

**Illinois Department of Natural Resources  
Office of Resource Conservation**

**CONSERVATION PLAN FOR THE INCIDENTAL TAKING  
OF THE STATE THREATENED  
MOTTLED SCULPIN (*Cottus bairdii*)**

**US ROUTE 20  
BRIDGE OVER POPLAR CREEK**

**US Route 20 (FAP 345) Bridges over Poplar Creek, Elgin Cook County,  
Illinois**

**Sequence No: 17911E**

**Applicant: Illinois Department of Transportation (IDOT)  
District 1/Region 1**

**August 2023**

## Introduction

The Illinois Department of Transportation (IDOT) proposes improvements to US Route 20 (US20) between Randall Road and Shales Parkway in the Elgin area of Kane and Cook Counties. Correspondence from the Illinois Department of Natural Resources (IDNR) Impact Assessment Section indicated potential for the occurrence of the state-threatened mottled sculpin within the project extent (see attachments). All three bridge crossings within the project extent were assessed for presence of mottled sculpin and the species was detected in Poplar Creek. This Conservation Plan addresses potential take of mottled sculpin associated with bridge improvements at Poplar Creek (Cook County, T41N, R9E, S19 at latitude 42.02034N, longitude 88.26009W).

In response to a request from the Illinois Department of Transportation (IDOT), the Illinois Natural History Survey (INHS) conducted a fish survey in Poplar Creek at the US 20 bridge on May 26, 2021. The state-threatened mottled sculpin (*Cottus bairdii*) was collected during this survey in a riffle containing clean sandy gravel / cobble approximately 20 yards downstream of the US 20 bridge. Aside from the mottled sculpin, all other fish species encountered are common inhabitants of northern Illinois streams and none are listed as threatened or endangered at the federal or state level, nor are they candidates for listing in Illinois. The INHS did not report the presence of the mottled sculpin or its preferred habitat in Otter Creek or the Fox River. Otter Creek was a small, intermittent stream that did not contain clean substrates or permanent flow, whereas the Fox River was a large, warm-water stream with silted substrates. Both streams lacked the substrate, as well as cool-water and permanent flow to sustain a viable population of mottled sculpin. A copy of the complete fish survey conducted by the INHS is included in the appendix.

Additional improvements to US 20, including lane widening, noise walls, and drainage improvements, are planned; however, this Conservation Plan addresses take of state-listed species associated only with this specific bridge rehabilitation of US 20 over Poplar Creek, located 1.6 mi SE of Elgin in Cook County, Illinois (T41N, R 9E, S19, at Latitude 42.02034°N, Longitude 88.26009°W).

### 1. Description of Project Impact Assessment for Illinois State Threatened and Endangered Species

The state-threatened mottled sculpin is historically found in several Fox River tributaries, including Poplar Creek. A specimen of mottled sculpin was collected during a fish survey conducted by the INHS on May 26, 2021 approximately 20 yards downstream from the US 20 bridge over Poplar Creek near the project area. Two additional perennial stream sites with in-stream bridge work are also included in the proposed scope of work. These sites, US 20 over the Fox River and US 20 over Otter Creek were not observed to possess the correct habitat characterization for viable populations of mottled sculpin.

Potential take numbers for the mottled sculpin assessed for potential impacts as a result of the proposed in-stream bridge work associated with the US 20, Randall Road to Shales Parkway Improvement Project is approximately eight (8) individual fish. Degraded or destroyed habitat (or in this case, area of impact) and number of fish per 1,000 square feet (based on the INHS May 26, 2021, Fish Survey) was used to calculate incidental take numbers of the mottled sculpin associated with this project. An Incidental Take Authorization (ITA) for the mottled sculpin is requested by IDOT to pursue bridge reconstruction.

Poplar Creek at the US 20 bridge was visited by INHS personnel on May 26, 2021. The potential impact area examined is a reach of the stream from approximately 10 yards upstream (north) of the bridge to 50 yards downstream (south) of the crossing. Poplar Creek was predominately clean mixture of gravel/pebble with some cobble / rip-rap present; undercut banks were not observed but woody debris and aquatic

vegetation were. Poplar Creek was about 15 yards wide and mostly <2 feet in depth. The stream was flowing ~1.5 feet per second during the site visit. This stretch of Poplar Creek is sloped banks lined by a narrow patch of trees and grasses but surrounded by urban sprawl (Exhibit 1 and aerial photography).

Additional improvements to US 20, including lane widening, noise walls, and drainage improvements, are planned; however, this Conservation Plan addresses take of state-listed species associated only with this specific bridge rehabilitation over Poplar Creek.

#### A. Description of the area to be affected:

The US 20 bridge over Poplar Creek is located 1.6 mi SE of Elgin in Cook County, Illinois in Township 41N, Range 9E, Section 19 (Latitude 42.02034°N, Longitude 88.26009°).

The surrounding land use include forested, riparian areas associated with Poplar Creek commercial, residential, and industrial urban sprawl associated with the City of Elgin.

#### B. Biological Data for the Mottled Sculpin present in the Fox River in Illinois and its tributaries

Several anthropogenic disturbances – alterations of upland habitats to urbanized habitats, impoundments along the Fox River mainstem and its tributaries, and industrial pollution throughout the basin – have occurred and continue to occur in the Fox River drainage (Page et al. 1992; Santucci et al. 2005; Tiemann et al. 2007). Poplar Creek is rated as a Class D for Stream Diversity and Class C for Stream Integrity.

Fishes recorded from the Fox River drainage in Illinois total nearly 100 species including the state-threatened mottled sculpin, which is known from several Fox River tributaries like Poplar Creek (data from the INHS Fish Collection database, Champaign; Illinois Department of Natural Resources' (IDNR) Natural Heritage Program database, Springfield). The mottled sculpin is found sporadically in small to medium-sized, cool-water, high-gradient streams in northern Illinois (Smith 1979; Figure 2). The fish can be found over sandy gravel /cobble, but almost never over mud (Willink 2017). When sand is the dominant substrate, mottled sculpins are usually collected near woody debris or some other type of protective cover (Willink 2017). In Illinois, mottled sculpin spawn mid-Spring to early summer (early April to late May) when water temperatures are around 48°F to 57°F (Ludwig and Norden 1969; Smith 1979). Nests were usually in riffles free of sediment, typically in spaces beneath cobble (Willink 2017).

Males, which are generally larger than females and remain solitary during the spring and summer, often guard their nests until late June (Downhower and Brown 1979; Downhower et al. 1983). The primary threats to mottled sculpin are habitat loss, hydrologic alterations, invasive species, climate change, and lack of connectivity among populations (Willink 2017).

The historic range of mottled sculpin in Illinois included Lake Michigan, the Des Plaines River basin, the Fox River basin, the Upper Illinois River basin, the Kankakee River basin, the Rock River basin, and the Vermilion River of the Wabash River basin. The population of mottled sculpin in the Fox River drainage is the most robust in Illinois, despite sub-populations being isolated from each other by lowhead dams and degraded habitat (Willink 2017).

The INHS database contains 70 records of mottled sculpin occurrences in Illinois, dating back to 1960. Recent reports (2001 onwards), of the mottled sculpin are from 19 river/stream

systems. No reasonable estimate of total mottled sculpin abundance in Illinois is possible given the limitations of existing distribution and abundance records (IDNR 2022). No estimates of dispersal between survey sites or streams have been attempted for mottled sculpin in Illinois, nor is general ecological knowledge of the species sufficient for estimating dispersal patterns (IDNR 2022). It is likely the Rock River basin, Fox River basin, and Vermilion River (Wabash) basin individuals are isolated from each other.

Mottled sculpins are known within the Fox River drainage system from eight records, with six records spanning from 1960 to 1997 and two records from the year 2012. **Table 1** presents the INHS records of mottled sculpin historically collected in the Fox River drainage.

**Table 1**  
Mottled Sculpin Records from the Fox River Drainage, Illinois  
Illinois Natural History Survey Database Accessed February 15, 2023\*

Year Collected	Recorded By	Location
1960	P.W. Smith & R.H. Buck	Trib. Fox River, Elgin
1960	P.W. Smith & R.H. Buck	Jelkes Creek, 2 mi SW West Dundee
1974	L.L. Lipsey	Robroy Creek, S Sugar Grove, where it parallels Rt. 47
1992	M.A. Harris & D.W. Webb	Spring Creek, Elgin, Trout Park
1994	C.A. Taylor & M.A. Harris	Ferson Creek, 1 mi N St. Charles, Hwy. 31
1997	S. Pescitelli & B. Rung	Tyler Creek, 4 mi E Udina, Hoxie Rd.
2012	IDNR Stream Crew	Tyler Creek, 1 mi W Elgin, Randall Rd.
2012	IDNR Stream Crew	Ferson Creek, 2 mi NW St. Charles, Randall Rd. bridge

\* The IDNR reports approximately 15 other occurrences in the Fox River watershed between 2005 and 2016. The exact locations were not available at this time.

**C. Description of the activities that could result in the taking of a threatened or endangered species:**

The existing structure carrying US 20 over Poplar Creek (S.N. 016-0217) was originally constructed in 1959 as F.A. Route 6, Section 8-RB-1. In 1986, the bridge was widened, concrete overlay placed, expansion joints reconstructed, bearings replaced and substructure was rehabilitated and widened. The structure is a three-span non-composite steel beam bridge supported on reinforced concrete stub abutments founded on concrete piles, and concrete wall piers founded on spread footings and one pile at each end to support the widening. The overall structure is 119'-0" back-to-back of abutments on a 29° forward left skew, and an out-to-out structure width of 37'-7" for both Eastbound and Westbound directions.

Proposed work within or adjacent to Poplar Creek include:

- Remove existing superstructure and bearings, abutment backwall, and portions of existing wingwalls,

- Remove and replace portions of pier seats, and erect new bearings,
- Convert existing abutments to semi-integral abutments,
- Complete concrete repairs on piers and abutments,
- Remove and replace sunken portion of existing sloped wall,
- Riprap installation, and
- Erect new rolled beams and construct new concrete deck, parapet median and approach slabs.

The existing deck is to be cut into slabs and lifted off the bridges for removal. The beams will be lifted out using cranes. Protective shielding will be in place such that no construction debris falls into Poplar Creek. Protective shielding is specified to be included from abutment to abutment.

The proposed bridge abutments are out of the water and piers are located at the toe of slope leading to Poplar Creek, with the slope wall extending down to the piers. Riprap installation is proposed at 164 square yards, in compliance with scour countermeasure requirements. The minimum amount of riprap was designed to limit the impact to Poplar Creek. Riprap will be installed approximately 7 feet 6 inches from the pier construction limits.

It is anticipated that approximately 2,981 square feet (0.068 acres) of Poplar Creek will be impacted by the proposed bridge improvement through the installation of riprap as mentioned.

Work is anticipated to start mid to late April 2024. Regarding the rip rap installation in the creek bed, this will likely occur in Stage 2 once the existing WB bridge is removed so the Contractor will divert the stream one time. This likely will occur in August/Sept 2024 timeframe, which is outside the spawning period of the fish. A note will be included on the plans or specs restricting work as needed.

Contractor's means and methods may vary, but it is likely the stream flow will be diverted. The estimated normal water elevation indicates a depth of approximately three feet. The flow of the river will be maintained between the piers allowing sufficient flow for rain events. Restrictions will be added to the plans that the contractor will complete this work during low flow conditions to facilitate stream diversion. The Contractor may choose to maintain the diversion and workspace with a causeway and culvert. The Contractor will properly size the culvert if a causeway is used. In either case, the west and east piers will be surrounded by turbidity curtains to minimize the flow of sediment.

Previous studies of the mottled sculpin reference the difficulty in identifying exact numbers of incidental take (WA-DNR). Reasons cited include low population densities, sporadic distribution, secretive behavior and associated habitat (i.e., benthic, log, river stone-dwelling), delayed effects of construction activities that could take species (i.e., water quality), scavenging of dead individuals by opportunistic predators, and the transportation of target species downstream of the impact area post-mortem. Degraded or destroyed habitat, or in this case, the anticipated area of impact for in-stream work may provide a better substitute at expressing the anticipated incidental take of mottled sculpin.

#### D. Description of the anticipated adverse effects on the listed species:

Mottled sculpin may be disrupted and displaced due to noise generated from the use of heavy equipment, concrete saws, and other construction equipment; as well as from in-stream work. Fish habitat may also be removed or altered during bridge improvements, including the changes in stream flow/riffles, removal of large woody debris (LWD), spills or leaks of hazardous materials where construction equipment is parked, used, fueled, or maintained; or where hazardous materials are stored. In addition, concrete leachate may be generated during roadway and bridge construction. If these substances enter Poplar Creek, they may degrade water quality, resulting in adverse impacts on aquatic resources, including the mottled sculpin and the species upon which they feed.

Sediment is expected to be disturbed temporarily, during construction of the piers and abutments for the new bridges. Temporary cofferdams and causeways are proposed to minimize these impacts during construction. After construction activities have been completed, these water quality impacts would be expected to cease. Sedimentation from construction activity will have direct impact on the mottled sculpin as this fish species is most abundant in clean, mostly sediment free streams (IDNR 2022).

### 2. Measures to minimize and mitigate impacts and funding available to undertake these measures.

#### A. Plans to minimize affected area, and estimated number of fish that will be taken and amount of habitat affected.

Degraded or destroyed habitat, or in this case, the anticipated area of impact for in-stream work may provide a better substitute at expressing the anticipated incidental take of mottled sculpin. Using this method, in addition to information gathered during the May 26<sup>th</sup> 2021 INHS fish survey, the **amount of anticipated incidental take of the mottled sculpin is eight fish.** This was calculated using the anticipated area of impact (i.e., habitat degradation) for in-stream work at Poplar Creek (approximately 3,000 square feet) and multiplying by the approximate number of fish per 1,000 square feet, which INHS determined to be 2.6. The number of fish per 1,000 square feet was determined based on extrapolated data from the INHS fish survey, which was 1 mottled sculpin found per 15 by 25 square foot subplot.

Minimization of the area affected directly is feasible through the judicious use of anti-erosion and sediment blocking construction techniques. All efforts to reduce in-stream siltation and in-stream work, especially during the late March to late May spawning period, should be taken to lessen the impact to protected fish species.

Aquatic habitat that may be affected due to siltation will be minimized through the use of silt fences/erosion structures to prevent runoff from entering the river. A designated crew will install, inspect and maintain silt fences. The use of silt curtains downstream of the in-stream work will be used for any potential temporary sediment disturbance. In addition to erosion and sediment control inspections, water quality sampling will be conducted before, during, and after in-stream work is completed to test the water for pH, total suspended solids (TSS), and turbidity (NTU) readings.

If temporary causeways are to be used, minimization of the area affected will be considered by using the smallest causeway needed for safe construction practices.

During construction, adjacent land areas will be protected with erosion and sediment control features. Erosion and sediment control policy and specifications (Storm Water Pollution Prevention Plan (SWPPP) contained in the bid specifications) will be followed and will be in compliance with the U.S. Army Corps of Engineers (USACE) Section 404 permit, the water quality certification policies of Illinois EPA, and the requirements within the NPDES construction permit. The Kane-DuPage Soil and Water Conservation District, as required by the USACE, reviewed and approved the erosion and sediment control plans and SWPPP. It is expected, that after the instream work has been completed, the area will be available for re-colonization by all species of fish.

A blackout period will be established between March 15 and May 31, in which no instream work will be conducted in Poplar Creek. These dates reflect the approximate historic, optimal water temperatures ideal for mottled sculpin spawning.

Final mitigation measures for the mottled sculpin will be coordinated with the IDNR as part of the final ITA. The IDNR has proposed a mitigation fee in lieu of \$15,600.

**B. Plans for management of the affected area that will enable continued use by the listed species:**

1. Siltation during all phases of construction will be minimized through use of erosion control devices such as silt fences to prevent runoff from entering the river and affecting aquatic habitat. A designated crew will inspect and maintain silt fences/erosion structures. The use of silt curtains downstream of the in-stream work will also be used for any potential temporary sediment disturbance as well as water quality sampling for pH, TSS, and NTU.
2. In-stream work will not be done during the blackout period (March 15 to May 31), which represent the optimal time and water temperature utilized for mottled sculpin spawning and foraging.
3. After construction is completed, causeways and cofferdams will be removed and the stream bottom will be restored to its approximate original condition and flow pattern, allowing for re-colonization of biota.
4. Disturbed areas on the banks and adjacent uplands will be restored with native seeding as detailed in the SWPPP. As Poplar Creek is open water with minimal vegetation within its banks, no seeding or installation of plant plugs will occur within the watercourse.

**C. Description of all measures to be implemented to minimize or mitigate the effects of the proposed action on listed species:**

1. Implementation and maintenance of the soil erosion, and sedimentation control plan will prevent runoff from entering the river. Implementation and maintenance of in-stream silt curtains will prevent sediment disturbance that will affect the Mottled Sculpin.
2. In-stream work will not be allowed during fish spawning (March 15 to May 31).
3. Per IDNR direction, mitigation of potential mottled sculpin fish and habitat will be fee-in-lieu payment of \$15,600.

**D. Plans for monitoring the effects of measures implemented to minimize or mitigate the effects of the proposed action on endangered or threatened species.**

1. A baseline fish survey was conducted by the INHS on May 26, 2021 in which a mottled sculpin specimen was collected approximately 20 yards downstream of the US 20 bridge over Poplar Creek impact area.
2. Post-construction monitoring will be required within the project footprint for fish and 100 feet downstream. The INHS will be tasked to conduct post construction monitoring events in years 1 and 3 following completion of construction. The INHS monitoring will mirror the methods they utilized during the pre-construction survey completed in May 2021. Habitat conditions will be observed and numbers of mottled sculpin captured will be documented. Recommendations for remedial action, if necessary, will be prescribed to restore any degraded habitat. Any protected species captured during the post construction monitoring event will be logged and immediately returned to the stream where it was captured. Remedial action prescribed by INHS will be completed by IDOT.
3. A monitoring report will be furnished which will include the results of the recapture study for endangered or threatened species including age, numbers, and rationale for mortality of fish, evidence of recruitment or juvenile fry, habitat structure, and an analysis of stability or flux of substrates since last monitoring event. The report will be submitted to IDNR by January 31 of the following year after construction.

**E. Adaptive management practices that will be used to deal with changed or unforeseen circumstances affecting the effectiveness of measures instituted:**

1. Sediment/erosion control measures may be modified and supplemented to ensure maximum protection of the aquatic system as different phases of construction shift erosion points and channels. These measures include but are not limited to the removal of equipment (cofferdams, etc.) during flood events or drought conditions to facilitate the integrity of the aquatic system. Erosion control measures/sediment structures will be evaluated and modified weekly or more often if weather events or shifts in construction area dictate modifications. The need for modifications to the erosion control measures will be dictated by the weekly SWPPP monitoring and reporting process.
2. A spill response plan will be developed and utilized in the event of leaking construction equipment or other bridge repair material to ensure it does not enter Poplar creek or disturb surrounding habitat.

**F. Verification of adequate funding to support and implement all activities described in the conservation plan:**

1. IDOT has fully funded the improvements to the Poplar Creek Bridge through their Capital Program. Funding includes the installation of all necessary sediment and erosion control measures needed to minimize impacts to water quality in Poplar Creek.



**3. Description of alternative actions the applicant considered that would not result in take and the reasons that each of those alternatives was not selected. A “no-action” alternative shall be included in this description of alternatives.**

Purpose and Need of the Project: The purpose of the proposed improvement is to extend the service life of the US 20 mainline and bridges, enhance safety, and address mobility issues. In addition to serving the motoring public, the proposed action will also address the need for emergency vehicle access and safe access for pedestrians and bicyclists crossing the US 20 corridor.

The project undertaking described within this Conservation Plan is for in-stream work within Poplar Creek associated with improvements to US 20 from Randall Road to Shales Parkway in the greater Elgin area of Kane and Cook Counties.

The no-action alternative would maintain the existing bridge. However, it is important to note that due to the condition of the bridge, repair and maintenance on the existing bridge would continue. The nature and extent of the repairs would become greater, more frequent, and more costly over time. As the no-action alternative does not meet the project purpose and need, this alternative was not selected as the preferred alternative.

The Poplar Creek bridge improvement project was designed to minimize impacts to the water resources. The construction plans developed for the bridge considered minimization and avoidance measures in the final design. As the improvements are necessary to improve the bridge, avoidance of all instream work at Poplar Creek is not feasible. The final design minimized instream work to the maximum extent possible and the plans incorporate robust soil erosion and sediment control measures to minimize and avoid sediment from construction activities from entering Poplar Creek. No further minimization and avoidance measures that meet the purpose and need are reasonable and feasible.

Due to right-of-way constraints, no additional build alternatives were developed on different alignments. The impact to Poplar Creek is due to the placement of riprap into the waterway to protect the bridge structure from scour. As part of the Bipartisan Infrastructure Act, the US Department of Transportation provides PROTECT funding, to assist agencies in building resilience into the transportation system. PROTECT funding will be used in the improvements along US 20. PROTECT funding encourages the use of riprap for bridge scour protection which is proposed for the Poplar Creek bridge. As a result, the use of riprap allows IDOT to meet federal funding requirements. An alternative that would provide the necessary improvements to the Poplar Creek bridge without the riprap fill would not provide the necessary scour protection of the bridge into the future. As a result, the proposed build alternative using riprap fill is the preferred alternative.

IDOT will be submitting permit applications to the USACE for Section 404 permits and will be subject to Section 401 Water Quality Certification by the IEPA. The Poplar Creek project will be subject to water quality standards through the permitting requirements of the Section 404 Nationwide Permits which will apply to Poplar Creek. Additional water quality measures may be recommended by the IEPA that IDOT will implement if feasible.

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 objective of this Conservation Plan is to reduce Incidental Take of the state threatened mottled sculpin due to in-stream construction activities detailed within this document. Take numbers of this species can be hard to quantify. Reasons cited by previous studies of the mottled sculpin include low population densities, sporadic distribution, secretive behavior and associated habitat (i.e., benthic, log, river stone-dwelling), delayed effects of construction activities that could take species (i.e., water quality), scavenging of dead individuals by opportunistic predators, and the transportation of target species downstream of the impact area post-mortem. Therefore, degraded or destroyed habitat, or in this case, the anticipated area of impact for in-stream work will be used as a substitute at expressing the anticipated incidental take of mottled sculpin within Poplar Creek.

Significant reductions to the mottled sculpin population within the project area are not anticipated, in part due to erosion, sediment, and water quality protective measures put in place before, during and after construction. The in-stream work area remains small, and effects to the mottled sculpin and its associated habitat are not expected to be at the scale or magnitude to affect the overall abundance of the species within Poplar Creek.

In-stream work within the project area is not anticipated to alter, remove, or disturb mottled sculpin habitat within Poplar Creek. Potential effects to the mottled sculpin as a result of the proposed project will be localized to Poplar Creek. Mottled sculpin within the remainder of the Fox River watershed or within the State as a whole will not be affected by the proposed project and is therefore not likely to reduce the survival of mottled sculpin in the State of Illinois.

## 5. Implementing Agreement

- A. The names and signatures of all participants in the execution of the conservation plan  
Names and Signatures are provided at the end of this document.  
Names and Signatures are provided at the end of this document.

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 Department.

**Applicant:** Illinois Department of Transportation, District 1  
201 W. Center Court  
Schaumburg, IL 60196-1096

**Conservation Plan Developers:** Illinois Department of Transportation, Huff and Huff, Inc. (Sue Dees Hargrove - IDOT, Michael Jochheim, Jim Novak)

**Conservation Plan Implementers:** Illinois Department of Transportation (Vanessa Ruiz – Environmental Unit Section Leader)

**Conservation Plan Monitors:** Sediment and erosion control monitors are yet to be determined by IDOT. Contractors will be selected once the project is Let.

**Conservation Plan Funder/Enabler, include designees and sub-contractors:** Illinois Department of Transportation, District 1.

**B. Certification**

The Illinois Department of Transportation (IDOT) certifies that their agency has the authority to complete the project and to address the issues proposed in the Incidental Take Application/Conservation Plan in the event state listed threatened or endangered species are encountered. IDOT is in charge of construction through its designated subcontractors who will assure that all applicable state laws will be adhered to during the completion of the project.

**C. Assurance of compliance with all other federal, state, and local regulations pertinent to the proposed action and to execution of the conservation plan**

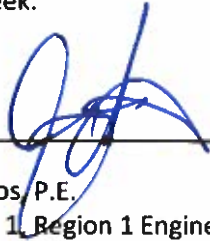
IDOT is compliant with all other federal, state, and local regulations pertinent to the proposed action and execution of the Conservation Plan.

**D. Copies of any final federal authorizations for a taking already issued to the applicant.**

No federal authorization needed for the proposed project as no federal threatened or endangered species are present within the work area. A Section 404 Permit will be issued to IDOT for proposed impacts to wetlands and streams in the project limits, including Poplar Creek.

**Signatories**

Name: \_\_\_\_\_



Date: \_\_\_\_\_

8/22/23

Jose Rios, P.E.  
District 1, Region 1 Engineer  
Illinois Department of Transportation

## Works Consulted

- Bailey, JE. 1952. Life history and ecology of the sculpin *Cottus bardi punctulatus* in southwestern Montana. *Copeia* 1952(4): 243–255.
- Forest Preserves of Cook County. (n.d.). Forest Preserves of Cook County. <https://fpdcc.com/>
- Hann, H.W. 1927. The history of the germ cells of *Cottus bairdii* Girard. *Journal of Morphology and Physiology* 43:427-497.
- Illinois Department of Natural Resources (Illinois DNR). 2015. Illinois Endangered Species Protection Board. Illinois Threatened 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 Department of Natural Resources Division of Natural Heritage. An Illinois Species Status Assessment for Mottled Sculpin. (2022, February). Mottled Sculpin Recovery Team and Illinois Department of Natural Resources. Accessed April 10, 2023.
- Illinois Department of Natural Resources Division of Natural Heritage. *Natural Heritage*. (n.d.). <https://naturalheritage.illinois.gov/en.html>
- Illinois Natural History Survey Collection, Fish. Current November 11, 2017. Accessed March 16, 2023. <https://biocoll.inhs.illinois.edu/portalx/collections/datasets/datapublisher.php>
- Matheson, RE, GR Brooks. 1983. Habitat segregation between *Cottus bairdi* and *Cottus girardi*: an example of complex inter- and intraspecific resource partitioning. *American Midland Naturalist* 110(1): 165–176.
- McHenry County Conservation District. (n.d.). McHenry County Conservation District. <https://www.mccdistrict.org/>.
- Metzke, B. 2023. Outdoor Illinois Journal. (2023, February 1). Outdoor Illinois Journal. <https://outdoor.wildlifeillinois.org/articles/species-recovery-strategy-for-the-state-threatened-mottled-sculpin>
- Smith, P.W. 1979. *Fishes of Illinois*. University of Illinois Press, Urbana, Illinois. 314 pp
- WA - DNR. Forest Practices Habitat Conservation Plan. WA. (n.d.). Retrieved April 12, 2023, from <https://www.dnr.wa.gov/programs-and-services/forest-practices/forest-practices-habitat-conservation-plan>
- Willink, P.W. 2017. Assessing the status of potential Illinois endangered and threatened fish species. Report for United States Fish and Wildlife Service and Illinois Department of Natural Resources State Wildlife Grant # T-106-R-1, United States Fish and Wildlife Service Grant # F15AF01082. 121 pp.
- Zorn, T.G., P.W. Seelbach, and M.J. Wiley. 2002. Distributions of stream fishes and their relationship to stream size and hydrology in Michigan's Lower Peninsula. *Transactions of the American Fisheries Society* 131:70-85

**Survey for Fishes in the Fox River and Polar Creek at the  
U.S. Hwy 20 (FAP 345) bridges, Kane and Cook counties, Illinois**

IDOT Sequence Number: 17911D



Prepared by:  
Jeremy S. Tiemann

**INHS/IDOT Statewide Biological Survey & Assessment Program  
2021:19**

June 2021



## PROJECT SUMMARY

This report is submitted in response to a request made by the Illinois Department of Transportation (IDOT) to the Illinois Natural History Survey (INHS) for a fish survey in Poplar Creek at the U.S. Hwy 20 (FAP 345) bridge located 1.6 mi SE of Elgin, Cook County, Illinois.

A survey for fishes was conducted in Poplar Creek at the U.S. Hwy 20 (FAP 345) bridge by INHS personnel on 26 May 2021. Fishes were collected from approximately 100 yards upstream (east) of the bridge to nearly 75 yards downstream (west) of the crossing. Fishes were captured via pull-seining and kick-seining for 30 minutes. Twelve species of fishes, including the state-threatened Mottled Sculpin, were collected during this survey. The Mottled Sculpin was found in a riffle containing clean sandy gravel / cobble approximately 20 yards downstream of the U.S. Hwy 20 (FAP 345) bridge. Aside from the Mottled Sculpin, all other fish species encountered are common inhabitants of northern Illinois streams, and none are listed as threatened or endangered at the federal or state level, nor are they candidates for listing in Illinois. We believe that our sampling efforts resulted in an accurate assessment of the fish assemblage present within the U.S. Hwy 20 (FAP 345) bridge project area.

Poplar Creek is a small to medium-sized cool-water stream with moderate gradient. Neither Otter Creek nor the Fox River contained the preferred habitat for the Mottled Sculpin. Otter Creek was a small, intermittent stream that did not contain clean substrates or permanent flow, whereas the Fox River was a large, warm-water stream with silted substrates. Both streams lacked the substrate, as well as cool-water, permanent flow to sustain a viable population of Mottle Sculpin.



Report Approved By: Kevin S. Cummings, Further Studies Aquatics  
Group Coordinator-Malacologist

Surveys Lead By: Jeremy S. Tiemann, Associate Aquatic Ecologist  
Kat E. Conatser, INHS Hourly Assistant  
Isabelle L. Hanson, 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  
Cook, Illinois 61820

# TABLE OF CONTENTS

Project summary.....	1
Introduction .....	3
Project location.....	3
Habitat characterization .....	3
Background.....	4
Methods.....	5
Results and discussion .....	5
Acknowledgements .....	6
Literature Cited.....	6

## Tables

<b>Table 1</b> – List of fish species and number of individuals collected in Poplar Creek at the U.S. Hwy 20 (FAP 345) bridge, 1.6 mi SE of Elgin, Cook County, Illinois (Latitude 42.02034°N, Longitude 88.26009°W) by INHS personnel on 26 May 2021.....	8
--	---

## Figures

<b>Figure 1</b> – Map along the U.S. Highway 20 project in the greater Elgin area in Kane and Cook counties, including Poplar Creek at the U.S. 20 bridge located 1.6 mi SE of Elgin, Cook County, Illinois (Latitude 42.02034°N, Longitude 88.26009°W), where a survey for fishes was conducted by INHS personnel on 26 May 2021.....	9
<b>Figure 2</b> – The Illinois state-threatened Mottled Sculpin, <i>Cottus bairdii</i> , and its distribution in Illinois.....	10

## Appendices

<b>Appendix 1.</b> A cover page referencing < <b>17911_Fish_Survey_GIS.zip</b> > containing an ArcGIS shapefile with sampling point information for the site discussed in this report. Specifically, this shapefile includes site information for Poplar Creek at the U.S. Hwy 20 (FAP 345) bridge, 1.6 mi SE of Elgin, Cook County, Illinois (Latitude 42.02034°N, Longitude 88.26009°W), where a survey for fishes was conducted by INHS personnel on 26 May 2021 .....	11
---	----

**Cover photo:** Poplar Creek at the U.S. Hwy 20 (FAP 345) bridge, 1.6 mi SE of Elgin, Cook County, Illinois (Latitude 42.02034°N, Longitude 88.26009°W) on 26 May 2021 (J.S. Tiemann photo). Picture facing upstream of the bridge in a northerly direction.

## INTRODUCTION

This report is submitted in response made by Susan Hargrove of the Illinois Department of Transportation (IDOT) to Wendy Shelsky and Rachel Vinsel of the Illinois Natural History Survey (INHS) on 21 January 2021 for fish surveys along the U.S. Highway 20 project in the greater Elgin area in Kane and Cook counties, including Poplar Creek at the U.S. 20 bridge located 1.6 mi SE of Elgin, Cook County, Illinois [IDOT Sequence No. 17911D; IDOT FAP 345; INHS Project No. FS-1509]. Specifically, IDOT inquired about the status of the Mottled Sculpin, *Cottus bairdii* – a species listed as state-threatened in Illinois (IESPB 2020). The Division of Highways proposes the construction and/or reconfiguration of the U.S. Hwy 20 (FAP 345) bridge crossings, which may entail instream work, with the possibility of adding auxiliary lanes that would require additional area over several streams. This report summarizes the results of the fish and habitat surveys conducted in Poplar Creek, the Fox River, and Otter Creek along the U.S. Hwy 20 (FAP 345) project corridor by INHS personnel on 26 May 2021.

## PROJECT LOCATION

The project area consisted of three perennial stream sites (**Figure 1; cover photo**):

- 1) The U.S. Hwy 20 (FAP 345) bridge over Poplar Creek is located 1.6 mi SE of Elgin in Kane County, Illinois - in Township 41N, Range 9E, Section 19, at Latitude 42.02034°N, Longitude 88.26009°W (**Figure 1; cover photo**).
- 2) The U.S. Hwy 20 (FAP 345) bridge over the Fox River is located 1.2 mi SSE of Elgin in Kane County, Illinois - in Township 41N, Range 8E, Section 24, at Latitude 42.02027°N, Longitude 88.27530°W.
- 3) The U.S. Hwy 20 (FAP 345) bridge over Otter Creek is located 2.8 mi W of Elgin in Cook County, Illinois - in Township 41N, Range 8E, Section 16, at Latitude 42.03132°N, Longitude 88.33510°W

**Appendix 1** references a shapefile with sampling point information for the U.S. Hwy 20 (FAP 345) bridge as discussed in this report.

## HABITAT CHARACTERIZATION

Poplar Creek at the U.S. Hwy 20 (FAP 345) bridge (**cover photo; Figure 1**) was visited by INHS personnel on 26 May 2021. We examined a reach of the stream from approximately 10 yards upstream (north) of the bridge to nearly 50 yards downstream (south) of the crossing. Poplar Creek was predominately clean mixture of gravel/pebble with some cobble / rip-rap present; undercut banks were not observed but woody debris and aquatic vegetation were. Poplar Creek was about 15 yards wide and mostly <2 feet in depth. The stream was flowing ~1.5 feet per second during our visit. This stretch of Poplar Creek is sloped banks line by a narrow patch of trees and grasses but surrounded by urban sprawl (**cover photo; Figure 1**).

INHS personnel visited the Fox River at the U.S. Hwy 20 (FAP 345) bridge on 26 May 2021. The river at this location is approximately 350 feet wide with depths <3 along the edges of the river



and >10 feet in the mid-channel of the river. Flow was about <0.5 ft/second. Substrates in the project area were a mix of boulder, cobble, gravel, and silt, and many areas contained garbage or construction materials (e.g., steel bars, rip rap, chain link fencing, rubble). No fish surveys were conducted in the Fox River during this site visit due to the lack of suitable habitat (e.g., the lack of cool-water, permanent flow) able to support a viable population of Mottled Sculpin.

INHS personnel visited Otter Creek at the U.S. Hwy 20 (FAP 345) bridge on 26 May 2021. The stream was <0.5 yards wide with depths about 6 inches deep. There was no flow and substrates were a mix of silted sandy gravel and was heavily influenced by terrestrial vegetation. Like the Fox River, no fish surveys were conducted in Otter Creek because of unsuitable habitats.

## BACKGROUND

The Fox River is the third largest tributary of the Illinois River (Page et al. 1992). Originating in the Halbach Swamp in Colgate, Washington County, Wisconsin, the Fox River flows 202 miles southward before depositing its water in the Illinois River in Ottawa, LaSalle County, Illinois. The 1,720 mi<sup>2</sup> drainage basin lies entirely within the Wisconsinan glaciation area (Page et al. 1992). Several anthropogenic disturbances – alterations of upland habitats to urbanized habitats, impoundments along the Fox River mainstem and its tributaries, and industrial pollution throughout the basin – have occurred and continue to occur in the Fox River drainage (Page et al. 1992; Santucci et al. 2005; Tiemann et al. 2007). The Biological Stream Characterization (Bertrand et al. 1996) rated The Fox River as a Class “C” stream (Moderate Aquatic Resource). Fishes recorded from the Fox River drainage in Illinois total nearly 100 species including the state-threatened Mottled Sculpin, *Cottus bairdii*, which is known from several Fox River tributaries like Poplar Creek (data from the INHS Fish Collection database, Champaign; Illinois Department of Natural Resources’ (IDNR) Natural Heritage Program database, Springfield).

The Mottled Sculpin is found sporadically in small to medium-sized, cool-water, high-gradient streams in northern Illinois (Smith 1979; **Figure 2**). The fish can be found over sandy gravel / cobble, but almost never over mud (Willink 2017). When sand is the dominant substrate, Mottled Sculpins are usually collected near woody debris or some other type of protective cover (Willink 2017). In Illinois, Mottled Sculpin spawn mid-Spring to early summer (early April to late May) when water temperatures are around 48°F to 57°F (Ludwig and Norden 1969; Smith 1979). Nests were usually in riffles free of sediment, typically in spaces beneath cobble (Willink 2017). Males, which are generally larger than females and remain solitary during the spring and summer, often guard their nests until late June (Downhower and Brown 1979; Downhower et al. 1983). The primary threats to Mottled Sculpin are habitat loss, hydrologic alterations, invasive species, climate change, and lack of connectivity among populations (Willink 2017). The population of Mottled Sculpin in the Fox River drainage is the most robust in Illinois, despite sub-populations being isolated from each other by lowhead dams and degraded habitat (Willink 2017).

## METHODS

A survey for fishes was conducted in Poplar Creek at the U.S. Hwy 20 (FAP 345) bridge on 26 May 2021 at 1100 hrs by INHS personnel J.S. Tiemann, K.E. Conatser, and I.L. Hanson. Fishes were collected in a reach of the stream from approximately 100 yards upstream (east) of the bridge to nearly 75 yards downstream (west) of the crossing. Fishes were captured via pull-seining and kick-seining for 30 minutes. Specifically, fifteen 25-foot<sup>2</sup> plots were kick-seined throughout the project area. The kick-seine method involved disturbing the substrate by sweeping our feet back and forth – beginning at a place in the stream located 10 feet upstream of a stationary 4-foot wide (=entire stream width), ¼”-mesh seine, then continuing our sweep-kicking as we proceeded downstream to the seine in a back and forth path covering the width of the seine. To minimize disturbance, plots were sampled near shore to far shore and sampled from downstream to upstream. Those areas not kick-seined were sampled by pull-seining, where INHS personnel would drag a seine through an area (e.g., along the stream margins and down the channel).

All fishes were identified, counted, and released. Nomenclature 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

Twelve species of fishes, including the state-threatened Mottled Sculpin, were collected from Poplar Creek at the U.S. Hwy 20 (FAP 345) bridge by INHS personnel on 26 May 2021 (**Table 1**). The Mottled Sculpin was found in a riffle containing clean sandy gravel / cobble, located approximately 20 yards downstream of the U.S. Hwy 20 (FAP 345) bridge. Aside from the Mottled Sculpin, all other fish species encountered are common inhabitants of northern Illinois streams (Smith 1979), and none are listed as threatened or endangered at the federal or state level, nor are they candidates for listing in Illinois (IESPB 2020). We believe that our sampling efforts resulted in an accurate assessment of the fish assemblage present within the U.S. Hwy 20 (FAP 345) bridge project area.

Neither Otter Creek nor the Fox River contained the preferred habitat for the Mottled Sculpin. Otter Creek was a small, intermittent stream that did not contain clean substrates or permanent flow, whereas the Fox River was a large, warm-water stream with silted substrates. Both streams lacked the substrate, as well as cool-water and permanent flow necessary to sustain a viable population of Mottled Sculpin. Poplar Creek is a small to medium-sized cool-water stream with moderate gradient. Zorn et al. (2002) suggested that Mottled Sculpin are typically found in streams with smaller catchment areas, medium flow, and some groundwater input, and Hann (1927) speculated that Mottled Sculpins are more common among vegetation in colder streams that contain large amounts of cobble in comparison to other streams. Regardless, we feel that Poplar Creek is the lone stream that contains suitable habitat and a viable population of Mottled Sculpin within the U.S. Hwy 20 (FAP 345) project corridor.

## ACKNOWLEDGMENTS

K.E. Conatser and I.L. Hanson (INHS) assisted in the field survey; J.L. Jarvis (INHS) prepared the map in **Figure 1** and the associated shape file referenced in **Appendix 1**; and M.J. Wetzel (INHS) edited the report.

## LITERATURE CITED

- Bertrand, W.A., R.L. Hite, and D.M. Day. 1996. Biological Stream Characterization (BSC): Biological assessment of Illinois stream quality through 1993. Biological Streams Characterization Work Group, Springfield, Illinois. 44 pp.
- Downhower, J.F. and L. Brown. 1979. Seasonal changes in the social structure of a Mottled Sculpin (*Cottus bairdi*) population. *Animal Behavior* 27:451-458.
- Downhower, J.F., L. Brown, R. Pederson, and G. Staples. 1983. Sexual selection and sexual dimorphism in Mottled Sculpins. *Evolution* 37:96-103.
- Hann, H.W. 1927. The history of the germ cells of *Cottus bairdii* Girard. *Journal of Morphology and Physiology* 43:427-497.
- Illinois Endangered Species Protection Board (IESPB). 2020. Checklist of Endangered and Threatened Animals and Plants of Illinois. Illinois Endangered Species Protection Board, Springfield, Illinois. 10 pp. Published online at <https://www2.illinois.gov/dnr/ESPB/Documents/ET%20List%20Review%20and%20Revision/Illinois%20Endangered%20and%20Threatened%20Species.pdf>
- Ludwig, G.M. and C.R. Norden. 1969. Age, growth and reproduction of the Northern Mottled Sculpin (*Cottus bairdi bairdi*) in Mt. Vernon Creek, Wisconsin. *Occasional Papers in Natural History by Milwaukee Public Museum* 2:1-67.
- Page, L.M. and B.M. Burr. 2011. Peterson Field Guide to Freshwater Fishes of North America North of Mexico. Houghton Mifflin Harcourt, Boston. xix + 663 pp.
- Page, L.M., K.S. Cummings, C.A. Mayer, S.L. Post, and M.E. Retzer. 1992. Biologically significant Illinois streams, an evaluation of the streams of Illinois based on aquatic biodiversity. Technical Report. Illinois Department of Conservation and Illinois Department of Energy and Natural Resources, Springfield, Illinois. 498 pp.
- Santucci, V.J., S.R. Gephard, and S.M. Pescitelli. 2005. Effects of multiple low-head dams on fish, macroinvertebrates, habitat, and water quality in the Fox River, Illinois. *North American Journal of Fisheries Management* 25:975-992.
- Smith, P.W. 1979. *Fishes of Illinois*. University of Illinois Press, Urbana, Illinois. 314 pp.
- Tiemann, J.S., H.R. Dodd, N. Owens, and D.H. Wahl. 2007. Effects of lowhead dams on unionids in the Fox River, Illinois. *Northeastern Naturalist* 14:125-138.
- U.S. Department of the Interior, Fish and Wildlife Service (USDI, FWS). 1996. Endangered and threatened species, plant and animal taxa; proposed rule. Part III. 50 CFR Part 17. *Federal Register* 61(40):7596-7613. February 28.
- 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

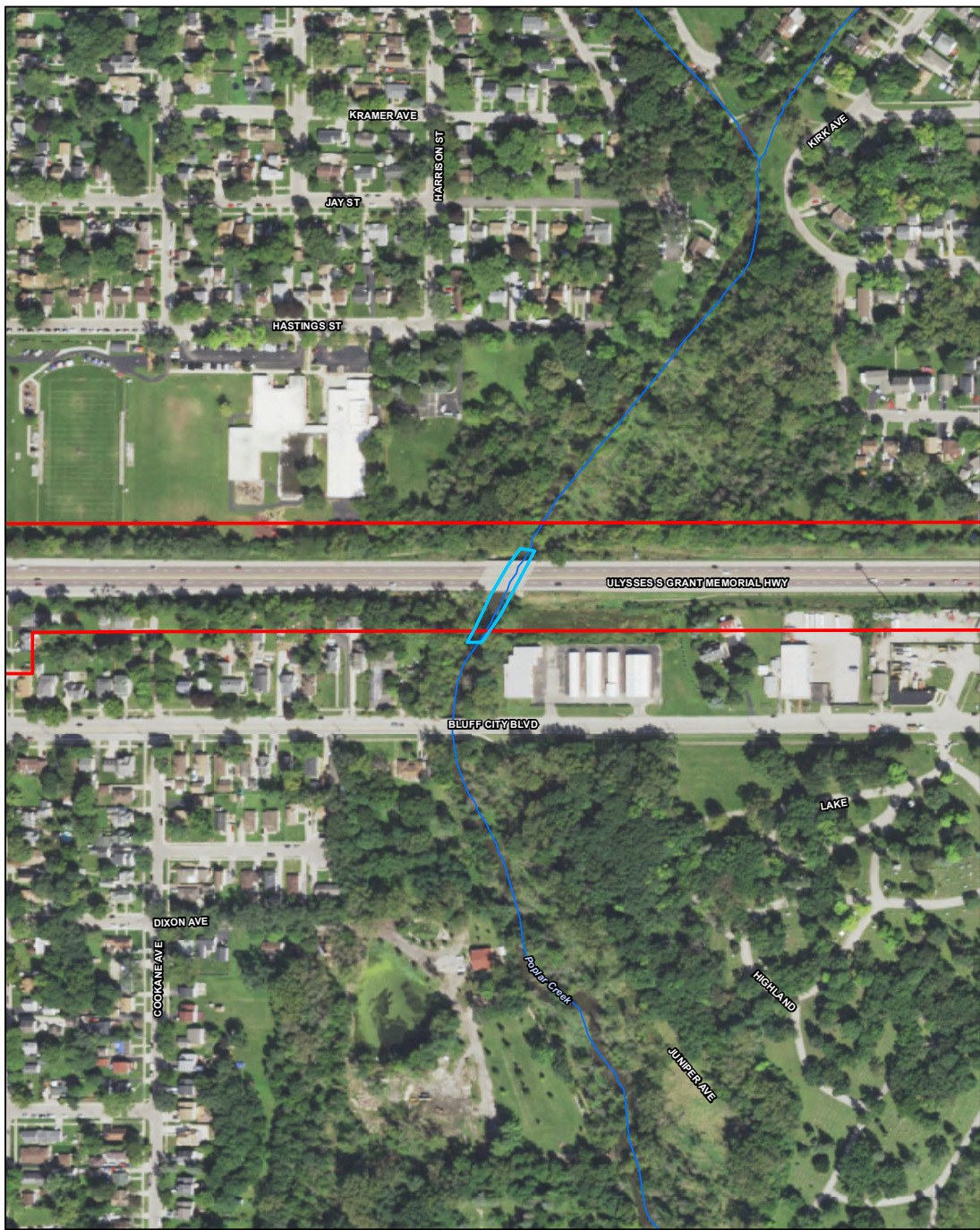
document is a compilation and special reprint, current as of October 31, 1996, that was printed by the U.S. Government Printing Office in 1997].

Willink, P.W. 2017. Assessing the status of potential Illinois endangered and threatened fish species. Report for United States Fish and Wildlife Service and Illinois Department of Natural Resources State Wildlife Grant # T-106-R-1, United States Fish and Wildlife Service Grant # F15AF01082. 121 pp.

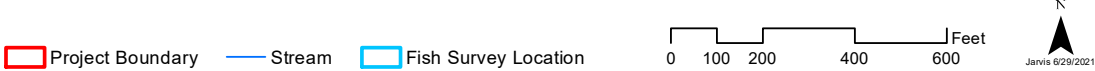
Zorn, T.G., P.W. Seelbach, and M.J. Wiley. 2002. Distributions of stream fishes and their relationship to stream size and hydrology in Michigan's Lower Peninsula. Transactions of the American Fisheries Society 131:70-85.

**Table 1.** List of fish species and number of individuals collected in Poplar Creek at the U.S. Hwy 20 (FAP 345) bridge, 1.6 mi SE of Elgin, Cook County, Illinois (Latitude 42.02034°N, Longitude 88.26009°W) by INHS personnel on 26 May 2021. \* = listed as state-threatened in Illinois (IESPB 2020).

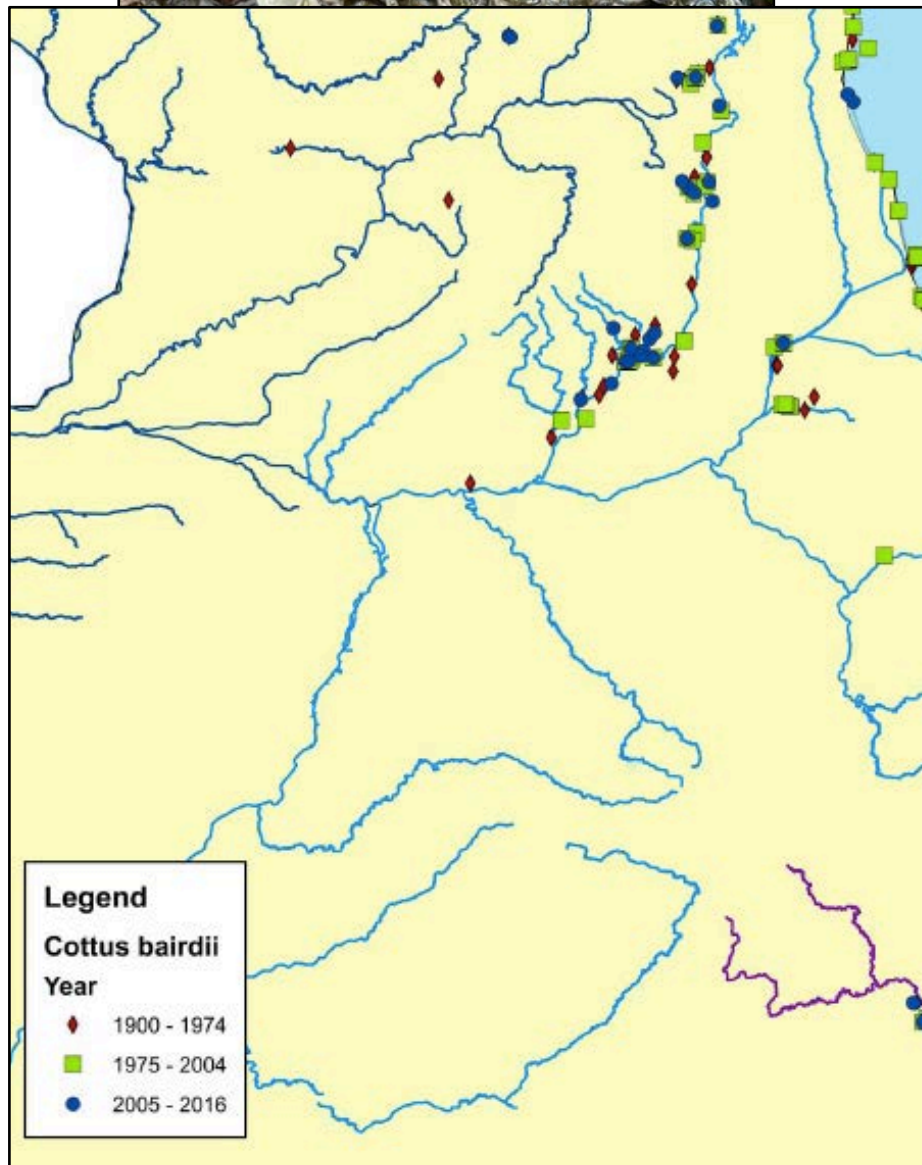
<b>Family</b>	<b>Scientific name</b>	<b>Common name</b>	<b>Poplar</b>
<b>Cyprinidae</b>	<i>Campostoma anomalum</i>	Central Stoneroller	2
	<i>Nocomis biguttatus</i>	Hornyhead Chub	1
	<i>Notropis stramineus</i>	Sand Shiner	2
	<i>Pimephales notatus</i>	Bluntnose Minnow	8
	<i>Semotilus atromaculatus</i>	Creek Chub	6
<b>Fundulidae</b>	<i>Fundulus notatus</i>	Blackstripe Topminnow	7
<b>Cottidae</b>	<i>Cottus bairdii</i> *	Mottled Sculpin	1
<b>Centrarchidae</b>	<i>Lepomis macrochirus</i>	Bluegill	8
	<i>Lepomis megalotis</i>	Longear Sunfish	3
	<i>Micropterus dolomieu</i>	Smallmouth Bass	11
<b>Percidae</b>	<i>Etheostoma flabellare</i>	Fantail Darter	14
	<i>Etheostoma zonale</i>	Banded Darter	57



Fish survey location on Poplar Creek near US 20 (Sequence 23514) Cook County, Illinois.



**Figure 1.** Map of the U.S. Hwy 20 (FAP 345) bridge project area, including Poplar Creek, 1.6 mi SE of Elgin, Cook County, Illinois (Latitude 42.02034°N, Longitude 88.26009°W), where a survey for fishes was conducted by INHS personnel on 26 May 2021 (Map created by J.L. Jarvis, INHS GIS and Remote Sensing Specialist).



**Figure 2.** The Illinois state-threatened Mottled Sculpin, *Cottus bairdii*, and its distribution in Illinois. Map from Willink (2017) and J.S. Tiemann photo (from Poplar Creek [Fox River drainage], 2021).

## **Appendix 1**

This appendix cover page references < **17911\_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 Poplar Creek at the U.S. Hwy 20 (FAP 345) bridge, 1.6 mi SE of Elgin, Cook County, Illinois (Latitude 42.02034°N, Longitude 88.26009°W), where a survey for fishes was conducted by INHS personnel on 26 May 2021.

The ArcGIS shapefile and this report were both submitted to IDOT via the IDOT Site Assessment Tracking System extranet website (Frostycap) on 2 July 2021.





Illinois  
Department of  
**Natural  
Resources**

JB Pritzker, Governor • Natalie Phelps Finnie, Director  
One Natural Resources Way • Springfield, Illinois 62702-1271

[www.dnr.illinois.gov](http://www.dnr.illinois.gov)

March 17, 2023

Susan Dees Hargrove  
Biological Resources Specialist  
Illinois Department of Transportation  
Bureau of Design and Environment  
2300 South Dirksen Parkway  
Springfield, IL 62764

**RE: US 20, Elgin, Kane/Cook Cos, seq. 17911/B/D/E  
Consultation Program  
EcoCAT Review #2310422  
Kane and Cook Counties**

Dear Mrs. Dees Hargrove:

The Department has received your submission for this project for the purposes of consultation pursuant to the *Illinois Endangered Species Protection Act* [520 ILCS 10/11], the *Illinois Natural Areas Preservation Act* [525 ILCS 30/17], and title 17 *Illinois Administrative Code* Part 1075.

The proposed action consists of roadway improvements along U.S. 20 from west of Randall Road to east of Shales Parkway in Elgin for 5.7 miles. Improvements include possible channelization at ramps, bridge rehabilitation, and noise wall construction. Addendum B involves drainage improvements in the southeastern quadrant of the U.S. 20 at State Street interchange. Addendum D requires construction of auxiliary lanes and additional area. Add. E: Phase I included an omission due to McLean Blvd improvements, but now work is proposed in this omission. The 1.3 miles section is now added to the overall limits. In-Stream work is now also proposed at Poplar Creek for the placement of rip rap. Total ROW 5.49 ac, instream work Poplar Creek, Fox River.

**Please note, this review is for IDOT Seq. 17911/B/D/E only. This consultation does not cover any work included in IDOT Seq. 24105 which involved interchange reconstruction. A separate consultation will be required.**

The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

**Illinois Natural Areas Inventory**  
**Bluff Spring Fen**

**Illinois Nature Preserves Commission Lands**  
**Bluff Spring Fen Nature Preserve**

**Class 3 Groundwater**  
**Bluff Springs Fen**

**State Threatened or Endangered Species**

**Downy Yellow Painted Cup (*Castilleja sessiliflora*)**  
**False Asphodel (*Tofieldia glutinosa*)**  
**Shadbush (*Amelanchier sanguinea*)**  
**Flat-leaved Bladderwort (*Utricularia intermedia*)**  
**Grass Pink Orchid (*Calopogon tuberosus*)**  
**Slender Bog Arrow Grass (*Triglochin palustris*)**  
**Beaked Spike Rush (*Eleocharis rostellata*)**  
**Tall Sunflower (*Helianthus giganteus*)**  
**Yellow-lipped Ladies' Tresses (*Spiranthes lucida*)**  
**Pale False Foxglove (*Agalinis skinneriana*)**  
**Elfin Skimmer (*Nannothemis bella*)**  
**Rusty Patched Bumble Bee (*Bombus affinis*)**  
**Swamp Metalmark (*Calephelis muticum*)**  
**Mottled Sculpin (*Cottus bairdii*)**  
**Spike (*Eurynia dilatata*)**

Due to the project scope and proximity to protected resources the Department offers the following comments and recommends the following actions be taken to avoid adversely impacting listed species and/or protected natural area in the vicinity of the project:

**Bluff Spring Fen Nature Preserve & Bluff Spring Fen INAI Site**

As no work will occur within Bluff Spring Fen Nature Preserve and Bluff Spring Fen INAI Site, and this project will not add additional impervious surfaces or change existing hydrology, the Department has determined direct impacts are unlikely. However, the Department recommends the following to avoid and minimize indirect impacts:

- If temporary or permanent lighting is required, the following lighting recommendation should be implemented to minimize adverse effects to wildlife:
  - All lighting should be fully shielded fixtures that emit no light upward.
  - Only “warm-white” or filtered LEDs (CCT < 3,000 K; S/P ratio < 1.2) should be used to minimize blue emission.
  - Only light the exact space with the amount (lumens) needed to meet facility safety requirement.
  - If LEDs are to be used, avoid the temptation to over-light based on the higher luminous efficiency of LEDs.
- Good housekeeping practices should be implemented and maintained during and after construction to prevent trash and other debris from inadvertently blowing or washing into nearby natural areas.

- Disturbed areas should be reseeded with an appropriate native seed mix that contains forbs as well as grasses (such as IDOT Class 5, 5A, or 5B seed mix), where feasible.
- If erosion control blanket is to be used, wildlife-friendly plastic-free blanket should be used around wetlands and adjacent to natural areas, if not feasible to implement project wide, to prevent the entanglement of native wildlife.
- All equipment should be power washed off-site to remove exotic/invasive seed or propagules.

The applicant should be aware that they may be liable for any adverse impact to an Illinois Nature Preserve or Illinois Land and Water Reserve pursuant to the *Illinois Natural Areas Preservation Act* [525 ILCS 30/21-23]. Violations under this Act can carry significant penalties.

### **Bluff Springs Fen Class 3 Groundwater**

This project falls within the Bluff Springs Fen Class 3 Groundwater recharge area, which protects the integrity of the Bluff Spring Fen Nature Preserve. As this project will not add additional impervious surfaces or change existing hydrology, the Department has determined impacts to Bluff Springs Fen Class 3 Groundwater are unlikely. However, please note, the modification of groundwater quality and quantity which may affect conditions within a Nature Preserve is prohibited. The Department recommends that all necessary BMPs be implemented to ensure that the quality and quantity of groundwater not be adversely affected to avoid potential liability on the part of the applicant.

### **Downy Yellow Painted Cup, False Asphodel, Shadbush, Flat-leaved Bladderwort, Grass Pink Orchid, Slender Bog Arrow Grass, Beaked Spike Rush, Tall Sunflower, Yellow-lipped Ladies' Tresses, & Pale False Foxglove**

As all these species occur within Bluff Spring Fen Nature Preserve and Bluff Spring Fen INAI Site, and no work will occur within these natural areas and the lack of suitable habitat in the project area, the Department has determined adverse impacts to these species are unlikely.

Please note, Pursuant to the *Illinois Endangered Species Protection Act* [520 ILCS 10/], state-listed plants belong to the landowner and their fate resides with the landowner's conservation decisions. Express written permission from the landowner should be obtained from construction companies/crews to take listed plants to comply with the *Illinois Endangered Species Protection Act*.

### **Elfin Skimmer & Rusty Patched Bumble Bee (RPBB)**

Due to lack of suitable habitat in the project area, the Department has determined impacts to the Elfin Skimmer are unlikely.

However, the Department recommends the following to avoid impact to the RPBB:

- No vehicles or construction materials may be placed in the Villa Street/U.S. 20 interchange during construction to protect RPBB.

Please note that due to the federal status of the RPBB, and its potential occurrence in the project area, coordination with the U.S. Fish and Wildlife Service may be necessary and is separate from this consultation and Illinois State regulations.

### **Mottled Sculpin & Spike**

A survey conducted by the Illinois Natural History Survey on October 19, 2017, did not collect any State-listed mussels and indicated the project area was unsuitable habitat with a low abundance and diversity of freshwater mussels. Based on the survey information, the Department has determined adverse impact to spike mussels are unlikely.

A survey conducted by the Illinois Natural History Survey in June of 2021 collected Mottled Sculpin in the project area. As instream work is required for this project, the Department recommends the applicant seek an Incidental Take Authorization pursuant to Part 1080 and Section 5.5 of the *Illinois Endangered Species Protection Act*. All questions pertaining to ITA should be directed to the ITA coordinator, Heather Osborn ([Heather.Osborn@Illinois.gov](mailto:Heather.Osborn@Illinois.gov)). Visit the link below for information on the ITA process:

<https://www2.illinois.gov/sites/naturalheritage/speciesconservation/Pages/Incidental-Take-Authorizations.aspx>

Given the above recommendations are adopted, the Department has determined that impacts to these protected resources are unlikely. The Department has determined impacts to other protected resources in the vicinity of the project location are also unlikely.

*In accordance with 17 Ill. Adm. Code 1075.40(h), please notify the Department of your decision regarding these recommendations.*

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.

This letter does not serve as permission to take any listed or endangered species. As a reminder, no take of an endangered species is permitted without an Incidental Take Authorization or the required permits. Anyone who takes a listed or endangered species without an Incidental Take Authorization or required permit may be subject to criminal and/or civil penalties pursuant to the

*Illinois Endangered Species Act, the Fish and Aquatic Life Act, the Wildlife Code and other applicable authority.*

Please contact me with any questions about this review.

Sincerely,

A handwritten signature in black ink that reads "Bradley Hayes". The signature is written in a cursive, flowing style.

Bradley Hayes  
Manager, Impact Assessment Section  
Division of Real Estate Services and Consultation  
Office of Realty & Capital Planning  
Illinois Department of Natural Resources  
One Natural Resources Way  
Springfield, IL 62702  
Bradley.Hayes@Illinois.gov  
Phone: (217) 782-0031

Cc. Heather Osborn – Incidental Take Authorization Coordinator



# Illinois Department of Transportation

## Memorandum

---

To: Jose Rios Attn: John Baczek  
From: Jack A. Elston By: Thomas C. Brooks  
Subject: Natural Resources Review  
Date: May 13, 2021

A handwritten signature in black ink, appearing to read "Tom Brooks".

---

U.S. 20 West of Randall Road to East of Shales Parkway and Addenda B and D  
Job No. P- 91-004-11  
T41N/R8E/S 15  
Seq. No.: 17911, 17911B and 17911D  
Kane and Cook Counties

The proposed project involves roadway improvements along U.S. 20 from west of Randall Road to east of Shales Parkway in Elgin for 5.7 miles. Improvements include possible channelization at ramps, bridge rehabilitation, and noise wall construction. Addendum B involves drainage improvements in the southeastern quadrant of the U.S. 20 at State Street interchange. Addendum D requires construction of auxiliary lanes and additional area.

The overall project requires 0.46 acres of land acquisition, which will be taken west of the Fox River per Lori Brown of District 1. There will be in stream work in the Fox River and Otter Creek for the overall project. It was determined that instream work in Poplar Creek will not be needed. The scope of work for the U.S. 20 bridge over Poplar Creek rehabilitation is as follows per email from IDOT District 1: deck replacement with a composite deck, joint replacement, steel beam repairs, shear stud addition, beam and bearing cleaning and painting, crack and formed concrete repairs to abutments, piers and wingwalls, and slope wall removal and replacement. Demolition work will include a commitment to provide a protective shield to prevent debris from falling into Poplar Creek. The approach slabs will remain and a small portion of the abutment backwall will be replaced. There is no change in the bridge length or width. There will be an unknown quantity of urban trees to be removed for the overall project. The land cover in the vicinity of the overall project is urban and forested.

### Review for Illinois Endangered Species Protection and Illinois Natural Areas Preservation – Part 1075

The Illinois Natural Heritage Database contains records of State-listed threatened or endangered species, Illinois Natural Area Inventory site, and a dedicated Illinois Nature Preserve, in the vicinity of the overall project. There is a 2010 record of the state listed spike mussel under the Fox River bridge. There is a historic 1993 record of the state listed black-crowned night heron at least one mile south of the project area; this species was not seen in 2004 surveys. The occurrence is far enough away to avoid impacts. This species requires wetlands and the project

area is urban with very little wetland impact. There is no adverse effect by the project on the black-crowned night heron. Bluff Springs Fen Illinois Natural Areas Inventory Site (INAI) and Nature Preserve (NP) occurs approximately 350 feet south of U.S 20. Poplar Creek flows from the project area into the INAI/NP. The INAI/NP contains records of several prairie and fen-obligate state and federally listed plants and invertebrates, including the state and federally endangered rusty patched bumble bee (RPBB). There is a RPBB High Potential Zone surrounding the INAI/NP that overlaps the east end of the project area. Please see the Section 7 RPBB discussion for more information regarding RPBB. A 2012 record of the state listed mottled sculpin occurs in Poplar Creek several hundred feet north of U.S. 20. The bridge at that location will be rehabilitated with no instream work in Poplar Creek. A description of bridge work over Poplar Creek is listed above. A shield will be placed under the U.S. 20 bridge over Poplar Creek to prevent construction debris from inadvertently falling into the stream. There will thus be no adverse effect by the project on the mottled sculpin.

The Illinois Natural History Survey (INHS) conducted a mussel survey. No live listed mussels were found. Four live species of mussels were found in the Fox River with seven species of relict shells found, including relict shells of the state listed spike mussel. Three species of live mussels and one species of relict shell were found in Poplar Creek. No mussels were found in Otter Creek. There will be no adverse effect by the project on the spike mussel since no live spike mussels were found.

IDOT met with Illinois Nature Preserves Commission (INPC) in 2017 to discuss the project in relation to the INAI/NP. A drainage study was conducted and runoff diversion scenarios were explored. It was determined that no runoff diversion is needed for this project since there will be no construction work immediately upstream of the INAI/NP. The closest work to the INAI/NP will be 390 feet away in the form of noise wall construction. Land use between the INAI/NP and U.S. 20 is roadways, commercial, and wooded lands. There is no prairie or fen habitat between U.S. 20 and the INAI/NP for the listed species occurring in the INAI/NP. This office has made a no adverse effect determination on any of the aforementioned listed species and INAI/NP if the following commitments are adhered to:

- Provide a shield under the U.S. 20 bridge over Poplar Creek during construction to prevent construction debris from falling into Poplar Creek to avoid potential impacts to mottled sculpin and Bluff Springs Fen NP/INAI.
- Any disturbed ground along the east end of the north side of westbound U.S. 20 at the Villa Street/U.S. 20 interchange in the noise wall area shall be reseeded with native prairie mixes such as IDOT Class 4 or 5, as appropriate to protect RPBB.
- No vehicles or construction materials may be placed in the Villa Street/U.S. 20 interchange during construction to protect RPBB.

EcoCAT was submitted April 5, 2021, to IDNR and terminated April 6, 2021, based on implementation of the above commitments and recommendations and conservation measures below.

Due to the proximity of the Bluff Spring Fen INAI/NP to the project area, IDNR also recommends the following lighting recommendation to minimize adverse effects to wildlife if temporary or permanent lighting is required, especially near Bluff Spring Fen INAI/NP:

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

IDNR offers the following conservation measures to help protect native wildlife and enhance natural areas in the project area:

- If erosion control blanket is to be used, IDNR also recommends that wildlife-friendly plastic-free blanket be used to prevent the entanglement of native wildlife. If wildlife-friendly plastic-free blanket cannot be used, then plastic erosion control blanket should be removed once vegetation is established.
- IDNR also recommends that all disturbed areas be reseeded with an appropriate native seed mix that contains forbs (such as IDOT Class 5, 5A and 5 B seed mix) as well as grasses, where feasible.

**Therefore, consultation under Part 1075 is terminated.**

**This review for compliance with 17 Ill. Adm. Code Part 1075 is valid for two years unless new information becomes available that was not previously considered; the proposed improvement is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the proposed improvement has not been implemented within two years of the date of this memorandum, or any of the above listed conditions develop, a new review will be necessary.**

#### **Review for Illinois Interagency Wetland Policy Act – Part 1090**

The proposed improvement was surveyed for wetlands. We reviewed the wetland survey report and the Wetlands Impact Evaluation form and approve both. There are seventeen wetlands and seventeen Other Surface Waters located within the ESR limits. There will be impacts to two wetlands totaling 0.0139 acres. Compensation for permanent losses will be provided at a commercial wetland bank. **Our review for compliance under Part 1090 is terminated.**

#### **Review for Endangered Species Act - Section 7**

The proposed improvement was reviewed in fulfillment of our obligation under Section 7(a)(2) of the Endangered Species Act. Our review included use of the US Fish and Wildlife Service’s Information for Planning and Conservation (IPaC) web-based review tool. Through IPaC, an official species list was received and is



saved to the project folder. The list contains the endangered, threatened, proposed and candidate species and proposed and designated critical habitat that may be present within or in the vicinity of the proposed improvement. The following species are listed in Kane and Cook Counties: Northern long-eared bat (NLEB), piping plover, red knot, Eastern massasauga, Hine's emerald dragonfly, Rusty patched bumble bee, Eastern prairie fringed orchid (EPFO), leafy prairie-clover, Mead's milkweed, and prairie bush-clover. There is no Critical Habitat in the project vicinity. **Under 50 CFR 402.12(e), the accuracy of the species list is limited to 90 days.**

### **Northern long-eared bat**

Northern long-eared bat suitable summer habitat consists of a wide variety of forested or wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees or snags  $\geq 3$  inches dbh that have exfoliating bark, cracks, crevices, or hollows) as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit characteristics of suitable roost trees and are within 1,000 feet of other forested or wooded habitat. Trees found in highly-developed urban areas (e.g., street trees, downtown areas) are extremely unlikely to be suitable NLEB habitat.

There will be an unknown quantity of urban trees removed as a result of this overall project. Land use in the overall project area is urban and wooded. There are no records of maternity roost trees, maternity colonies or hibernacula in the vicinity of the project corridor.

We assessed the potential for adverse impacts to the NLEB in accordance with the Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions. We determined that the proposed improvement may affect the NLEB but will not cause prohibited incidental take. We consulted with the USFWS via the Northern Long-Eared Bat 4(d) Rule IPaC Determination Key. The USFWS did not respond to our submittal within 30 days; thus, we presume our responsibilities under 7(a)(2) with respect to the NLEB are fulfilled through the USFWS 02-05-2018 Programmatic BO. No restrictions or discretionary conservation measures for this species have been placed on the proposed improvement.

**Our assessment determination for the NLEB is valid for one year from the date on the Northern Long-Eared Bat 4(d) Rule Verification Letter.**

### **Eastern prairie fringed orchid**

Eastern prairie fringed orchid occurs in a wide variety of habitats, from mesic prairie to wetland communities such as sedge meadows, marsh edges and even bogs. It requires full sunlight for optimum growth and flowering, which restricts it to grass- and sedge-dominated plant communities. The substrate of the sites

where it occurs ranges from neutral to mildly calcareous. Occasionally the orchid colonizes successional habitats or recolonizes previously occupied areas.

We evaluated the limits of the proposed improvement for the presence of potentially suitable EPFO habitat. Our evaluation included the use of EPFO guidance from the US Fish and Wildlife Service, Chicago Ecological Services Field Office. A botanical survey found no listed plants. There are no impacted prairies or high-quality wetlands in the project corridor. We determined there would be no effect to EPFO from the proposed improvement.

### **Rusty Patched Bumble Bee**

We evaluated the limits of the proposed improvement for the presence of potentially suitable Rusty patched bumble bee habitat. Our evaluation included the use of the guidance issued by USFWS dated April 2019 and titled “Rusty Patched Bumble Bee (*Bombus affinis*), Endangered Species Act, Section 7(a)(2) Voluntary Implementation Guidance Version 2.1” (“USFWS Interagency Guidance”). According to the guidance, if a project is outside of a high potential zone, then the USFWS advises that the incidental take coverage is not necessary (<https://www.fws.gov/midwest/endangered/insects/rpbb/ProjectProponent.html>.) Therefore, if the project is outside of a high potential zone, then a “no effect” determination is appropriate.

We cross referenced the preferred habitat of the Rusty patched bumble bee (RPBB) with our knowledge of the project areas and determined that there is a USFWS High Potential Zone (HPZ) at the east end of the overall project area surrounding Bluff Spring Fen NP and INAI. The NP/INAI occurs approximately 350 feet south of U.S. 20 eastbound lanes. The following RPBB records occur in the overall project vicinity: a 2018 record located four miles north of the project area and a 2014 record at Bluff Spring Fen NP/INAI. The proposed construction work involves construction of a noise wall within existing U.S. 20 eastbound right of way along the south side of U.S. 20 just west of the bridge over Poplar Creek; this work is 390 feet from the NP/INAI. Poplar Creek flows into the NP/INAI. The U.S. 20 bridge over Poplar Creek will be rehabilitated, as described above, with no instream work. There will be a commitment to provide a shield during bridge reconstruction to prevent construction debris from falling into Poplar Creek, thus avoiding the potential to cause siltation to enter the NP/INAI downstream. Land use between U.S. 20 eastbound right of way and the NP/INAI is commercial and wooded, with Bluff City Road running parallel to and south of U.S. 20, located immediately north of the NP/INAI.

INHS conducted a RPBB habitat survey in the approximately 2.5-mile long portion of the project corridor with potential to contain RPBB habitat, i.e., the eastern third of the project corridor, east of the Fox River. They found mostly no or low quality RPBB habitat in this area. Two areas of medium quality RPBB habitat totaling 22.33 acres were found at the east end of the project area. No RPBB were found. The largest medium quality habitat area (M1) occurs in managed grasslands in the infield and along the north side of westbound U.S. 20 at the east end of the Villa Street/U.S. 20 interchange. The infield of M1 contains most of the medium quality habitat with only a sliver of habitat occurring along westbound U.S. 20. Most of M1 will not be impacted by the project, as there is no proposed work in the

interchange infield. A noise wall is proposed within the latter area of M1 within existing right of way, to be located adjacent to U.S. 20 up to 16 feet away from the habitat. The second medium quality habitat area (M2) occurs along a utility line corridor with successional field habitat through which U.S. 20 occurs. Noise walls are proposed west of M2 as follows: along the north side of U.S. 20 westbound starting 213 feet west of M2 and along the south side of U.S. 20 eastbound starting 243 feet west of M2. No work is proposed at the U.S. 20 right of way at M2; there will thus be no impact to M2 by the project. Both M1 and M2 provide RPBB nectaring habitat via herbaceous blooming flowers and some limited nesting and overwintering habitat. Higher quality RPBB habitat occurs outside the project corridor.

If the following commitments are adhered to, in accordance with Section 7 of the Endangered Species Act, this office has determined that the project may affect but is not likely to adversely affect the RPBB:

- Provide a shield under the U.S. 20 bridge over Poplar Creek during construction to prevent construction debris from falling into Poplar Creek to avoid potential impacts to Bluff Springs Fen NP/INAI.
- Any disturbed ground along the east end of the north side of westbound U.S. 20 at the Villa Street/U.S. 20 interchange in the noise wall area shall be reseeded with native prairie mixes such as IDOT Class 4 or 5, as appropriate to protect RPBB.
- No vehicles or construction materials may be placed in the Villa Street/U.S. 20 interchange during construction.

#### **Other Federally Listed Species**

We cross-referenced the preferred habitat of each of the remaining listed species with our knowledge of the project area and determined that there are no suitable habitats present. We have determined that the proposed improvement will have no effect on any of the remaining listed species.

**We have determined that the proposed improvement is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of any critical habitat.**

Should the proposed improvement be modified or new information indicate listed or proposed species may be affected, consultation or additional coordination should be initiated.

Cc: Shawn Cirton (USFWS)

Attachment — USFWS species list  
MA Verification Letter for 4(d) NLEB

SDH



# Illinois Department of Natural Resources

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

JB Pritzker, Governor  
Colleen Callahan, Director

6 April 2021

Ms. Susan Dees Hargrove  
Biological Resources Specialist  
Illinois Department of Transportation  
Bureau of Design and Environment  
2300 South Dirksen Parkway, Room 330  
Springfield, Illinois 62764

**RE: US 20, Elgin, Cook/Kane Cos, seq. 17911/B/D  
Consultation Program  
EcoCAT Review #2111316  
Cook and Kane Counties**

Dear Ms. Dees Hargrove:

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

The proposed action being reviewed in this letter consists roadway improvements along U.S. 20 from west of Randall Road to east of Shales Parkway in Elgin for 5.7 miles. Improvements include possible channelization at ramps, bridge rehabilitation, and noise wall construction. Addendum B involves drainage improvements in the southeastern quadrant of the U.S. 20 at State Street interchange. There will be in stream work in the Fox River and Otter Creek for the overall project. It was determined that instream work in Poplar Creek will not be needed. The scope of work for the U.S. 20 bridge over Poplar Creek rehabilitation is as follows per email from IDOT District 1: deck replacement with a composite deck, joint replacement, steel beam repairs, shear stud addition, beam and bearing cleaning and painting, crack and formed concrete repairs to abutments, piers and wingwalls, and slope wall removal and replacement.

EcoCAT indicated records for state-listed threatened or endangered species, Illinois Natural Area Inventory site, and a dedicated Illinois Nature Preserve, in the vicinity of the overall project. Bluff Springs Fen Illinois Natural Areas Inventory Site (INAI) and Nature Preserve (NP) is located approximately 350 feet south of U.S. 20. Poplar Creek flows from the project area into the INAI/NP. The INAI/NP contains records of several prairie and fen-obligate state-listed plants and invertebrates, including the state and federally endangered rusty patched bumble bee (RPBB).

IDOT met with Illinois Nature Preserves Commission (INPC) in 2017 to discuss the project in relation to the INAI/NP. It was determined that no runoff diversion is needed for this project since there will be no construction work immediately upstream of the INAI/NP. The closest work to the INAI/NP will be 390 feet away in the form of noise wall construction. Land use between the INAI/NP and U.S. 20 is roadways, commercial, and wooded lands. There is no prairie or fen habitat between U.S. 20 and the INAI/NP for the listed species occurring in the INAI/NP. The Department has reviewed the Natural Resources Review (NRR) dated May 2, 2021 which makes the following commitments:

- Provide a shield under the U.S. 20 bridge over Poplar Creek during construction to prevent construction debris from falling into Poplar Creek to avoid potential impacts to mottled sculpin and Bluff Springs Fen NP/INAI.
- Any disturbed ground along the east end of the north side of westbound U.S. 20 at the Villa Street/U.S. 20 interchange in the noise wall area shall be reseeded with native prairie mixes such as IDOT Class 4 or 5, as appropriate to protect RPBB.
- No vehicles or construction materials may be placed in the Villa Street/U.S. 20 interchange during construction to protect RPBB.

Based on survey results and lack of appropriate habitat in the project area the department concurs with the NRR that states this project will not adversely effect state-listed species nor Bluff Springs Fen INAI/NP.

However, due to the proximity of the Bluff Spring Fen INAI/NP to the project area, the Department also recommends the following lighting recommendation to minimize adverse effects to wildlife if temporary or permanent lighting is required, especially near Bluff Spring Fen INAI/NP:

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

The Department has also determined that this project is unlikely to have adverse impacts on any other state-listed plant or animal species, or protected lands.

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 Department offers the following conservation measures to help protect native wildlife and enhance natural areas in the project area:


If erosion control blanket is to be used, the Department also recommends that wildlife-friendly plastic-free blanket by used to prevent the entanglement of native wildlife. If wildlife-friendly plastic-free blanket cannot be used, then plastic erosion control blanket should be removed once vegetation is established.

The Department also recommends that all disturbed areas be reseeded with an appropriate native seed mix that contains forbs (such as IDOT Class 5, 5A and 5 B seed mix) as well as grasses, where feasible.

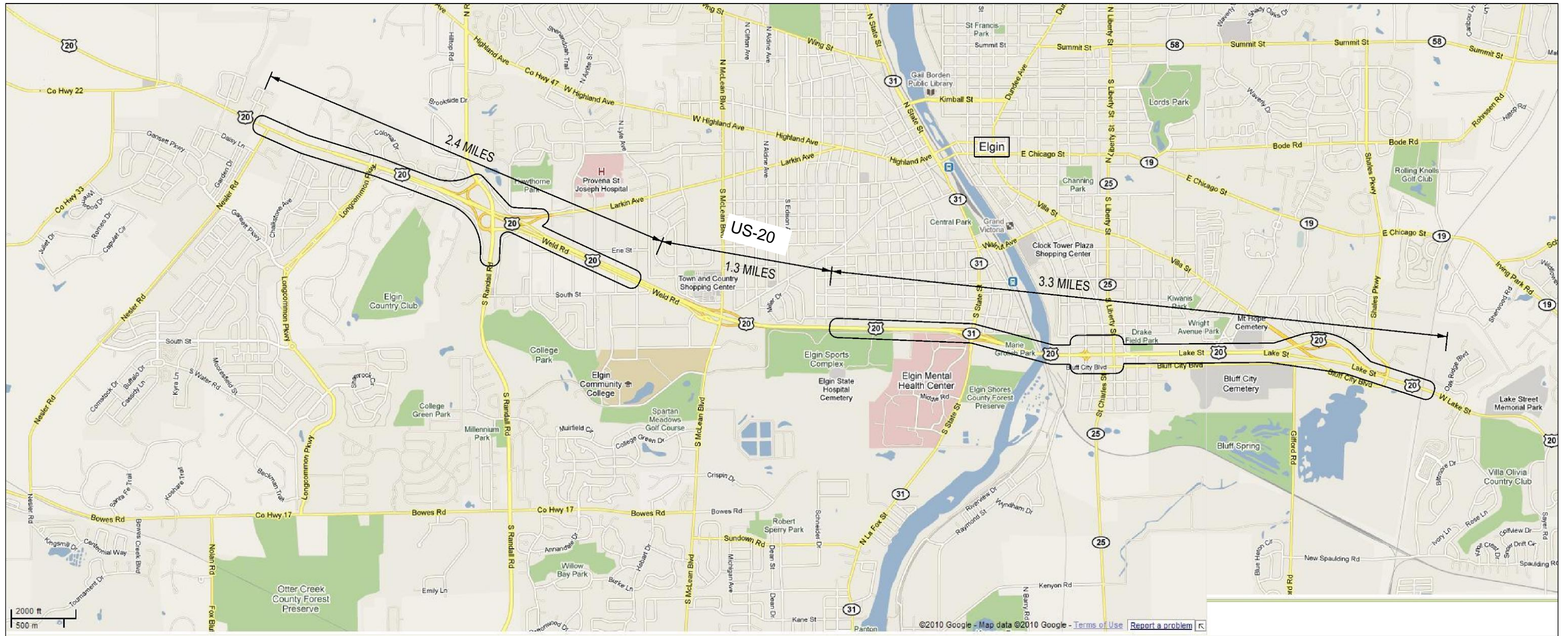
The natural resource review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal and should not be regarded as a final statement on the project being considered, nor should it be a substitute for detailed site surveys or field surveys required 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.

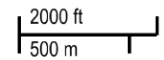
Sincerely,

A handwritten signature in cursive script that reads "Bradley Hayes".

Bradley Hayes  
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



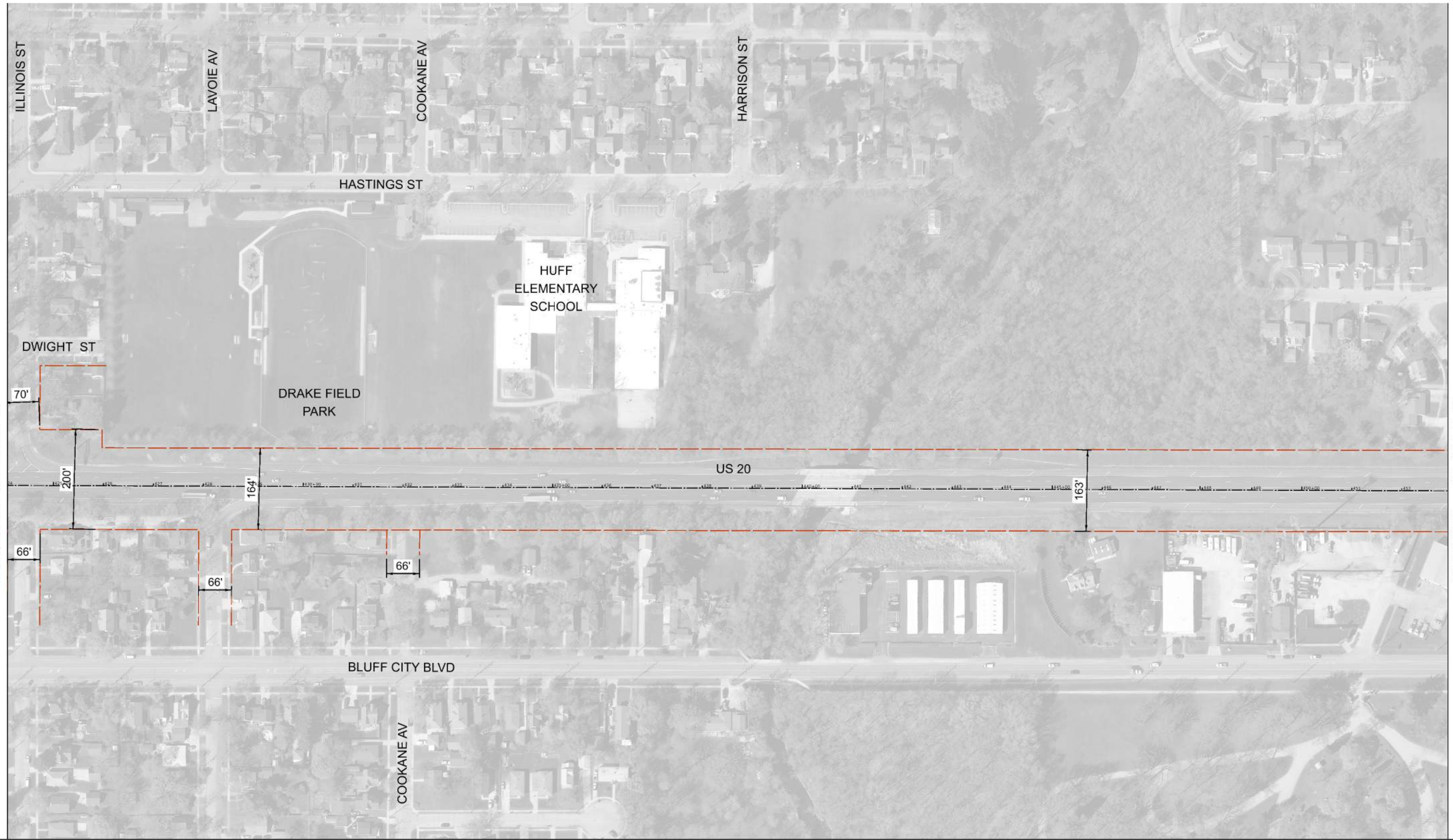
©2010 Google - Map data ©2010 Google - [Terms of Use](#) [Report a problem](#)



U.S. Route 20  
Phase I Study  
Nesler Road to Shales Parkway

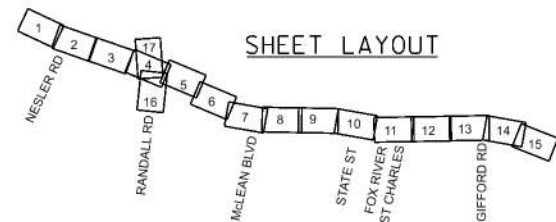
**PROJECT AREA**

EXHIBIT 1

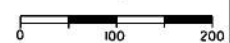


MATCHLINE - SEE SHEET 11

MATCHLINE - SEE SHEET 13



**LEGEND**  
 --- EXISTING R.O.W.  
 --- PROPOSED R.O.W.



FILE NAME = #FILE#

USER NAME * #USER*	DESIGNED - JAS	REVISED -
	DRAWN - JAS	REVISED -
PLOT SCALE * #SCALE*	CHECKED - RR	REVISED -
PLOT DATE * #DATE*	DATE - 11/15/2022	REVISED -

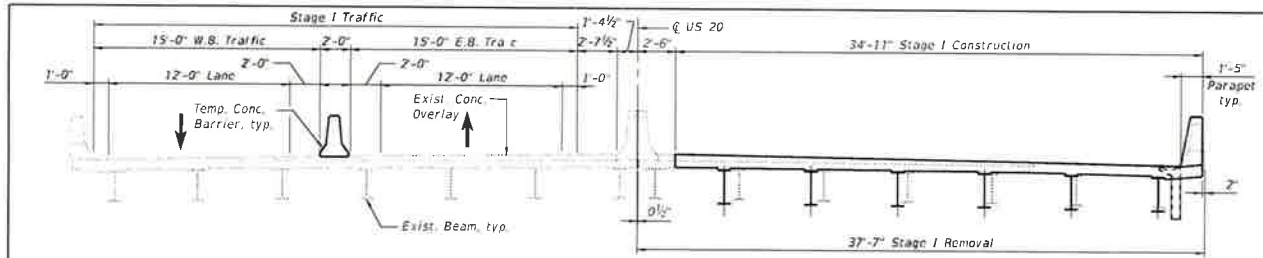
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**US 20 - WEST OF RANDALL ROAD TO EAST OF SHALES PARKWAY  
 ADDENDUM ESR EXHIBITS**

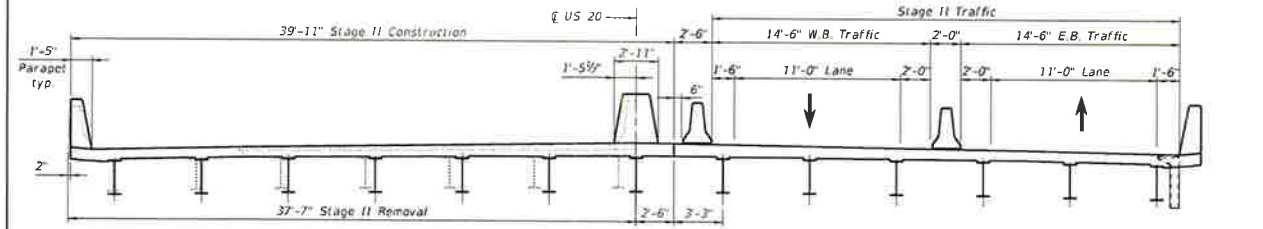
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	2020-146-B-BR&N	KANE & COOK	17	12
			CONTRACT NO. 62L34	
ILLINOIS FED. AID PROJECT				



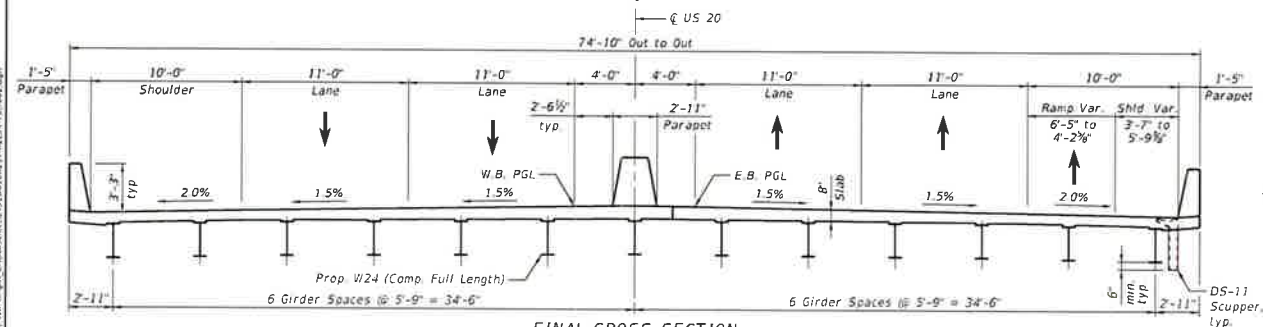




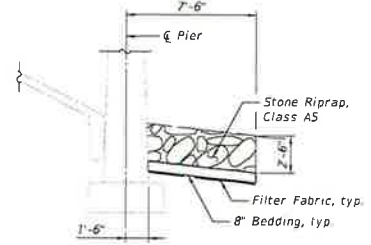
**STAGE I CONSTRUCTION**  
Looking East



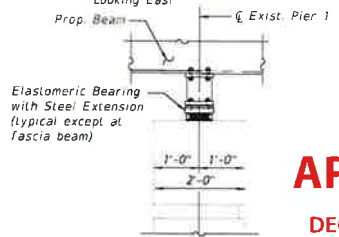
**STAGE II CONSTRUCTION**  
Looking East



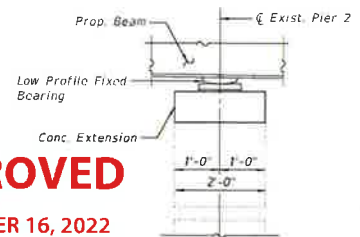
**FINAL CROSS SECTION**  
Looking East



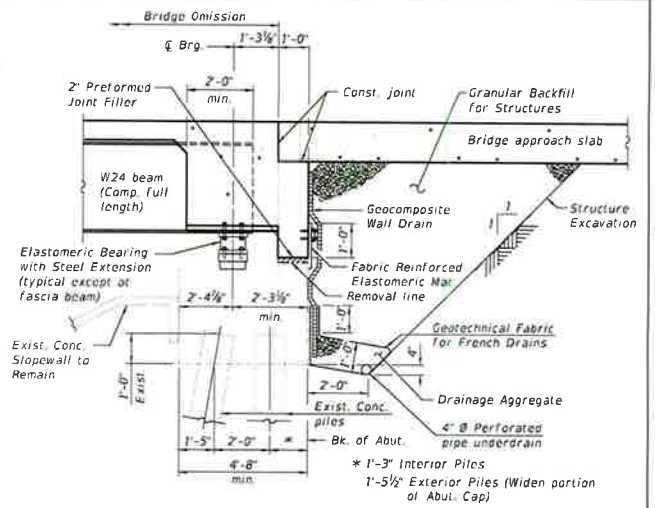
**SECTION THRU RIPRAP**



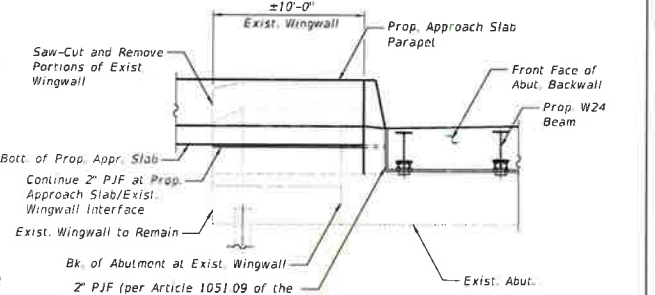
**SECTION THRU PIER 1**



**SECTION THRU PIER 2**



**SECTION THRU SEMI-INTEGRAL ABUTMENT**  
(Horiz. dim. @ Rt. 2's)



**WINGWALL ELEVATION (UNFOLDED)**

**APPROVED**  
DECEMBER 16, 2022

AS A BASIS FOR  
PREPARATION OF DETAILED PLANS  
**STATE OF ILLINOIS**  
DEPARTMENT OF TRANSPORTATION

**LEGEND**

Concrete Removal/  
Superstructure Removal

**DETAILS**  
**US ROUTE 20 OVER POPLAR CREEK**  
F.A.P. RTE. 345-SEC. 2020-146-B-BR & NW  
COOK COUNTY  
STATION 440+55.54  
STRUCTURE NO. 016-0217

	USER NAME = smueller	DESIGNED = MMZ	REVISED =
	PLOT SCALE = 8:0.0000 (1"=8')	CHECKED = JOC	REVISED =
	PLOT DATE = 12/19/2022	DRAWN = EBP	REVISED =
		CHECKED = DF	REVISED =

F.A.P. RTE. 345	SECTION 2020-146-B-BR&NW	COUNTY COOK	TOTAL SHEETS NO.
CONTRACT NO. 62L34			
SHEET 2 OF 2 SHEETS			

12/15/2022 7:37:19 PM



Route	Marked Route	Section Number
US-20: Randall Rd to Shales Pkwy	FAP Route 345	2020-146-B-BR&NW
Project Number	County	Contract Number
C-91-252-20	Kane & Cook	62L34

This plan has been prepared to comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit No. ILR10 (Permit ILR10), issued 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.

Signature	Date

Print Name	Title	Agency
Jose Rios, P.E.	Regional Engineer	Illinois Department of Transportation

**Note:** Guidance on preparing each section of BDE 2342 can be found in Chapter 41 of the IDOT Bureau of Design and Environment (BDE) Manual. Chapter 41 and this form also reference the IDOT Drainage Manual which should be readily available.

**I. Site Description:**

A. Provide a description of the project location; include latitude and longitude, section, town, and range:

The project is located on US Route 20 from Randall Road to Shales Parkway in Elgin, IL. It falls within Kane and Cook counties. The project is located in Township 41N, Sections 16, 21, 22, 23 and 24, Range 8E. The approximate latitude and longitude at the start is 42° 2'21.70"N, 88°21'49.24"W and at the end is 42° 1'7.62"N, 88° 14'14.18"W.

The design, installation, and maintenance of BMPs at these locations are within District One, an area where annual erosivity (R value) is less than or equal to 160. Erosivity is less than 5 in all two-week periods between October 12 and April 15, which would qualify for a construction rainfall erosivity waiver under the US Construction General Permit requirements. At these locations, erosivity is highest in spring, summer, and autumn, April 16 - October 11.

B. Provide a description of the construction activity which is the subject of this plan. Include the number of construction stages, drainage improvements, in-stream work, installation, maintenance, removal of erosion measures, and permanent stabilization:

The project will be completed in 3 construction stages.

Stage 1 will include the demolition of Ramp M and installation of temporary pavement. Eastbound US-20 permanent pavement will be installed as well as cold milling of eastbound lanes in some locations. The eastbound side of the following bridges will be constructed: Fox River, Raymond St, and deck replacement for St Charles St, Liverty St and Poplar Creek. There will also be installation of moment slabs, retaining walls and noise walls.

Stage 2 will include widening of US-20 on the westbound side. Ramp N pavement will be constructed. Cold milling will be completed at several locations. The westbound side of the following bridges will be constructed: Fox River, Raymond St, and deck replacement for St Charles St, Liberty St and Poplar Creek. There will also be installation of moment slabs, retaining walls and noise walls.

Stage 3 will construct the westbound US-20 shoulder, inside lane pavement, and median barrier.

Roadway drainage improvements include storm sewers and structures and proposed ditches.

The project includes a proposed bridge over the Fox River and a proposed bridge over Poplar Creek. At the Fox River, a USACE 404 permit will be required. The contractor will need to prepare an in-stream work plan. The bridge is a full replacement. At Poplar Creek, the superstructure will be replaced. The pier seats will be removed and replaced, existing abutments will be converted to semi-integral abutments, as well as concrete repairs to piers. Riprap installation at the piers will be completed. An IDNR construction permit will be required.

In addition, work along US20 between Nesler Road and Weld/Longcommon Parkway includes a new right turn lane added from Eastbound US20 to Southbound Nesler Road, and a restricted crossing U-turn intersection is proposed for southbound Weld Road at US20.

There will also be installation of noise abatement walls throughout the project limits.

C. Provide the estimated duration of this project:

The construction duration is still being determined.

D. The total area of the construction site is estimated to be 22.0 acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is 22.0 acres.

E. The following are weighted averages of the runoff coefficient for this project before and after construction activities are completed; see Section 4-102 of the IDOT Drainage Manual:

Existing Runoff Coefficient: 0.58. Proposed Runoff Coefficient: 0.63

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

103A-Houghton muck, 0 to 2 percent slopes--  
149A-Brenton silt loam, 0 to 2 percent slopes-K-factor-0.32  
152A-Drummer silty clay loam, 0 to 2 percent slopes-K-factor-0.24  
219A-Millbrook silt loam, 0 to 2 percent slopes-K-factor-0.32  
290B-Warsaw silt loam, 2 to 4 percent slopes-K-factor-0.32  
3107A-Sawmill silty clay loam, heavy till plain, 0 to 2 percent slopes, frequently flooded-K-factor-0.28  
318C2-Lorenzo loam, 4 to 6 percent slopes, eroded-K-factor-0.28  
318D2-Lorenzo loam, 6 to 12 percent slopes, eroded-K-factor-0.28  
323D2-Casco loam, 6 to 12 percent slopes, eroded-K-factor-0.32  
325B-Dresden silt loam, 2 to 4 percent slopes-K-factor-0.32  
325C2-Dresden silt loam, 4 to 6 percent slopes, eroded-K-factor-0.32  
327A-Fox silt loam, 0 to 2 percent slopes-K-factor-0.32  
327B-Fox silt loam, 2 to 4 percent slopes-K-factor-0.37  
327C2-Fox silt loam, 4 to 6 percent slopes, eroded-K-factor-0.37  
327D2-Fox loam, 6 to 12 percent slopes, eroded-K-factor-0.37  
343A-Kane silt loam, 0 to 2 percent slopes-K-factor-0.32  
344C2-Harvard silt loam, 5 to 10 percent slopes, eroded-K-factor-0.43  
369A-Waupecan silt loam, 0 to 2 percent slopes-K-factor-0.32  
369B-Waupecan silt loam, 2 to 4 percent slopes-K-factor-0.32  
531B-Markham silt loam, 2 to 4 percent slopes-K-factor-0.37  
531C2-Markham silt loam, 4 to 6 percent slopes, eroded-K-factor-0.37  
531D2-Markham silt loam, 6 to 12 percent slopes, eroded-K-factor-0.37  
662B-Barony silt loam, 2 to 5 percent slopes-K-factor-0.37  
663A-Clare silt loam, 0 to 2 percent slopes-K-factor-0.32

663B-Clare silt loam, 2 to 5 percent slopes-K-factor-0.32  
668B-Somonauk silt loam, 2 to 5 percent slopes-K-factor-0.43  
792A-Bowes silt loam, 0 to 2 percent slopes-K-factor-0.32  
792B-Bowes silt loam, 2 to 4 percent slopes-K-factor-0.32  
792C2-Bowes silt loam, 4 to 6 percent slopes, eroded-K-factor-0.37  
802B-Orthents, loamy, 1 to 6 percent slopes-K-factor-0.37  
802B-Orthents, loamy, 1 to 6 percent slopes-K-factor-0.37  
8076A-Otter silt loam, 0 to 2 percent slopes, occasionally flooded-K-factor-0.28  
865-Pits, gravel--  
903A-Muskego and Houghton mucks, 0 to 2 percent slopes--  
969E2-Casco-Rodman complex, 12 to 20 percent slopes, eroded-K-factor-0.32  
969F-Casco-Rodman complex, 20 to 30 percent slopes-K-factor-0.32  
W-Water--

G. If wetlands were delineated for this project, provide an extent of wetland acreage at the site; see Phase I report:

Information regarding the wetland acreage is shown in the attached document, Wetland Impact Evaluation Exhibit.

Wetland 10: 0.003 Acres temporary impact  
Wetland 13: 0.01 Acres permanent impact  
WOUS 14: 0.48 Acres Temporary Impact  
WOUS 15: 0.17 Acres Temporary Impact  
Wetland 16: 0.01 Acres permanent impact

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

Potentially erosive areas are the slopes near the Fox River, pipe outlets to the Fox River and the abutments

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 slopes, etc.):

The project will be completed in 3 construction stages.

Stage 1 will include the demolition of Ramp M and installation of temporary pavement. Eastbound US-20 permanent pavement will be installed as well as cold milling of eastbound lanes in some locations. The eastbound side of the following bridges will be constructed: Fox River, Raymond St, and deck replacement for St Charles St, Liverty St and Poplar Creek. There will also be installation of moment slabs, retaining walls and noise walls.

Stage 2 will include widening of US-20 on the westbound side. Ramp N pavement will be constructed. Cold milling will be completed at several locations. The westbound side of the following bridges will be constructed: Fox River, Raymond St, and deck replacement for St Charles St, Liberty St and Poplar Creek. There will also be installation of moment slabs, retaining walls and noise walls.

Stage 3 will construct the westbound US-20 shoulder, inside lane pavement, and median barrier.

Roadway drainage improvements include storm sewers and structures and proposed ditches.

The project includes a proposed bridge over the Fox River and a proposed bridge over Poplar Creek. At the Fox River, a USACE 404 permit will be required. The contractor will need to prepare an in-stream work plan. The bridge is a full replacement. At Poplar Creek, the superstructure will be replaced. The pier seats will be removed and replaced, existing abutments will be converted to semi-integral abutments, as well as concrete repairs to piers. Riprap installation at the piers will be completed. An IDNR construction permit will be required.

In addition, work along US20 between Nesler Road and Weld/Longcommon Parkway includes a new right turn

lane added from Eastbound US20 to Southbound Nesler Road, and a restricted crossing U-turn intersection is proposed for southbound Weld Road at US20.

There will also be installation of noise abatement walls throughout the project limits. The noise abatement walls at the west end will be completed in one stage independent of the US-20 staged work.

J. See the erosion control plans and/or drainage plans for this contract for information regarding drainage patterns, approximate slopes anticipated before and after major grading activities, locations where vehicles enter or exit the site and controls to prevent offsite sediment tracking (to be added after contractor identifies locations), areas of soil disturbance, the location of major structural and non-structural controls identified in the plan, the location of areas where stabilization practices are expected to occur, surface waters (including wetlands) , and locations where storm water is discharged to surface water including wetlands.

K. Identify who owns the drainage system (municipality or agency) this project will drain into:

Existing drainage system is owned by the agency. The proposed system will be partially drained into the existing system and partially will be discharged to Fox River.

L. The following is a list of General NPDES ILR40 permittees within whose reporting jurisdiction this project is located:

IDOT, Cook County, Kane County

M. The following is a list of receiving water(s) and the ultimate receiving water(s) for this site. In addition, include receiving waters that are listed as Biologically Significant Streams by the Illinois Department of Natural Resources (IDNR). The location of the receiving waters can be found on the erosion and sediment control plans:

Fox River, Poplar Creek. Neither is listed as Biologically Significant.

N. Describe areas of the site that are to be protected or remain undisturbed. These areas may include steep slopes (i.e., 1:3 or steeper), highly erodible soils, streams, stream buffers, specimen trees, natural vegetation, nature preserves, etc. Include any commitments or requirements to protect adjacent wetlands.

For any storm water discharges from construction activities within 50-feet of Waters of the U.S. (except for activities for water-dependent structures authorized by a Section 404 permit, describe: a) How a 50-foot undisturbed natural buffer will be provided between the construction activity and the Waters of the U.S. or b) How additional erosion and sediment controls will be provided within that area.

All unimpacted wetlands located within the ROW and wetlands located adjacent to the ROW will be protected during construction. Wetland exclusion fencing and "Wetland No Intrusion" signage should also be provided at the boundary of all unimpacted wetlands or Waters of the US within the ROW. Erosion control blanket and inlet and pipe protection erosion and sediment controls will be provided.

O. Per the Phase I document, the following sensitive environmental resources are associated with this project and may have the potential to be impacted by the proposed development. Further guidance on these resources is available in Section 41-4 of the BDE Manual.

303(d) Listed receiving waters for suspended solids, turbidity, or siltation. The name(s) of the listed water body, and identification of all pollutants causing impairment:

Fox River is a low priority stream with several impairments to its designated uses. It is considered non-supporting for aquatic life, fish consumption. The causes of impairment include alteration in stream-side or littoral vegetative covers, Hexachlorobenzene, other flow regime alterations, dissolved Oxygen, sedimentation/siltation, fecal coliform, total suspended solids, Mercury, and Polychlorinated biphenyls. The sources of impairment to the Fox River include streambank modification/destabilization, contaminated sediments, impacts from hydrostructure flow from regulation/modification, municipal point source discharges, combined sewer overflows, urban runoff/storm sewers, atmospheric deposition-toxics, and unknown sources.

Provide a description of how erosion and sediment control practices will prevent a discharge of sediment resulting from a storm event equal to or greater than a twenty-five (25) year, twenty-four (24) hour rainfall event:

ESC stabilization and structural practice will control sediments in the discharge to the Fox River. Erosion control blanket are designed to protect soil surfaces from raindrop impacts and overland flow during the establishment of grass/vegetation and to reduce soil moisture loss due to evaporation. Storm drain inlet protection will prevent sediments from entering the storm drain systems. Perimeter erosion barrier will intercept sheet-flow and settle out sediment upslope while allowing runoff to filter through very slowly, and redirect water from slopes or areas of exposed soils. They will be maintained during the project duration.

Provide a description of the location(s) of direct discharge from the project site to the 303(d) water body:

A 48" storm sewer system will discharge to the Fox River, replacing an existing storm sewer discharge.

Provide a description of the location(s) of any dewatering discharges to the MS4 and/or water body:

Applicable Federal, Tribal, State, or Local Programs

Floodplain

Historic Preservation

Receiving waters with Total Maximum Daily Load (TMDL) for sediment, total suspended solids, turbidity or siltation

TMDL (fill out this section if checked above)

The name(s) of the listed water body:

Provide a description of the erosion and sediment control strategy that will be incorporated into the site design that is consistent with the assumptions and requirements of the TMDL:

If a specific numeric waste load allocation has been established that would apply to the project's discharges, provide a description of the necessary steps to meet that allocation:

Threatened and Endangered Species/Illinois Natural Areas (INAI)/Nature Preserves

Other

Wetland

P. The following pollutants of concern will be associated with this construction project:

Antifreeze / Coolants

Concrete

Concrete Curing Compounds

Concrete Truck Waste

Fertilizers / Pesticides

Paints

Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids)

Soil Sediment

Solid Waste Debris

Solvents

Waste water from cleaning construction equipments

Other (Specify) \_\_\_\_\_

Other (Specify) \_\_\_\_\_

Other (Specify) \_\_\_\_\_

Other (Specify) \_\_\_\_\_

Other (Specify) \_\_\_\_\_

## II. Controls:

This section of the plan addresses the controls that will be implemented for each of the major construction activities described in Section I.C above and for all use areas, borrow sites, and waste sites. For each measure discussed, the Contractor will be responsible for its implementation as indicated. The Contractor shall provide to the Resident Engineer a plan for the implementation of the measures indicated. The Contractor, and subcontractors, will notify the Resident Engineer of any proposed changes, maintenance, or modifications to keep construction activities compliant with the Permit ILR10. Each such Contractor has signed the required certification on forms which are attached to, and are a part of, this plan:

A. **Erosion and Sediment Controls:** At a minimum, controls must be coordinated, installed and maintained to:

1. Minimize the amount of soil exposed during construction activity;
2. Minimize the disturbance of steep slopes;
3. Maintain natural buffers around surface waters, direct storm water to vegetated areas to increase sediment removal and maximize storm water infiltration, unless infeasible;
4. Minimize soil compaction and, unless infeasible, preserve topsoil.

B. **Stabilization Practices:** Provided below is a description of interim and permanent stabilization practices, including site- specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices may include but are not limited to: temporary seeding, permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as provided below in II.B.1 and II.B.2, stabilization measures shall be initiated **immediately** where construction activities have temporarily or permanently ceased, but in no case more than **one (1) day** after the construction activity in that portion of the site has temporarily or permanently ceases on all disturbed portions of the site where construction will not occur for a period of fourteen (14) or more calendar days.

1. Where the initiation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.
2. On areas where construction activity has temporarily ceased and will resume after fourteen (14) days, a temporary stabilization method can be used.

The following stabilization practices will be used for this project:

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Erosion Control Blanket / Mulching | <input type="checkbox"/> Temporary Turf (Seeding, Class 7) |
| <input type="checkbox"/> Geotextiles                                   | <input type="checkbox"/> Temporary Mulching                |
| <input checked="" type="checkbox"/> Permanent Seeding                  | <input type="checkbox"/> Vegetated Buffer Strips           |
| <input type="checkbox"/> Preservation of Mature Seeding                | <input type="checkbox"/> Other (Specify) _____             |
| <input checked="" type="checkbox"/> Protection of Trees                | <input type="checkbox"/> Other (Specify) _____             |
| <input type="checkbox"/> Sodding                                       | <input type="checkbox"/> Other (Specify) _____             |
| <input checked="" type="checkbox"/> Temporary Erosion Control Seeding  | <input type="checkbox"/> Other (Specify) _____             |

Describe how the stabilization practices listed above will be utilized during construction:

1. Erosion Control Blanket/Mulching: The blanket will be applied within 24 hours after permanent seeding operations have been initiated. The erosion control blanket will be installed in accordance with Article 251.04 of the IDOT Standard Specifications.
2. Permanent Seeding: All disturbed areas identified to receive seeding will be stabilized by the application of seed in accordance with Section 250 of the IDOT Standard Specifications immediately following final grading.
3. Protection of Trees: Tree protection shall be provided in accordance with Section 201 of the IDOT Standard Specifications.
4. Temporary Erosion Control Seeding: This item will be applied to all bare areas every seven days to minimize the amount of exposed surface areas. Temporary Erosion Control Seeding shall be applied to areas shown on the plans, areas disturbed during the removal of soil and erosion control measures, and/or directed by the Engineer all in accordance with the IDOT Standard Specifications.
5. Mulch Method 2 should be applied to slopes for temporary stabilization prior to seasons when Temporary



seed will not germinate for example in mid-July or in winter.

Where possible, stabilization of the initial Stage should be completed before work is moved to the subsequent stages. Stabilization controls runoff volume and velocity, peak runoff rates and volumes of discharge to minimize exposed soil, disturbed slopes, sediment discharges from construction, and provides for natural buffers and minimization of soil compaction. Existing vegetated areas where disturbance can be avoided will not require stabilization.

Describe how the stabilization practices listed above will be utilized after construction activities have been completed:

All areas disturbed by construction will be stabilized with permanent seeding immediately following final grading. Erosion control blankets will be laid over the permanent seeding. The blanket will protect the bare earth surfaces from erosion while allowing the seed to germinate and establish a vegetative groundcover. Temporary fences and perimeter erosion barriers will be removed upon completion of final grading, but prior to final seeding. Inlet filters will remain in place until the grass cover is established.

**C. Structural Practices:** Provided below is a description of structural practices that will be implemented, to the degree attainable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Such practices may include but are not limited to: perimeter erosion barrier, earth dikes, drainage swales, sediment traps, ditch checks, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. The installation of these devices may be subject to Section 404 of the Clean Water Act.

- |  |   |
|--|---|
| <input type="checkbox"/> Aggregate Ditch                         | <input checked="" type="checkbox"/> Stabilized Construction Exits |
| <input type="checkbox"/> Concrete Revetment Mats                 | <input type="checkbox"/> Stabilized Trench Flow                   |
| <input type="checkbox"/> Dust Suppression                        | <input type="checkbox"/> Slope Mattress                           |
| <input type="checkbox"/> Dewatering Filtering                    | <input type="checkbox"/> Slope Walls                              |
| <input type="checkbox"/> Gabions                                 | <input type="checkbox"/> Temporary Ditch Check                    |
| <input type="checkbox"/> In-Stream or Wetland Work               | <input type="checkbox"/> Temporary Pipe Slope Drain               |
| <input type="checkbox"/> Level Spreaders                         | <input type="checkbox"/> Temporary Sediment Basin                 |
| <input type="checkbox"/> Paved Ditch                             | <input type="checkbox"/> Temporary Stream Crossing                |
| <input type="checkbox"/> Permanent Check Dams                    | <input type="checkbox"/> Turf Reinforcement Mats                  |
| <input checked="" type="checkbox"/> Perimeter Erosion Barrier    | <input type="checkbox"/> Other (Specify) _____                    |
| <input type="checkbox"/> Permanent Sediment Basin                | <input type="checkbox"/> Other (Specify) _____                    |
| <input checked="" type="checkbox"/> Retaining Walls              | <input type="checkbox"/> Other (Specify) _____                    |
| <input checked="" type="checkbox"/> Riprap                       | <input type="checkbox"/> Other (Specify) _____                    |
| <input type="checkbox"/> Rock Outlet Protection                  | <input type="checkbox"/> Other (Specify) _____                    |
| <input type="checkbox"/> Sediment Trap                           | <input type="checkbox"/> Other (Specify) _____                    |
| <input checked="" type="checkbox"/> Storm Drain Inlet Protection | <input type="checkbox"/> Other (Specify) _____                    |

Describe how the structural practices listed above will be utilized during construction:

The Contractor should provide to the RE a plan to ensure that a stabilized flow line will be provided during storm sewer construction. The use of a stabilized flow line between installed storm sewer and open disturbance will reduce the potential for the offsite discharge of sediment bearing waters, particularly when rain is forecasted so that flow will not erode. Lack of an approved plan or failure to comply will result in an ESC Deficiency Deduction.

Stabilized construction exits shall be used to remove accumulated mud and dirt off vehicle tires before equipment enters public roads.

Inlet and pipe protection will be provided for storm sewers to prevent sediment runoff from the site from entering storm structures and sewers. All structural practices are shown in detail on the plans.

Silt fences will be placed at appropriate locations along construction areas as shown in the plans in an effort to

contain silt and runoff from leaving the site.

Silt fence should only be used as perimeter erosion barrier (PEB) in areas where the work area is higher than the perimeter. The use of silt fence at the top of the slope/elevations higher than the work area should always be avoided. If necessary, temporary fence should be utilized in these locations (where the top of slope/elevation is higher than the work area) in lieu of silt fence.

PEB shall be used to intercept sheet-flow and settle out sediment upslope while allowing runoff to filter through very slowly, and redirect water from slopes or areas of exposed soil.

Aggregate ditch checks act as a temporary containment structure to slow ditch flow as a means to capture sediment in the drainage channel during the construction phase or as a structural BMP.

All work associated with installation and maintenance of Stabilized Construction Entrances, and concrete washouts are incidental to the contract.

Avoid using the INLET AND PIPE PROTECTION shown on the Highway Standard Sheets 280001. Straw bales and silt fence should not be used as inlet and pipe protection. Inlet and pipe protection should be comprised of ditch checks, temporary seeding and temporary erosion control blanket and will be installed at all storm sewer and culverts. Inlet filters, as specified in Article 1081.15(h) of the Standard Specifications (current edition) will be installed at all inlets, catch basins, and manholes for the duration of construction. Inlet filters will be cleaned on a regular basis. Ensure proper quantities of inlet filters, ditch checks, temporary seeding and temporary erosion control blanket are included in the contract.

THIS PROJECT REQUIRES A US ARMY CORPS OF ENGINEERS (USACE) 404 PERMIT THAT WILL BE SECURED BY THE DEPARTMENT. ALL CONDITIONS OF THE 404 PERMIT, FOUND IN THE SPECIAL PROVISIONS, MUST BE FOLLOWED. AS A CONDITION OF THIS PERMIT, THE CONTRACTOR WILL NEED TO SUBMIT AN IN-STREAM WORK PLAN (INCLUDING WORK WITHIN WETLANDS) TO THE DEPARTMENT FOR APPROVAL. GUIDELINES ON ACCEPTABLE IN-STREAM WORK TECHNIQUES (INCLUDING WORK WITHIN WETLANDS) CAN BE FOUND ON THE USACE WEBSITE. THE USACE DEFINES AND DETERMINES IN-STREAM WORK. THE COST OF ALL MATERIALS AND LABOR NECESSARY TO COMPLY WITH THE ABOVE PROVISIONS TO PREPARE AND IMPLEMENT AN IN-STREAM WORK PLAN (INCLUDING WORK WITHIN WETLANDS) WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED AS INCLUDED IN THE UNIT BID PRICES OF THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

Describe how the structural practices listed above will be utilized after construction activities have been completed:

Stone riprap will be provided at storm sewer outlets and bridge abutments. All areas disturbed by construction will be stabilized with permanent seeding immediately following final grading and all other listed temporary items will be removed from the project area.

#### D. Treatment Chemicals

Will polymer flocculants or treatment chemicals be utilized on this project:  Yes  No

If yes above, identify where and how polymer flocculants or treatment chemicals will be utilized on this project.

**E. Permanent (i.e., Post-Construction) Storm Water Management Controls:** Provided below is a description of measures that will be installed during the construction process to control volume and pollutants in storm water discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.

1. Such practices may include but are not limited to: storm water detention structures (including wet ponds), storm water retention

structures, flow attenuation by use of open vegetated swales and natural depressions, infiltration of runoff on site, and sequential systems (which combine several practices).

The practices selected for implementation were determined based on the technical guidance in Chapter 41 (Construction Site Storm Water Pollution Control) of the IDOT BDE Manual. If practices other than those discussed in Chapter 41 are selected for implementation or if practices are applied to situations different from those covered in Chapter 41, the technical basis for such decisions will be explained below.

2. Velocity dissipation devices will be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g., maintenance of hydrologic conditions such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).

Description of permanent storm water management controls:

No detention was required for this project.

- F. Approved State or Local Laws:** The management practices, controls and provisions contained in this plan will be in accordance with IDOT specifications, which are at least as protective as the requirements contained in the IEPA's Illinois Urban Manual. Procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials shall be described or incorporated by reference in the space provided below. Requirements specified in sediment and erosion site plans, site permits, storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI, to be authorized to discharge under the Permit ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

Description of procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials:

- G. Contractor Required Submittals:** Prior to conducting any professional services at the site covered by this plan, the Contractor and each subcontractor responsible for compliance with the permit shall submit to the Resident Engineer a Contractor Certification Statement, BDE 2342A.

1. The Contractor shall provide a construction schedule containing an adequate level of detail to show major activities with implementation of pollution prevention BMPs, including the following items:

- Approximate duration of the project, including each stage of the project
- Rainy season, dry season, and winter shutdown dates
- Temporary stabilization measures to be employed by contract phases
- Mobilization time-frame
- Mass clearing and grubbing/roadside clearing dates
- Deployment of Erosion Control Practices
- Deployment of Sediment Control Practices (including stabilized cons
  
- Deployment of Construction Site Management Practices (including concrete washout facilities, chemical storage, refueling locations, etc.)
- Paving, saw-cutting, and any other pavement related operations
- Major planned stockpiling operation
- Time frame for other significant long-term operations or activities that may plan non-storm water discharges as dewatering, grinding, etc
- Permanent stabilization activities for each area of the project

2. During the pre-construction meeting, the Contractor and each subcontractor shall provide, as an attachment to their signed Contractor Certification Statement, a discussion of how they will comply with the requirements of the permit in regard to the following items and provide a graphical representation showing location and type of BMPs to be used when applicable:

- Temporary Ditch Checks - Identify what type and the source of Temporary Ditch Checks that will be installed as part of the project. The installation details will then be included with the SWPPP.
- Vehicle Entrances and Exits - Identify type and location of stabilized construction entrances and exits to be used and how they will be maintained.
- Material Delivery, Storage and Use - Discuss where and how materials including chemicals, concrete curing compounds, petroleum products, etc. will be stored for this project.
- Stockpile Management - Identify the location of both on-site and off-site stockpiles. Discuss what BMPs will be used to prevent pollution of storm water from stockpiles.
- Waste Disposal - Discuss methods of waste disposal that will be used for this project.
- Spill Prevention and Control - Discuss steps that will be taken in the event of a material spill (chemicals, concrete curing compounds, petroleum, etc.)

- Concrete Residuals and Washout Wastes - Discuss the location and type of concrete washout facilities to be used on this project and how they will be signed and maintained.
- Litter Management - Discuss how litter will be maintained for this project (education of employees, number of dumpsters, frequency of dumpster pick-up, etc.).
- Vehicle and Equipment Fueling - Identify equipment fueling locations for this project and what BMPs will be used to ensure containment and spill prevention.
- Vehicle and Equipment Cleaning and Maintenance - Identify where equipment cleaning and maintenance locations for this project and what BMPs will be used to ensure containment and spill prevention.
- Dewatering Activities - Identify the controls which will be used during dewatering operations to ensure sediments will not leave the construction site.
- Polymer Flocculants and Treatment Chemicals - Identify the use and dosage of treatment chemicals and provide the Resident Engineer with Material Safety Data Sheets. Describe procedures on how the chemicals will be used and identify who will be responsible for the use and application of these chemicals. The selected individual must be trained on the established procedures.
- Additional measures indicated in the plan.

### III. Maintenance:

When requested by the Contractor, the Resident Engineer will provide general maintenance guides (e.g., IDOT Erosion and Sediment Control Field Guide) to the Contractor for the practices associated with this project. Describe how all items will be checked for structural integrity, sediment accumulation and functionality. Any damage or undermining shall be repaired immediately. Provide specifics on how repairs will be made. The following additional procedures will be used to maintain, in good and effective operating conditions, the vegetation, erosion and sediment control measures and other protective measures identified in this plan. It will be the Contractor's responsibility to attain maintenance guidelines for any manufactured BMPs which are to be installed and maintained per manufacture's specifications.

The link for the IDOT Erosion and Sediment Control Field Guide for Construction Inspection can be found on the Construction tab at:

<http://www.idot.illinois.gov/transportation-system/environment/erosion-and-sediment-control>. All ESC measures will be maintained in accordance with the IDOT Erosion and Sediment Control Field Guide for Construction Inspection and IDOT's Best Management Practices - Maintenance Guide.

The erosion and sediment control measures should be checked for structural integrity, sediment accumulation and functionality. All maintenance of ESC systems is the responsibility of the Contractor. Any damages or undermining shall be immediately repaired.

Contractor shall check all ESC measures weekly and after each rainfall, 0.5 inches or greater in a 24 hour period, or equivalent snowfall. Additionally during winter months, all measures should be checked by the contract after each significant snowmelt.

Erosion Control Blanket/Muching: Maintain by repairing damage due to water running beneath the blanket and restore ECBs when displacement occurs. Reseeding may be necessary.

Temporary Erosion Control Seeding: Maintain by reapplying seed if stabilization hasn't been achieved. Apply temporary mulch to hold seed in place if seed has been washed away or found to be concentrated in ditch bottoms. Restore rills, greater than 4 inches deep, as quickly as possible on slopes steeper than 1V:4H to prevent sheetflow from becoming concentrated flow patterns.

Permanet Erosion Barrier: Repair tears, gaps or undermining. Restore leaning PEB and ensure taut. Repair or replace any missing or brocken stakes immediately. Clean PEB if sediment reaches one-third height of barrier.

Riprap: Stone at riprap aprons will be replaced due to washout, etc.

Storm Drain Inlet Protection: Remove sediment from inlet filter basket when basket is 25% full or 50% of the fabric pores are covered with silt.

Stabilized Construction Exits: Replenish stome or replace exit if vehicle continue to track sediment onto the roadway from the construction site.

#### **IV. Inspections:**

Qualified personnel shall inspect disturbed areas of the construction site including Borrow, Waste, and Use Areas, which have not yet been finally stabilized, structural control measures, and locations where vehicles and equipment enter and exit the site using IDOT Storm Water Pollution Prevention Plan Erosion Control Inspection Report, BC 2259. Such inspections shall be conducted at least once every seven (7) calendar days and within twenty-four (24) hours of the end of a storm or by the end of the following business or work day that is 0.5 inch or greater or equivalent snowfall.

Inspections may be reduced to once per month when construction activities have ceased due to frozen conditions. Weekly inspections will recommence when construction activities are conducted, or if there is 0.5" or greater rain event, or a discharge due to snowmelt occurs.

If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the Resident Engineer shall notify the appropriate IEPA Field Operations Section office by email at: [epa.swnoncomp@illinois.gov](mailto:epa.swnoncomp@illinois.gov), telephone or fax within twenty-four (24) hours of the incident. The Resident Engineer shall then complete and submit an "Incidence of Non-Compliance" (ION) report for the identified violation within five (5) days of the incident. The Resident Engineer shall use forms provided by IEPA and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. All reports of non-compliance shall be signed by a responsible authority in accordance with Part VI. G of the Permit ILR10.

The Incidence of Non-Compliance shall be mailed to the following address:  
Illinois Environmental Protection Agency  
Division of Water Pollution Control  
Attn: Compliance Assurance Section  
1021 North Grand East  
Post Office Box 19276  
Springfield, Illinois 62794-9276

#### **V. Failure to Comply:**

Failure to comply with any provisions of this Storm Water Pollution Prevention Plan will result in the implementation of a National Pollutant Discharge Elimination System/Erosion and Sediment Control Deficiency Deduction against the Contractor and/or penalties under the Permit ILR10 which could be passed on to the Contractor.