

FAP 301 (US 20)
Section 29X-T
Job No: P-92-088-92
Seq. No. 12299B
Contract No. 64880
Jo Daviess County

CONSERVATION PLAN AND IMPLEMENTING AGREEMENT

US 20: Gear Street to Main Street in Galena – Reconstruction and Installing New Storm Sewer

Prepared for:

Illinois Department of Transportation
Region 2, District 2
819 Depot Ave.
Dixon, IL 61021

On behalf of:

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A. Introduction

The Illinois Department of Transportation (IDOT) and the Federal Highway Administration (FHWA) are proposing a project to reconstruct US 20 from Gear Street to the Galena River (Main Street) in Galena, Illinois, Jo Daviess County (Figure 1). This will include widening the roadway to a three-lane cross section and the installation of a new storm sewer. The proposed storm sewer will outfall into the Galena River. In-stream work will be required in the Galena River for construction of the storm sewer outfall. A total of 4.5 acres of land will be acquired for the entire project. No additional right of way will be required for the storm sewer outfall construction. There will be two acres of urban tree removal. Land cover in the proposed project area is primarily residential with a narrow band of trees along the river.

A fish survey was conducted on September 28, 2017, by INHS personnel utilizing a boat mounted DC electro-fisher (Tiemann 2017 – see Appendix A). The purpose of survey was to determine the status of the state-endangered Pallid Shiner (*Hybopsis amnis*) in the project area. Two passes through the sampling area yielded 224 individuals representing 18 species, including 14 individuals of the Pallid Shiner. No other fishes collected are listed as endangered or threatened at the state or federal level or are under consideration for such listing. Given the presence of suitable habitat, it is assumed the state-endangered Pallid Shiner is present in small densities in the project area.

IDNR's response to the EcoCAT on December 15, 2021, recommended obtaining an Incidental Take Authorization (ITA) for the Pallid Shiner in order to minimize or avoid potential adverse impacts to this species. There is potential habitat for this species in the proposed project area (Natural Resources Review Renewal – see Appendix B). Construction practices will be employed to minimize harm to the Pallid Shiner.

B. Conservation Plan

Incidental taking of Illinois state-listed endangered and threatened species shall be authorized by the Illinois Department of Natural Resources (IDNR) only if the applicant submits a conservation plan that satisfies all criteria established in 17 Ill. Adm. Code § 1080.10.

1. Description of the impact likely to result from the proposed taking -

a) Legal Description

This project consists of reconstructing US 20 from Gear Street to the Galena River (Main Street) in Galena, Jo Daviess County, Illinois. The project is located at Latitude 42.41061° North, Longitude 90.43097° West; Second Principal Meridian; Township 28N, Range 1W, Section 24. Figure 2 is the GIS shapefile of the project area. The Galena River is approximately 25 yards wide, and 6 feet deep, and had virtually no flow on the day the survey was conducted. The Galena River flows in a southwesterly direction at the project location. The habitat was silted mud and sandy mud with some patches of woody debris along the stream margins. Although additional right of way is required for this project, the area where the storm sewer will outfall into the river is within existing right of way owned by IDOT.

b) Biological data on the affected species

The Pallid Shiner is currently listed as endangered by the State of Illinois. State listed species are protected under the Illinois ESPA and regulatory authority lies with the IDNR.

Pallid Shiner (*Hybopsis amnis*)

Species Description

The Pallid Shiner is a small, slender (about three inches in length), schooling minnow. The upper body is yellow or yellow green and the scales on the upper body have dark edges. The sides are silver and there is a dark lateral stripe that extends from its tail through the eye and onto the snout. Its snout is blunt and extends far beyond its upper lip, and its mouth is small and almost horizontal. Its dorsal fin is high and has 8 rays. (Eddy and Underhill 1974; Smith 1979; Page and Burr 2011) (see picture in Appendix A, Figure 2).

Habitat Requirements

The habitat preference of the Pallid Shiner is variable, but the majority of the accounts list the species as being found in sandy or mud bottom pools with little or no current (Becker 1983). Jelks et al. (2008) listed the Pallid Shiner as “Vulnerable” (meaning in imminent danger of becoming threatened throughout all or a significant portion of its range) due to destruction, modification, or reduction of habitat. Within Illinois, the Pallid Shiner’s distribution has declined mainly due to agricultural practices that result in large releases of silt, fertilizers, pesticides, and animal wastes into streams; urban pollution; stream channelization; impoundments and the introduction of non-native species (Smith 1971; Smith 1979; Warren, Jr. and Burr 1988; Page and Retzer 2002).

Life History

Nothing is known about the spawning habits or life history of the Pallid Shiner (Becker 1983; Tiemann 2017). Wisconsin Department of Natural Resources (WDNR 2021) lists the fishes’ spawning period between May 15 and July 15 in a temperature range of 64 to 72 °F.

Status in the Action Area

The Pallid Shiner was once found throughout Illinois (Warren, Jr. and Burr 1988) but has only been observed in two drainages since 1978 – the upper Illinois River drainage, and the upper Mississippi River drainage, including the lower Galena and Sinsinawa Rivers (Page and Retzer 2002; Willink and Veraldi 2009; Tiemann et al. 2015). Prior to the present survey for this project, the Pallid Shiner has been collected in the Galena River on only two occasions. June 28, 2010 (N=5 individuals) and July 7, 2015 (N=9 individuals). Each of these collections were from the same site located just downstream of the public boat launch in Galena (which is about 50 yards downstream from the US 20 bridge) and both collections were conducted by IDNR staff, K. Rivera (IDNR Heritage Database, Springfield). This site is within the US 20 project corridor.

c) Description of the activities that will result in the taking -

The IDOT and the FHWA are proposing a project to reconstruct US 20 from Gear Street to the Galena River (Main Street) in Galena, Illinois. This will include widening the roadway to a three-lane cross section and the installation of a new storm sewer. The proposed storm sewer will outfall into the Galena River about 10 yards downstream from the US 20 bridge over the river. Figure 3 is a plan sheet showing the construction of the storm sewer outfall into the Galena River. Figure 4 is a cross section of the proposed area.

The end of the storm sewer where it outfalls into the Galena River will be constructed by the use of a cofferdam. The cofferdam will be used to dewater the area around the end of the proposed storm sewer so that it can be constructed inside on a dry surface. The area of the cofferdam extends approximately 17 feet from the bank into the river and is 30 feet wide. When the cofferdam is dewatered, there is potential for fish to become trapped inside and killed. The end of the storm sewer pipe where it outfalls into the river will be constructed within the cofferdam. Then rip rap will be placed around the pipe to protect it from erosion. The cofferdam will be removed after construction is completed.

A fish survey was conducted on September 28, 2017, by INHS personnel in the Galena River from about 450 yards upstream (north) to about 600 yards downstream (south) of the US 20 bridge (Tiemann 2017 – see Appendix A). The purpose of the survey was to determine the status of the state-endangered Pallid Shiner in the project area. Fishes were sampled using a boat-mounted DC electro-fisher generating approximately 230 volts. Two passes were made through the sampling area – a downstream pass followed by an upstream pass. Efforts were made to cover all available habitat types present at the site including runs, pools, slack water, and areas of woody debris. All fishes collected were identified, counted, and released, with the exception of a few specimens that were vouchered and deposited into the INHS Fish Collection. The sampling yielded 224 individuals representing 18 species, including 14 individuals of the Pallid Shiner (Table 1). The Pallid Shiners were all collected about 50 yards downstream of the US 20 bridge and downstream of the public boat launch which is on the opposite side of the river from the outfall (Tiemann 2017; Tiemann, pers.com.). No other fishes collected are listed as endangered or threatened at the state or federal level or are under consideration for such listing. Given the presence of suitable habitat, it is assumed the state-endangered Pallid Shiner is present in small densities in the project area.

d) Explanation of anticipated adverse effects -

(1) Direct and Indirect Effects

Direct effects of construction include mortality of individual fish caught in the construction area, mainly in the cofferdam. It is estimated that less than two of the Pallid Shiners could be killed during construction. Therefore, the total estimated take for the Pallid Shiner would be a maximum of two fish.

The construction activities are temporary, and the Pallid Shiner is most likely to avoid the construction area as much as possible. Fish may be temporarily displaced from the area due to increased activity associated with construction. However, no fish habitat will be permanently destroyed.

Indirect effects to this species as a result of construction activities also include the potential for increased sedimentation. The Pallid Shiner is intolerant of siltation.

In summary, potential adverse effects to fish species include mortality, disturbance, and stress to the animals as a result of construction activities, and temporary displacement.

(2) Cumulative Effects

No plans for future State, tribal, local or private projects within or immediately adjacent to the aquatic action area are known. Within the aquatic action area, ongoing water quality issues such as siltation and chemical pollution unrelated to the US 20: Gear Street to the Galena River project will continue to affect the fish.

2. Measures the applicant will take to minimize and mitigate the impact and the funding that will be available -

a) Plans to minimize the area affected by the proposed action, and the estimated number of individuals of an endangered or threatened species that will be taken and the amount of habitat affected -

Prior to construction, all contractor and on-site personnel will receive training regarding legal and ecological aspects of the suspected State of Illinois listed fish species. The Resident Engineer will monitor the project to ensure the equipment and personnel are staying within the area of impact and following all restrictions at all times. The aquatic action area was limited to the construction footprint around the cofferdam required to build the storm sewer outfall. A discussion of the project activities is in B.1.c) of this Conservation Plan. As worst case, the construction area is limited to an area no more than 17 feet out from the bank (at normal water elevation) and 30 feet wide. Therefore, a total area of 510 square feet (0.012 ac.) of suitable fish habitat may be impacted for the storm sewer outfall construction. All construction activity will take place within the cofferdam. The number of Pallid Shiner takes is estimated to be less than two fish (Tiemann, pers.com.).

b) Plans for management of the area affected by the proposed action that will enable continued use of the area by endangered or threatened species -

After construction of the storm sewer outfall, the streambed will be restored back to its pre-construction elevations. The Department's erosion and sediment control policy will be followed and will be in compliance with the IDNR-OWR Statewide Permit #7 – Outfall, and the requirements within the NPDES construction permit. It is anticipated that the areas affected by construction activities will return to pre-construction conditions and in time, fish will recolonize the area. This is explained in more detail in B.1.d) (1).

c) Description of all measures to be implemented to minimize or mitigate the effects of the proposed action on endangered or threatened species -

To minimize the effects of the project on the State listed Pallid Shiner, prior to construction, all contractors and construction personnel will receive training regarding legal and ecological aspects of all suspected State of Illinois listed fish species. The Contractor will use Best Management Practices (BMP) to install the cofferdam and the storm sewer outfall. Also, erosion and sediment control BMP shall be utilized for the entire project to prevent additional silt from entering the river. The IDOT's Bureau of Design and Environmental Special provisions entitled, "National Pollutant Discharge Elimination System/Erosion and Sediment Control Deficiency Deduction" and Temporary Erosion Control will be used for the project.

Once the cofferdam is installed, all construction activities will take place within the cofferdam. This will further minimize impact.

The contractor will be responsible for implementing measures to prevent debris from falling in the river. Debris will not be allowed to collect at the bottom of the river. The contractor will remove any debris from the water or riverbed as soon as practicable during the same workday in order to prevent the accumulation of potentially polluted materials.

Mitigation to the maximum extent practicable is required by the Act. Mitigation for the take of the Pallid Shiner has been scaled to \$15,600 to the Illinois Wildlife Preservation Fund.

d) Plans for monitoring the effects of measures implemented to minimize or mitigate the effects of the proposed action on endangered or threatened species -

The Resident engineer shall notify IDOT's Natural Resources Unit upon completion of the project. Then the IDOT Natural Resources Unit will task the INHS to initiate post construction monitoring at two- and five-years post construction. The purpose of the monitoring effort is to determine if the Pallid Shiner habitat has recovered, and the fish is still present. It is anticipated that the habitat at the construction site will have recovered and that the Pallid Shiner is still present.

e) Adaptive management practices used to deal with changed or unforeseen circumstances -

The project will have erosion control measures in place at all times. If there is a heavy rain or the river floods and the erosion control fails, the District personnel will send an incidence of non-compliance to the EPA and repair the erosion control as soon as possible. The runoff will mainly consist of soil which happens frequently, even during non-construction times.

f) Verification that adequate funding exists -

All proposed mitigation will be completed as part of, and not separate from, the construction of the project and in many cases will also be conditions of other permits (e.g. NPDES). Therefore, funding for the mitigation will be included in funding for the overall project. IDOT and FHWA commit to funding construction of the project, and by extension, funding of the mitigation.

3. Description of alternative actions considered -

The proposed action was selected after carefully evaluating alternatives, including the No-Action Alternative. This proposed construction plan is described in B.1.c) of this Conservation Plan. This design will have the smallest area of impact around the storm sewer outfall area. There was no other build alternative, as other alternatives would have a larger impact area.

The No-Action Alternative was also considered and was defined as no storm sewer replacement. Selection of the No-Action Alternative would have meant no fish would have been impacted by the project because there would be no storm sewer outfall construction. However, the alternative would not meet the purpose and need of the US 20 reconstruction project. Failure to implement the storm sewer portion of the project would result in storm water causing additional flooding of the residential areas which the project was trying to alleviate.

4. Data and information to indicate the proposed taking will not reduce the likelihood of the survival of the endangered species –

The project area was surveyed on September 28, 2017, for fish species. A total of 224 individuals representing 18 fish species were collected, identified, and most released. This included 14 individuals of the state-endangered Pallid Shiner. No other fishes collected during this survey are listed as endangered or threatened at the state or federal level. It was estimated that less than two Pallid Shiners could be killed during construction. The risk of

“incidental take” does exist. This aquatic action area is not the only location in Illinois where the affected fish species are found, and very few Pallid Shiners were collected in this action area. The Pallid Shiner was actually collected about 50 yards downstream from the proposed storm sewer outfall (Tiemann 2017; Tiemann, pers.com.). It is assumed the adult fish will swim away from construction activity. It is expected that the Pallid Shiner will continue to exist in this reach of the Galena River after construction. This species is found in other locations of the Mississippi River drainage and the Illinois River drainage. Therefore, the incidental taking of the Pallid Shiner will not reduce the likelihood of the survival of the species in the wild in Illinois.

**5. Implementing Agreement
For
Conservation Plan
For the State-endangered Pallid Shiner (*Hybopsis amnis*),
which inhabit the Galena River in the vicinity of the Proposed
US 20: Gear Street to the Galena River – Reconstruction and
Installing New Storm Sewer in Galena in Jo Daviess County, IL**

For the State-endangered Pallid Shiner (*Hybopsis amnis*), which inhabit the Galena River in the vicinity of the Proposed US 20: Gear Street to the Galena River - Reconstruction and Installing New Storm Sewer in Galena in Jo Daviess County, IL.

The Illinois Department of Natural Resources (IDNR) is responsible for the review of this Conservation Plan and for subsequent issuance of the Incidental Take Authorization. The Illinois Department of Transportation is responsible for all biological clearance coordination and recommendations related to the project. IDOT is also responsible for securing authorization for the incidental take; securing all permits, including Office of Water Resources; inspection of the work and contractor compliance with the contract documents.

The activities in the conservation plan will be implemented during construction (i.e., in-stream work restrictions for the fish and avoidance and minimization construction commitments) and after construction is completed (i.e., monitoring fish in the project area). The project is being advertised on the January 2022 letting, but no construction activities will take place in the Galena River until the ITA is completed. The entire project will be completed in approximately three years. The construction of the storm sewer outfall will take about 30 days. Progress reports will be provided to IDNR within 90 days of each monitoring event.

IDOT is authorized by the Illinois Highway Code to carry out its duties of providing safe and efficient highways for Illinois citizens.

The Illinois Department of Transportation exclusively abides by the National Environmental Policy Act and all associated federal and state environmental laws in carrying out their mission of performing the most environmentally sensitive methods of transportation planning and engineering. The Pallid Shiner is listed as endangered in Illinois. It is thus covered by the Illinois Endangered Species Act of 1972 only. Compliance under the Federal Endangered Species Act of 1973 is not required for this species. No known local regulations are pertinent to this conservation plan.



03-29-22

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Region Two Engineer
Illinois Department of Transportation

Date

LITERATURE CITED

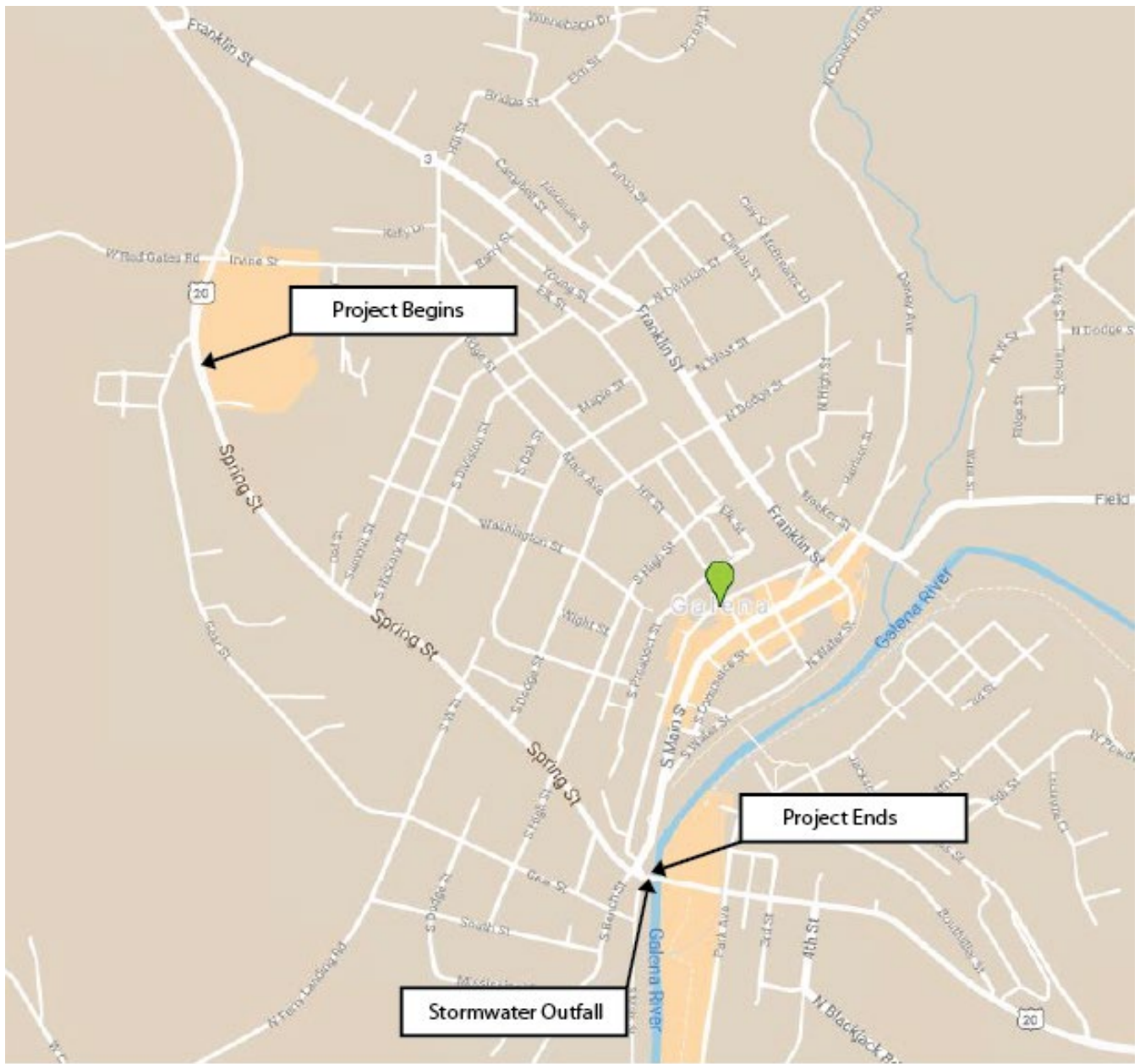
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Table 1 – List of fish species collected in the Galena River within the US 20 storm sewer outfall project

Table 1. List of fishes collected in the Galena River at the U.S. Highway 20 (IDOT FAP 301) Bridge in the town of Galena, Jo Daviess County, Illinois (Latitude 42.41061° North, Longitude 90.43097° West) on 28 September 2017 by INHS personnel. Data include the number of individuals collected. Special status includes ^{SE} – state-endangered.

Family	Scientific name	Common name	US 20 bridge
Clupeidae	<i>Dorosoma cepedianum</i>	Gizzard Shad	27
Cyprinidae	<i>Cyprinella spiloptera</i>	Spotfin Shiner	9
	<i>Hybopsis ammis</i> ^{SE}	Pallid Shiner	14
	<i>Notropis atherinoides</i>	Emerald Shiner	97
	<i>Pimephales notatus</i>	Bluntnose Minnow	7
	<i>Pimephales vigilax</i>	Bullhead Minnow	1
Catostomidae	<i>Minytrema melanops</i>	Spotted Sucker	13
	<i>Moxostoma erythrurum</i>	Golden Redhorse	8
	<i>Moxostoma macrolepidotum</i>	Shorthead Redhorse	2
Esocidae	<i>Esox lucius</i>	Northern Pike	2
Atherinidae	<i>Labidesthes sicculus</i>	Brook Silverside	19
Centrarchidae	<i>Ambloplites rupestris</i>	Rockbass	1
	<i>Lepomis cyanellus</i>	Green Sunfish	1
	<i>Lepomis gibbosus</i>	Pumpkinseed	1
	<i>Lepomis macrochirus</i>	Bluegill	13
	<i>Micropterus dolomieu</i>	Smallmouth Bass	3
	<i>Micropterus salmoides</i>	Largemouth Bass	4
Percidae	<i>Sander vitreus</i>	Walleye	2

Figure 1 – Location Map



LOCATION MAP

for
FAP Route 301 (US 20)
Section 29R-1
Jodaviness County
Job No. P-92-088-92
Contract No. 64880
Reconstruction of US 20 from Gear St.
to Main St. in Galena

Figure 2 - GIS Shapefile of Project Location in relation to fish survey area

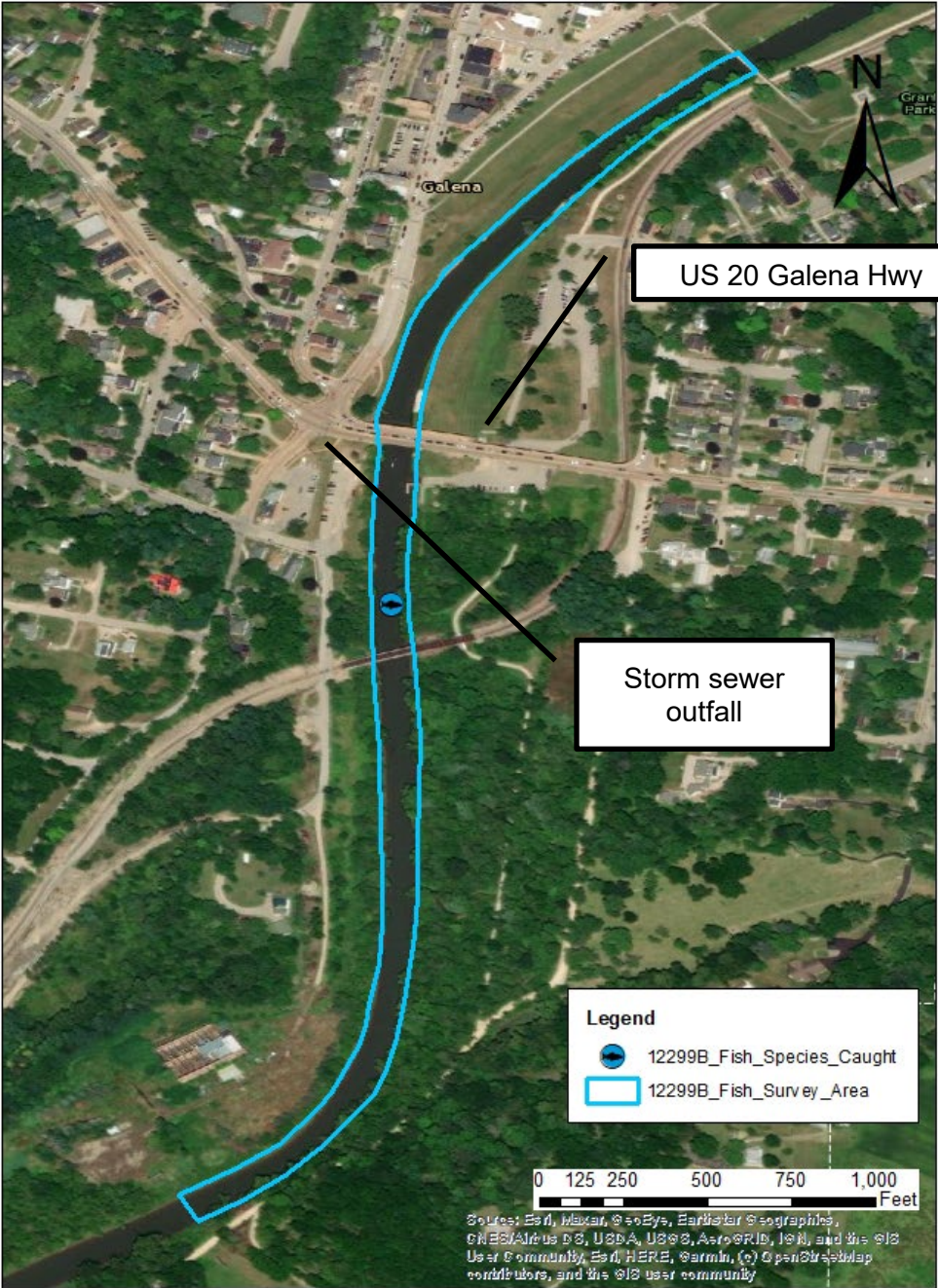


Figure 3 – Plan Sheet of Proposed Storm Sewer Outfall

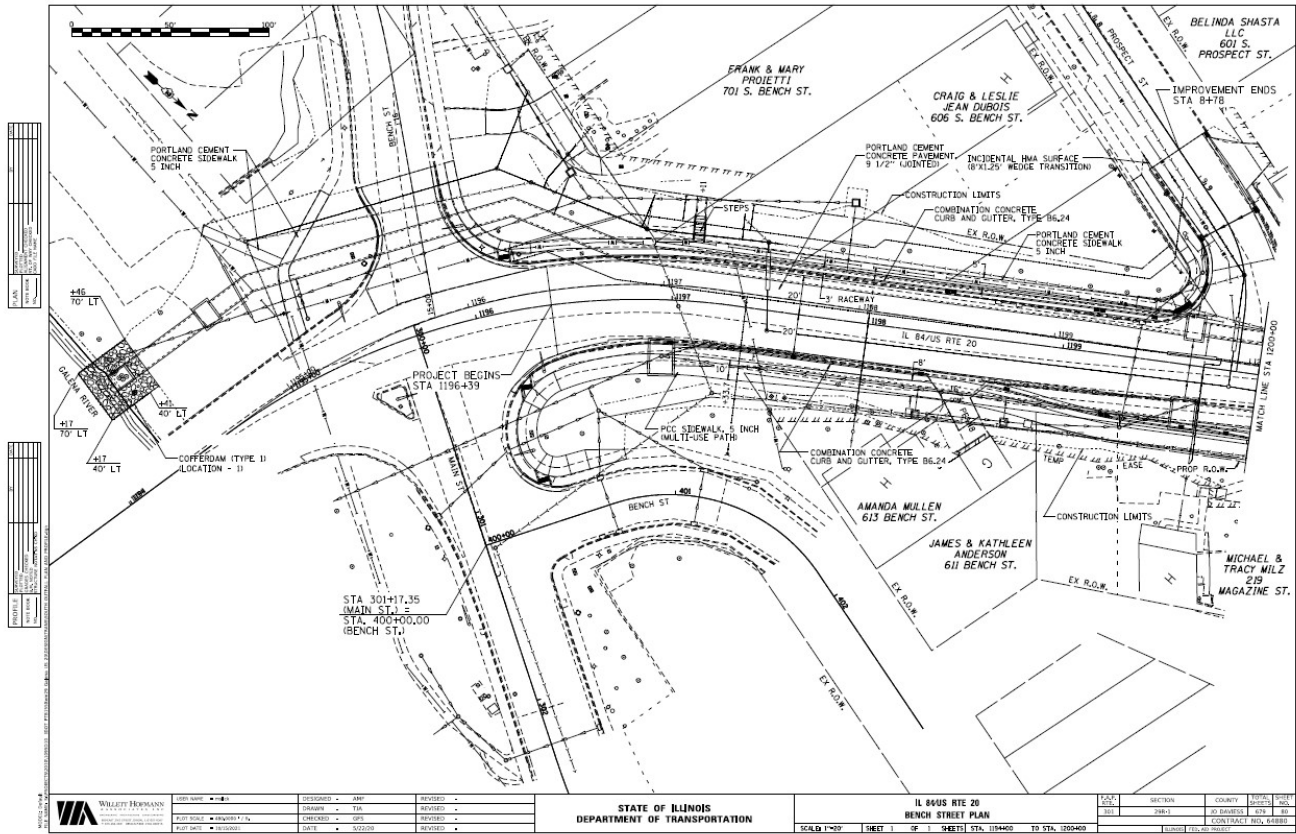


Figure 4 – Cross Section of Storm Sewer Outfall

