection Sites in Illinois
Before and After 1979

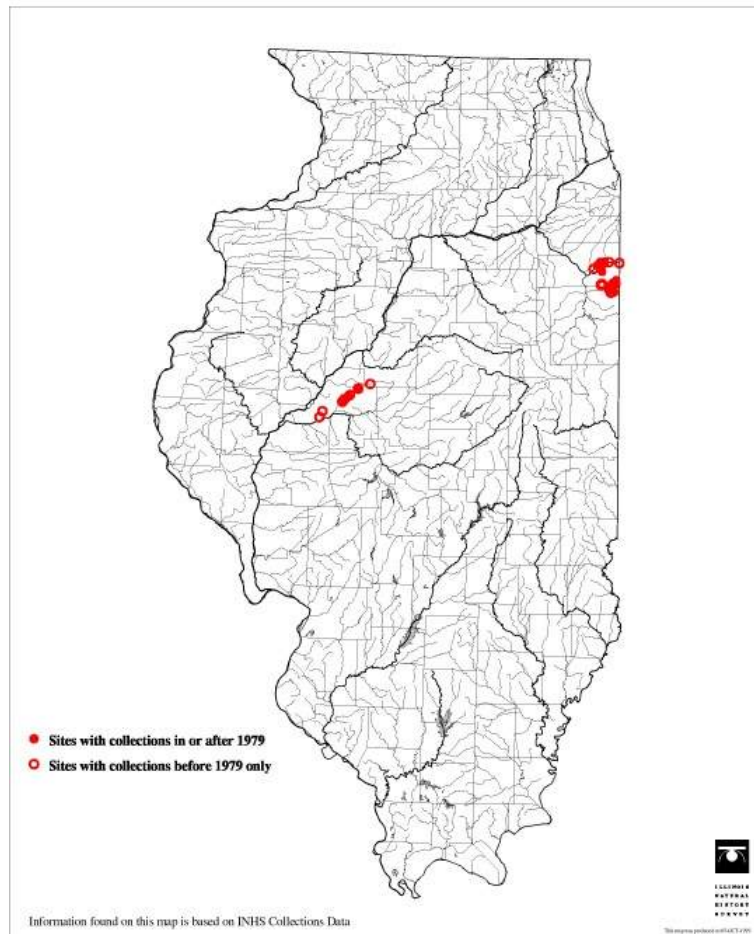
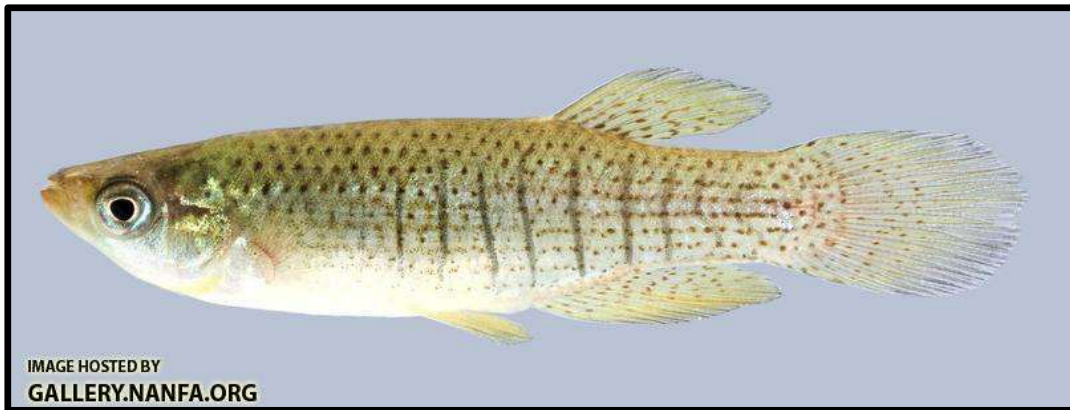


Figure 2. The Illinois state-threatened Ironcolor Shiner *Notropis chalybaeus* and its distribution in Illinois prior to 2005 (photo from the North American Native Fishes Association – www.nanfa.org; map from the INHS Fish Collection - http://www.inhs.illinois.edu/files/5513/3916/4814/no_heterod.gif).



Fundulus dispar Collection Sites in Illinois
Before and After 1979

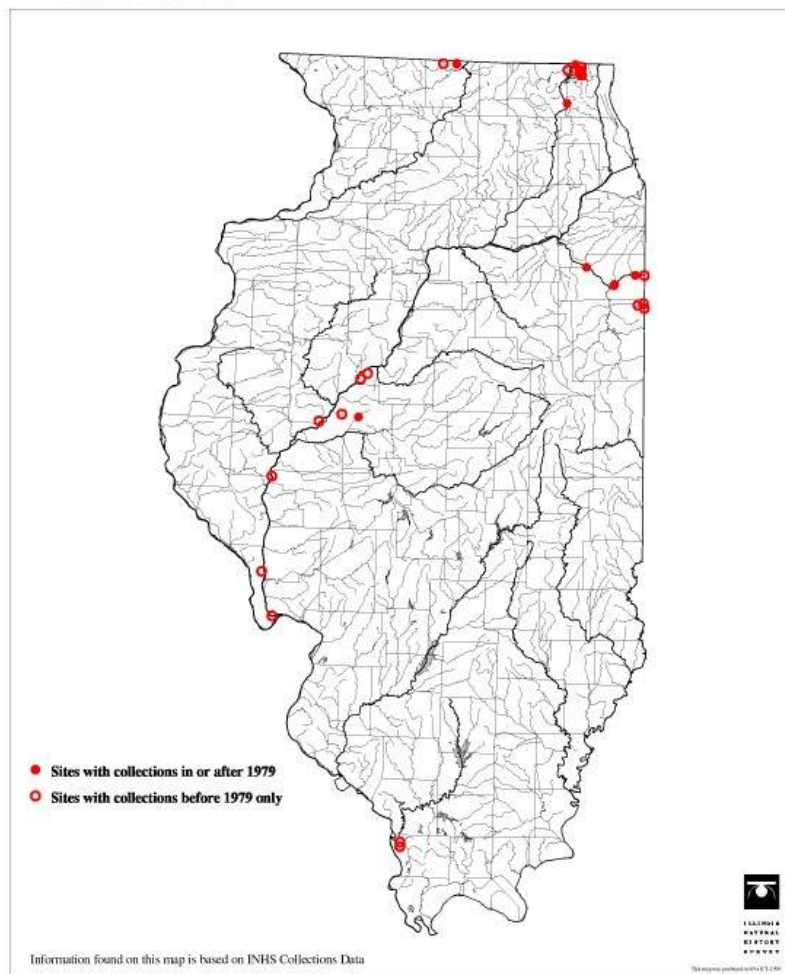


Figure 3. The Illinois state-threatened Starhead Topminnow *Fundulus dispar* and its distribution in Illinois prior to 2005 (photo from the North American Native Fishes Association – www.nanfa.org; map from the INHS Fish Collection – https://www.inhs.illinois.edu/files/8813/3944/2635/fu_dispar.gif).

Appendix 1

This appendix cover page references < **24650_Fish_Survey_GIS.zip** > containing an ArcGIS shapefile with sampling point information for the site discussed in this report. Specifically, this shapefile includes site information for Red Oak Ditch at the County Highway 11 (County Road 3100E) (IDOT Sequence No. 24650) project, 15 miles east of Havana, Mason County, Illinois (Latitude 40.29371° North, Longitude 89.77180° West), where a survey for fishes was conducted by INHS personnel on 15 July 2022.

The ArcGIS shapefile and this report were both submitted to IDOT via the IDOT Site Assessment Tracking System extranet website (Frostycap) on 27 July 2022.

Attachment E

U.S. Army Corp of Engineers Permit



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, ROCK ISLAND DISTRICT
PO BOX 2004 CLOCK TOWER BUILDING
ROCK ISLAND, ILLINOIS 61204-2004

November 10, 2022

Regulatory Division

SUBJECT: CEMVR-RD-2022-1480

Mr. Michael R. Pedigo
Mason County Highway Department
1164 East Laurel Avenue
Havana, Illinois 62644

Dear Mr. Pedigo:

Our office has reviewed your application received October 27, 2022, concerning the proposed bridge replacement including minor channel shaping and the placement of protective riprap located along North County Road 3100 East (County Highway 11) in Sections 03/04, Township 21 North, Range 6 West, Mason County, Illinois.

Your project is authorized under Nationwide Permit No. 14, provided you meet the Nationwide Permit terms and conditions which are contained in the enclosed Fact Sheet No. 9(IL) including the Illinois Regional Conditions, the Section 401 Water Quality Certification issued by the Illinois Environmental Protection Agency which is included in the Fact Sheet, and any special conditions that have been included in this nationwide permit verification letter. The Illinois Department of Transportation has made a determination of no effect on federally threatened and endangered species and critical habitat. The decision regarding this action is based on information found in the administrative record, which documents the District's decision-making process, the basis for the decision, and the final decision.

Please contact our office if the project plans change and there are different impacts caused by dredged or fill material into Corps' regulated waters. This may require modification of your Department of the Army 404 authorization.

This verification is valid until March 14, 2026, unless the nationwide permit is modified, reissued, or revoked. It is your responsibility to remain informed of changes to the nationwide permit program. We will issue a public notice announcing any changes if and when they occur. Furthermore, if you commence or are under contract to commence this activity before the date the nationwide permit is modified or revoked, you will have twelve months from this date to complete your activity under the present terms and conditions of this nationwide permit.

This authorization does not eliminate the requirement that you must still obtain other applicable Federal, state, and local permits. If you have not already coordinated your project with the IDNR, please contact them by telephone 217/782-6302 or bill.milner@illinois.gov to determine if a floodplain development permit is required for your project. Also contact the IDNR at 217/785-5500 or <https://dnr2.illinois.gov/EcoPublic/> to consult on potential impacts to state listed species or other state protected natural resources. You may contact the IEPA Facility Evaluation Unit at 217/782-3397 to determine whether additional authorizations are required from the IEPA. Please send any electronic correspondence to EPA.401.bow@illinois.gov.

You are required to complete and return the enclosed "Completed Work Certification" form upon completion of your project in accordance with General Condition No. 30 of the nationwide permits.

The Rock Island District Regulatory Division is committed to providing quality and timely service to our customers. In an effort to improve customer service, please take a moment to complete our Customer Service Survey found on our web site at <https://regulatory.ops.usace.army.mil/ords/f?p=136:4>. (Be sure to select "Rock Island District" under the area entitled: Which Corps office did you deal with?)

Should you have any questions, please contact our Regulatory Division by letter, or telephone Daniel Lange at 309/794-4209.

Sincerely,



Albert J. Frohlich
Acting Chief, Eastern Branch
Regulatory Division

When the structure(s) or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s), of the property. To validate the transfer of this nationwide permit and the liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

Transferee

Date

Copies Furnished:

w/o enclosures:

Mr. William Milner, P.E.
Section Chief - Downstate Regulatory
Programs
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Office of Water Resources
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bill.milner@illinois.gov

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United States Department of the Interior



FISH AND WILDLIFE SERVICE
Illinois-Iowa Ecological Services Field Office
Illinois & Iowa Ecological Services Field Office
1511 47th Ave
Moline, IL 61265-7022
Phone: (309) 757-5800 Fax: (309) 757-5807

In Reply Refer To:
Project Code: 2022-0078855
Project Name: 24650

August 25, 2022

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

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2))

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
 - Wetlands
-

Official Species List

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

This species list is provided by:

Illinois-Iowa Ecological Services Field Office

Illinois & Iowa Ecological Services Field Office

1511 47th Ave

Moline, IL 61265-7022

(309) 757-5800

Project Summary

Project Code: 2022-0078855

Project Name: 24650

Project Type: Bridge - Replacement

Project Description: The proposed project involves complete removal and replacement of the existing structure on CR 3100 E along with minimal approach roadway improvements to tie the new structure into the existing roadway.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@40.293375999999995,-89.77184698572026,14z>



Counties: Mason County, Illinois

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

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

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

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

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

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Decurrent False Aster <i>Boltonia decurrens</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7705	Threatened
Eastern Prairie Fringed Orchid <i>Platanthera leucophaea</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/601	Threatened

Critical habitats

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



USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED.
PLEASE VISIT [HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML](https://www.fws.gov/wetlands/data/mapper.html) OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

IPaC User Contact Information

Agency: Illinois Department of Transportation

Name: Kara Knuffman

Address: 1816 S Oak St

City: Champaign

State: IL

Zip: 61821

Email kara.knuffman@illinois.gov

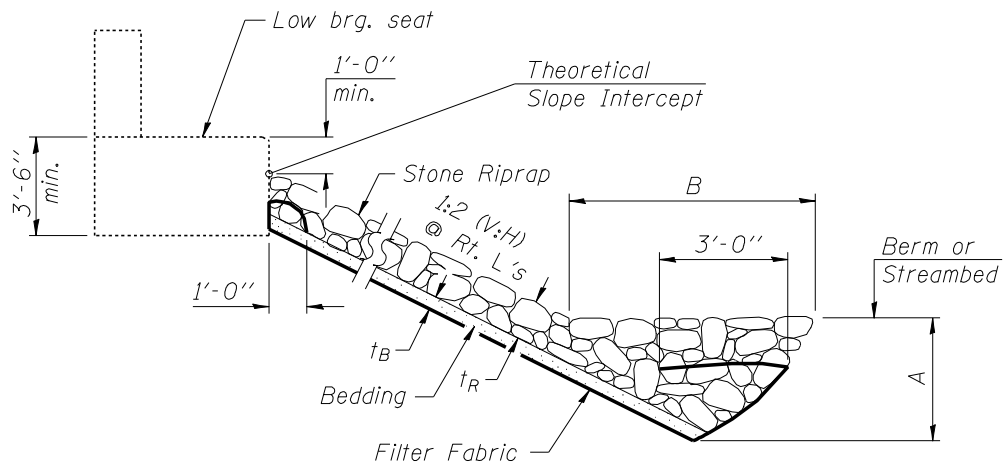
Phone: 2173333766

Attachment F

Rip Rap Toe Illustration

Riprap Class	t_R	t_B	A	B
A4	16"	6"	4'	8'
A5	22"*	8"	5'	10'
A6	26"*	10"	6'	12'
A7	30"*	12"	7'	14'

* Check abutment depth and increase as necessary to match depth of riprap and bedding



TOE STONE RIPRAP TREATMENT
STREAM CROSSINGS

Figure 2.3.6.3.3-2