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

Conservation Plan for the Eastern Sand Darter *(Ammocrypta pellucida)* and the Bigeye Chub *(Hybopsis amblops)* at the Pond 6 Bridge over Middle Fork Vermilion River, Kickapoo State Park, Vermilion County, Illinois

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

PROJECT APPLICANT: *Illinois Department of Natural Resources*
Kickapoo State Park
10906 Kickapoo Park Road
Oakwood, Illinois 61858

PROJECT NAME: *Pond 6 Bridge Removal, OR 15 (Skyline Drive) over Middle Fork Vermilion River, Structure No. 092-9904. IDNR Project 3-20-033.*

COUNTY: *Vermilion*

AREA OF IMPACT (acreage): *0.77 acres (Middle Fork of Vermilion River)-Approx. 70 feet wide by 465 feet long. The in-stream footprint is 25 feet upstream and downstream of the existing bridge structure.*

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

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

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

The project is located within Kickapoo State Park on Skyline Drive over the Middle Fork Vermilion River, approximately 850 feet west of N. 1180 E. Road. The project is just south of I-74, approximately 4 miles west of the City of Danville in Vermilion County, Illinois. The project is located on the Danville Southwest Quadrangle Topographic map at Section 8, Township 19N, Range 12W. The bridge occurs at Latitude 40° 7' 21.97" N, Longitude 87°44' 6.83" W (see Exhibit A). The project will take place within existing right-of-way property owned by the Illinois Department of Natural Resources (IDNR).

The project area and areas adjacent are within the state park and consist of forest interspersed with ponds and the Middle Fork Vermilion River. Agricultural areas and residential areas surround Kickapoo State Park. The Vermilion River basin contains one of the highest quality stream systems in Illinois in terms of aquatic biodiversity.

Photographs of the river at the project location are provided as Exhibit B. GIS shapefiles of the project location are provided as a separate zip file.

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

Based on results of the IDNR Comprehensive Environmental Review Process (CERP) (Code 2101398) an Incidental Take Authorization (ITA) is necessary for this project. This Conservation Plan addresses the following freshwater fish: state threatened eastern sand darter (Ammocrypta pellucida) and state endangered bigeye chub (Hybopsis amblops).

Eastern Sand Darter (Ammocrypta pellucida) – Threatened in Illinois. Listed February 22, 2011

The eastern sand darter is a long and narrow fish that is usually 2 to 3 inches and rarely greater than 3.5 inches in length. They have a translucent body appearance with white or silver bottom and sides with a yellow or tan color on their back. Their sides have 9 to 14 olive spots and a pair of 12 to16 olive spots on each side of the dorsal fin. The fins are mostly transparent with a yellowish tint. Males and females have the similar colorings while the young are more silvery and less yellow. The males have a greater yellow coloration and develop breeding tubercles on pelvic fin rays during breeding.

The eastern sand darter lives in medium to large streams with a sandy or sandy-gravel bottom, and they cover their body in the sand, leaving their eyes, nose and mouth sticking out. This fish prefers areas of good water quality and a water depth of at least 24 inches. Although they are commonly found in moderate currents some studies show they have a tolerance for greater water depth and velocities as long as sand beds are present, but are highly intolerant of silt or mud covering up clean sand. The eastern sand darter eats small crustaceans and insects. It is listed as a threatened species in Illinois mainly due to the effects of siltation, impoundments and declining water quality. In field collections, eastern sand darters were most abundant on the depositional bank of the channel, directly downstream of a bend. Spawning activities of the eastern sand darter are typically between May and September and have only been observed in laboratories. Studies have shown that spawning occurs in water temperatures between 14.4 and 24.4 degrees Celsius (°C) and in areas with low silt levels. The males and females typically mature by the end of the first year while, although some females may not mature until their second year. The typical life span is two to three years, with a maximum of four years.

The location of this species is primarily in the Embarras River and its tributaries with a limited amount in the Vermilion River. The eastern sand darter was last observed in the Middle Fork Vermilion River in 1968 (INHS Element Occurrence Records, 2021), but they are frequently encountered downstream of the project area in Salt Fork.

Source: IDNR

Bigeye Chub (Hybopsis amblops) – Endangered in Illinois. Listed February 22, 2011
The bigeye chub is a long and narrow fish with a blunt nose that are 2.5 to 3.5 inches and rarely greater than 4 inches in length. They have large eyes for which they are named and a coloring that is primarily silver with a dark strip that extends from their nose to their tail. Their fins are transparent without any markings.

The bigeye chub lives in clear, silt free, small or medium sized perennial streams with sandy, gravelly, or rocky bottoms. It can usually be found in pool areas near riffles and plants in the water. Spawning occurs in late spring and early summer. This species feeds on small aquatic insects. Spawning activities of the bigeye chub occur in late spring and early summer, but there is little known about where and how spawning occurs.

Populations of bigeye chub in Illinois showed drastic declines during the middle of the 20th Century due to habitat degradation. Population declines were so drastic that it was thought to be extirpated from the state in the late 1970's and 1980's. Since 2000, bigeye chub populations have shown a steady increase in distribution and abundance in east-central Illinois within the Wabash River basin. The location of this species is primarily on the Vermilion River, the Little Wabash and other small tributaries to the Wabash River.

Threats to survival include habitat degradation resulting from agricultural practices that result in large releases of silt, fertilizers, pesticides, and animal wastes into streams; stream channelization; removal of native vegetation from riparian zones; and introductions of non-native species. Herbicides appear to have contributed substantially to the loss of aquatic vegetation and thus to the loss of most Illinois populations of the bigeye chub, which are dependent on vegetation for habitat and food organisms (mostly aquatic insects and crustaceans) living on plants.

The bigeye chub has been observed between 2002 and 2016 in the Middle Fork Vermilion River (INHS Element Occurrence Records, 2021).

Source: IDNR

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

This project will demolish and remove six concrete piers and the steel vehicular bridge (Pond 6 Bridge) spanning the Middle Fork of the Vermilion river on Skyline Drive in Kickapoo State Park. The bridge has numerous structural issues and has been closed to vehicular traffic since 2012. The cost to repair the bridge exceeds the recreational benefits west of the river, and it is the department's desire to remove it from the Middle Fork National Scenic River since recurring log jams at the piers create unsafe conditions for paddlers.

It is anticipated that a temporary causeway will be constructed in the river to allow access for heavy equipment to remove and dispose of the piers and structure. Construction of the temporary causeway would be determined by the contractor's means and methods, however, it is anticipated that the temporary causeway would be constructed of rock and/or timber mats across the width from the east bank to reach the west bank. As the contractor removes the west approach they would work their way back towards the east. The normal flow of the river would be maintained at all times, via culverts installed in the temporary causeway. The goal would be to have the full span of the temporary

causeway in use for a maximum of one week. In high water events the river would over-top the causeway. It is anticipated that the contractor will use a crane to remove the superstructure (decking material and steel beams) and an excavator with a jackhammer attachment for removing the concrete piers. The piers will be removed to one foot below the natural ground line of the riverbed. Any broken concrete material that would fall into the river will land vertically down next to the face of the pier and would be removed with a clam bucket. Cofferdams and turbidity curtains would be installed around the piers as they are removed to prevent silt from moving downstream. Approximately 350 linear feet of road will be eliminated on the east side of the river. The project will include stabilizing the riverbank, and extensive landscaping of all disturbed areas including seeding (IDOT Class 5 Forb with Annuals seed mix or similar) and tree replacement (1:1 ratio).

Timeline
The contractor would start removing the superstructure and guardrail in the summer of 2022 and will remove the piers after June 30, during the summer months when the river is most likely at its lowest flow. The causeway will be installed after June 30, 2022. No in stream work will occur before July 1. It is estimated the duration of the project will be 60 working days. Coordination will be conducted with the U.S. Fish and Wildlife (USFWS) during the 404 permtting process. Coordination has been conducted with the IDNR, as documented in the Comprehensive Environmental Review Process (CERP Code: 2101398) on June 7, 2021 (Exhibit C). All necessary permits will be obtained from any state or federal agencies, which may include Illinois Environmental Protection Agency (IEPA) (ILR10 Stormwater Permit), U.S. Army Corps of Engineers (USACE) (404 Permit), Illinois DNR (Floodplain Development Permit), and IEPA (401 Permit), and the project will be reviewed for compliance with the Illinois Interagency Wetlands Policy Act (IWPA). Illinois Department of Natural Resources (IDNR) - Kickapoo State Park will submit this Conservation Plan to the IDNR ITA Coordinator with the intent of receiving an Incidental Take Authorization (ITA) from the State of Illinois.

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

Based on the eastern sand darter and bigeye chub's life history as described above, both fish are most sensitive to disturbance and take during spawning and within vegetated riparian areas and shoreline areas, where they feed on invertebrates.

The construction and removal of a temporary causeway will increase noise, vibration and turbidity in the water column that would adversely affect juvenile and adult fish of both species that are within and adjacent to the causeway. If this occurs during the spawning season (late spring through summer), it could adversely affect adult fish spawning as it would increase water turbidity. This would cause silt deposition on sand and gravel beds downstream and adversely fish visibility during spawning. Construction of the causeway may also require removal of riparian vegetation. Impacts to riparian areas from vegetation clearing, construction, or staging may adversely affect both fish species, which feed in these areas. Any sediment and pollutant runoff from the staging area would adversely affect water quality for the fish.

If conducted during the spawning season, noise from jackhammering/demoing the bridge piers would deter both fish species from coming close to the area and may adversely affect spawning. Removal of broken concrete will disturb the river substrate and cause increased turbidity, which would adversely affect fish habitat downstream.

Take may occur as individuals are destroyed, injured, displaced or change their behaviors as a result of construction and removal of the temporary causeway, jackhammering, and falling concrete. It is expected that the number of state-listed species to be directly affected by construction activities will be

small. Based on the mean survey abundance from previous surveys, the estimated take is up to two (2) eastern sand darter and 22 bigeye chub. Duration of impacts is expected to last from late spring through summer of 2022.

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

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

Because avoiding impacts to the Middle Fork Vermilion River was not practicable, the area of disturbance has been minimized to the extent possible for bridge removal. The construction limits will be confined to 30 feet upstream and downstream of the bridge to minimize the area of the riverbed that will be impacted. The staging area will be away from the river and above the high flow elevation. Erosion and sediment control measures will be implemented to avoid sediment runoff into receiving water bodies.

Instream work will be minimized to the extent practical and will occur after June 30, which is during low water periods and outside of the spawning timeframe for both species. The normal flow of the river would be maintained at all times. Fluvial morphology changes will be minimized to the extent practical by using culverts within the causeways.

Areas around the two piers in the river will need to be dewatered with a cofferdam for removal of the concrete piers. It is anticipated that a 35-foot by 20-foot area around each of the two piers will be affected for the cofferdams.

Silt/turbidity curtains installed around piers during removal would prevent resuspended sediment from migrating downstream and potentially silting in spawning and foraging areas. Turbidity monitoring would demonstrate that the cofferdams and silt curtains are functioning as intended to contain re-suspended sediment and minimize downstream transport of sediment. This would entail visual observations and in-situ turbidity measurements to demonstrate that the controls are functioning as intended.

Surveys between 2006 and 2016 within the Middle Fork Vermilion River resulted in collection of 86 bigeye chub, with 71 collected in 2016. The eastern sand darter has not been collected in this river since 1968, when two fish were collected. Recent mussel surveys by IDNR (April 2021) described the conditions immediately adjacent to the Pond 6 bridge as follows:

> *"An expansive logjam has accumulated at the Pond 6 bridge. Deep scour pools with unconsolidated silt and sand extend approximately 20 meters upstream and downstream of the bridge. Silt and organic matter have accumulated around several of the bridge piers and these deposits were above the water elevation at the time of the site visit. This area is mostly more than 2 meters deep."*

Based on habitat immediately surrounding and within 30 feet of the bridge, it is unlikely that any bigeye chub or eastern sand darter would be in the vicinity of the bridge. Additionally, because construction activities are known to deter fish from the work area, it is expected that the number of state-listed species to be directly affected by construction activities will be small. Based on the mean survey abundance from previous surveys, the estimated take is up to two (2) eastern sand darter and 22 bigeye

chub. It is estimated that no areas of sand and gravel substrate habitat for the eastern sand darter and bigeye chub will be permanently impacted. It is estimated that up to 0.01 acre of in-stream riparian vegetated habitat for the eastern sand darter and bigeye chub will be temporarily impacted for the river access road on the northeast side of the bridge. Terrestrial riparian vegetation will be impacted for the staging area / river access road and during removal of the bridge.

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

Upon project completion the temporary causeway will be removed and the riverbed will be restored to pre-construction conditions as much as possible. All impacted riparian areas will be restored with a viable native vegetation see mix within one year of impact (IDOT Class 5 Forb with Annuals seed mix or similar). Removing the bridge will allow the natural stream morphology of the river to reform in that section of the river, reducing silt build up and log jams.

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

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

Worker awareness training will consist of a pre-construction briefing, which will be provided by IDNR or a qualified environmental professional contracted by IDNR to help minimize and avoid impacts. Worker awareness training materials will be approved by IDNR.

If it is safe to do so, any fish trapped within cofferdams/dewatering areas around the piers will be removed by IDNR or a qualified environmental professional contracted by IDNR. The qualified environmental professional will monitor construction activities throughout the duration of the project.

The construction limits will be confined to 30 feet upstream and downstream of the bridge to minimize the area of the riverbed that will be impacted. The causeway would be designed and constructed so that the normal flow of the river would be maintained via culverts installed within the causeway. The causeway will be constructed high enough for crossing at low flow during the summer and be allowed to over top if the river level rises. Construction will be postponed during high river levels or flooding until the river is back to low flow.

Clearing of vegetation will be limited, including both standing and downed timber, to that which is absolutely necessary for construction purposes.

Sediment and erosion control BMPs will be utilized (plastic mesh erosion control blankets will be avoided due to wildlife entanglement risks).

IDNR ORCP Division of Engineering shall contract INHS to conduct a study to evaluate Eastern Sand Darter distribution, with the goal of estimating the species' statewide distribution and identifying factors contributing to that distribution. The cost of this study shall not exceed $33,485.

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

IDNR will conduct a site monitoring visit within the bridge removal area approximately 30 days after project completion to ensure all disturbed areas are stable and the site is successfully revegetating. The monitoring will focus on evaluating in-stream water quality, habitat conditions, soil stability/erosion, and vegetation recruitment within the disturbed area. Additional post construction monitoring will be conducted by the Illinois Natural History Survey on behalf of the IDNR 1- and 3-years post bridge removal (likely 2023 and 2025). This will include electric seine or barge electrofishing centered at the bridge site. A report will be prepared to document changes in riparian and in-stream habitat and submitted to IDNR Natural Heritage.

E) **adaptive management practices** that will be used to deal with changed or unforeseen circumstances that may affect endangered or threatened species. Consider environmental variables such as flooding, drought, and species dynamics as well as other catastrophes. Management practices should include contingencies and specific triggers. Note: Not foreseeing any changes does not quality as an adaptive management plan.

The temporary causeway will not be constructed in the river during high flow conditions. It will be installed and utilized during the summer months, after June 30, outside of spawning season and when water levels are at their lowest.

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 listed fish species. A designated crew will inspect and maintain silt fences/erosion structures.

Riparian areas located down slope of construction zones will be physically screened with sediment controls, such as silt fences or filter strips. A designated crew will monitor sediment controls after rain and maintain them for the duration of the project.

Spills and leaks from construction equipment may occur. Machinery carries diesel fuel, oil, grease and other substances with potential for environmental contamination. The construction staging area will be on the east side of the river between the bridge approach and a small parking lot to the east. The parking lot area is above high flow conditions. A Storm Water Pollution Prevention Plan will be created as part of the plans and documents for the letting of the project, and covers the protection of fuel storage, spill response, and inspections on the construction site. This must include contact information for local emergency response agencies.

The contractor will need to remove any logs that build up against the piers before any attempt is made to remove the bridge superstructure or piers to avoid any damage to equipment or personnel. The construction limits are 30 feet upstream downstream of the bridge to allow the contractor to work on both sides of the bridge if it starts to lean one direction or the other. This allows them to safely work from the opposite side. The contractor would also have the option of using excavators with longer booms that can reach further to allow the operators of the excavators to reach the structure from a safter distance.

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

This project is funded by IDNR park roads program. The funding is managed by IDOT. The IDNR will implement any mitigation required for this project. Adequate funding for mitigation and monitoring will be available through the IDNR park roads program to meet the goals of this conservation plan.

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

No Action Alternative
The No Action Alternative would have no short term effects on the eastern sand darter and bigeye chub. However, the bridge would continue in its deteriorated condition. Normal maintenance will not correct the structural deficiencies of the bridge. These deficiencies could lead to sudden collapse and potential injury or loss of life; both human and possibly to the state listed fish species. Additionally, log jams would continue to build up at the bridge and require maintenance, resulting in potentially more adverse effects on the two fish species. The bridge also causes silt to build up in the channel, resulting in loss of habitat for the fish species. The "do nothing" approach is not considered feasible or prudent because it poses an unacceptable safety hazard.

Repair Existing Bridge
Repairing the existing bridge was also considered. The bridge has numerous structural issues and has been closed to vehicular traffic since 2012. The cost to repair the bridge exceeds the recreational benefits west of the river. Due to the deteriorating condition of the current bridge, it would require ongoing repairs at more frequent intervals to maintain the bridge. This would result in greater overall cost, safety concerns, and long term overall disruption of eastern sand darter and bigeye chub and adverse impacts to their habitat, compared with removing the bridge. It is also the IDNR's desire to remove it from the Middle Fork National Scenic River since recurring log jams at the piers create unsafe conditions for paddlers.

Demolish Existing Bridge
Demolishing the existing bridge would eliminate the recurring log jams and remove the unstable bridge structure, which create unsafe conditions for paddlers. There would be a short-term adverse impact to the endangered and threatened fish species during the bridge demolition, but an overall long term beneficial effect. Removal of the bridge would allow for the natural geomorphology of the river to reform over time and prevent silt build up in that section of the river, improving habitat conditions for the eastern sand darter and bigeye chub.

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

According to data from the IDNR Illinois Natural History Survey (INHS), there are 67 recorded occurrences of the Eastern Sand Darter within Illinois, 25 of which are extant occurrences. The Eastern Sand Darter occurs within the Embarras and Vermilion watersheds within eight counties in Illinois (Champaign, Coles, Crawford, Cumberland, Jasper, Lawrence, Richland, and Vermilion). The location of the Eastern Sand Darter populations are primarily in the Embarras River and its tributaries with a limited amount in the Vermilion River (mostly the Salt Fork, downstream from the project area). Take of the

Eastern Sand Darter due to the project would not affect populations within the Salt Fork or Embarras River. This will not reduce the overall likelihood of the survival or recovery of the species.

According to data from the INHS, there are 67 recorded occurrences of the Bigeye Chub within Illinois, 26 of which are extant occurrences. The Bigeye Chub occurs within the Middle Wabash-Busseron, Middle Wabash-Little Vermilion, and Vermilion watersheds within five counties in Illinois (Champaign, Clark, Crawford, Edgar, and Vermilion). The location of the Bigeye Chub is primarily on the Vermilion River, the Little Wabash and other small tributaries to the Wabash River. Bigeye Chub have been found approximately 1.7 miles north and 2.5 miles south of the project area. Take of the Bigeye Chub due to the project would not affect populations outside the Middle Fork Vermilion River. This will not reduce the likelihood of the overall survival or recovery of the species.

The habitat immediately adjacent to the bridge is high in silt and does not support the presence of the eastern sand darter and bigeye chub. Additionally, the noise and vibration caused by construction activities are known to deter fish from work areas; therefore, it is unlikely that fish would enter the workspace. This action is not expected to reduce the likelihood of the survival of the species for the following reasons:

- *Existing habitat within the project will be restored as much as possible to pre-project conditions.*
- *After the bridge removal, habitat conditions will likely improve. Fish present in the river will likely naturally colonize the area after construction is complete.*
- *The extent of potential habitat for the fish species will likely increase after proposed project is complete.*

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

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

B) the obligations and responsibilities of each of the identified participants with schedules and deadlines for completion of activities included in the conservation plan and a schedule for preparation of progress reports to be provided to the IDNR;
Monitoring reports including information identified in Section 2.D will be provided to IDNR Natural Heritage and Fisheries within 90 days following each monitoring event. Take of any threatened or endangered species other than eastern sand darter and bigeye chub will be reported to IDNR within 48 hours and all work will stop pending consultation with IDNR.

C) certification that each participant in the execution of the conservation plan has the legal authority to carry out their respective obligations and responsibilities under the conservation plan;
IDNR owns Kickapoo State Park. IDNR will complete all activities Under the Illinois Parks and Roads Program.

D) assurance of compliance with all other federal, State and local regulations pertinent to the proposed action and to execution of the conservation plan;
Work within Waters of the U.S. requires U.S. Army Corps of Engineers 404 and Illinois Environmental Protection Agency 401 and ILR10 permits. All permits are pending. Work funded and performed by IDNR requires a Comprehensive Environmental Review Process (CERP) CERP for this project was completed in July of 2020.

E) copies of any final federal authorizations for a taking already issued to the applicant, if any.
Not applicable.

Dale W. Brockamp 11/18/2021

Dale W. Brockamp
Manager, ORCP Division of Engineering Field Operations, IDNR

6) Bibliography

Illinois Department of Natural Resources (IDNR), INHS Database. 2021. Element occurrence records for Eastern Sand Darter and Bigeye Shiner. Emails on March 16, 2021 and October 4, 2021.

IDNR, 2021. IDNR Natural Heritage Website. Endangered and Threatened Fish. https://www2.illinois.gov/dnr/conservation/NaturalHeritage/pages/Fish.aspx. Accessed March of 2021.

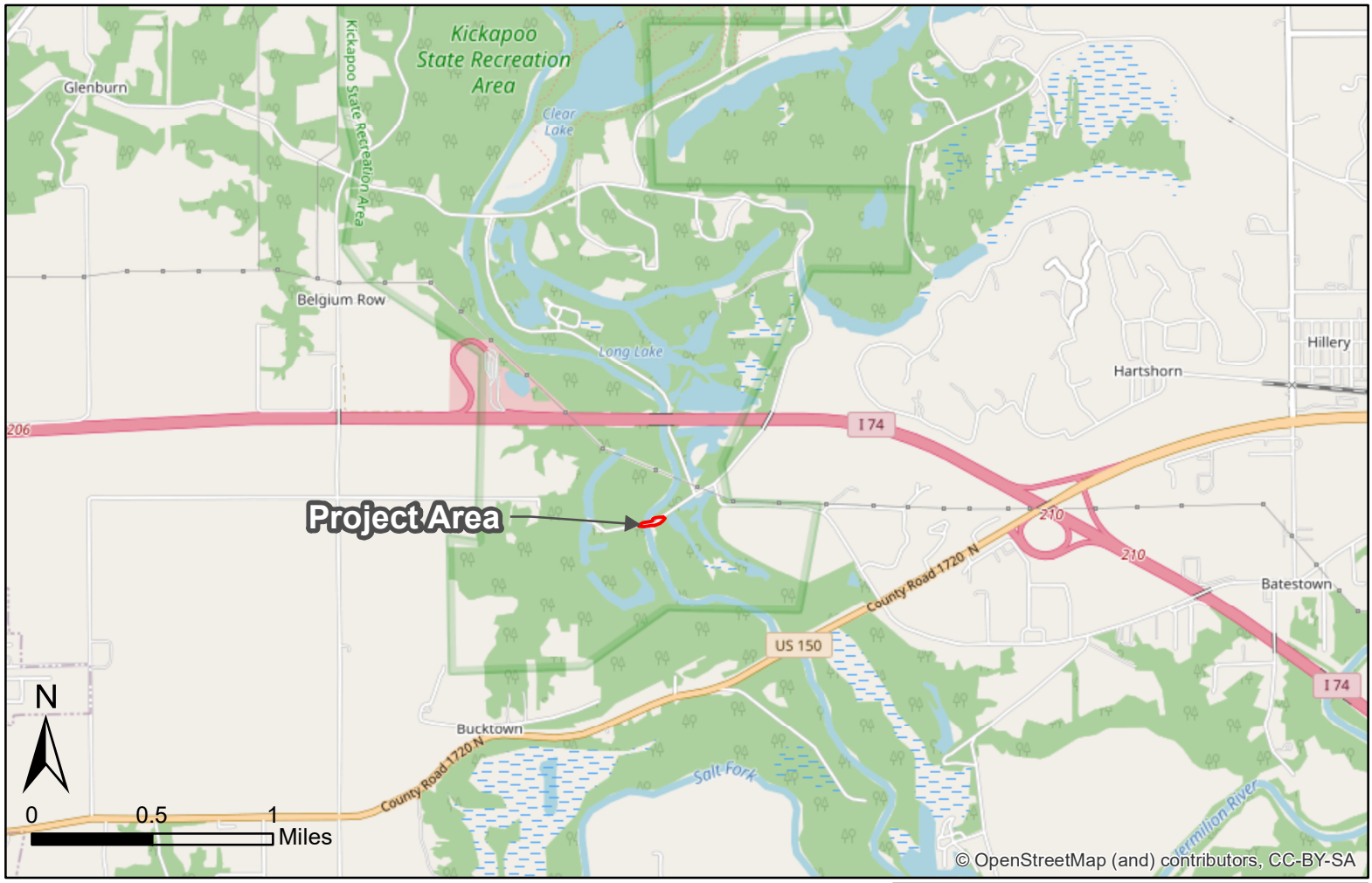
IDNR. 2009. FY 2007-2008 State Wildlife Grant Final Report, Status Survey and Management of the Harlequin Darter and the Eastern Sand Darter in Southeastern Illinois, Project No. T-37-P-1. https://www2.illinois.gov/dnr/conservation/IWAP/Pages/Status-Survey-of-the-Harlequin-Darter-and-Eastern-Sand-Darter.aspx

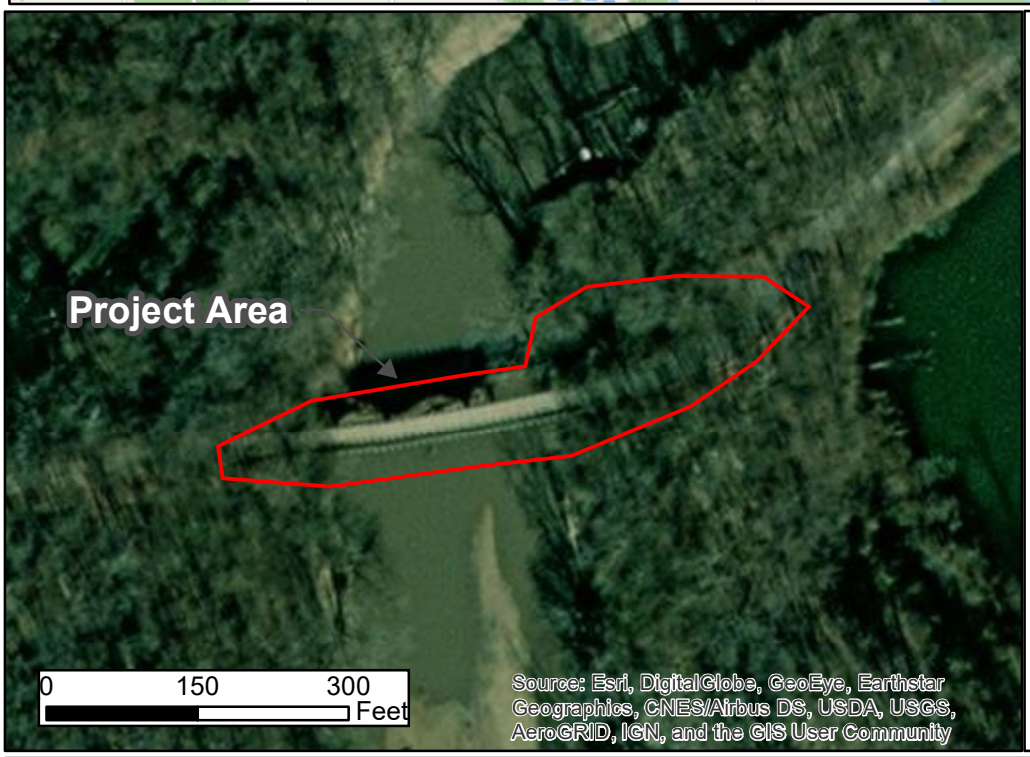
Jeremy S. Tiemann, Joshua L. Sherwood, Andrew J. Stites. Population Expansion of the State-threatened Eastern Sand Darter*, Ammocrypta pellucida* (Agassiz, 1863), within the Vermilion River Basin (Wabash River Drainage), Illinois. Transactions of the Illinois State Academy of Science (2020) Volume 113, pp. 1-4 Illinois Natural History Survey, Prairie Research Institute, University of Illinois. December 19, 2019.

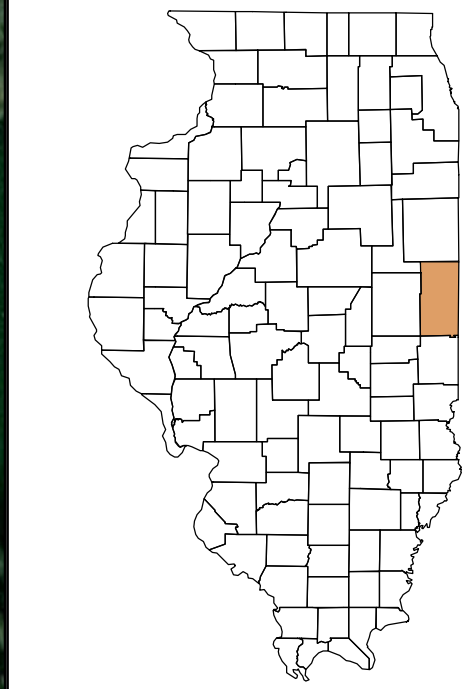
Jeremy S. Tiemann, Mike E. Retzer, and Bernadette L. Tiemann. Range Expansion of the State-Endangered Bigeye Chub *Hybopsis amblops* (Rafinesque) in Illinois. Transactions of the Illinois State Academy of Science, Volume 97, #3&4, pp. 255-257. Illinois Natural History Survey, Center for Biodiversity. January 16, 2005.

Lawrence M. Page and Michael E. Retzer, 2002. Center for Biodiversity, Illinois Natural History Survey, Champaign, Illinois. Transactions of the Illinois State Academy of Science, Volume 95, #4, pp. 311-326. June 19, 2002.

Exhibit A – Project Location Map







Site Location Map
Kickapoo State Park Pond 6 Bridge Removal
over Middle Fork Vermilion River
Vermilion County, Illinois

Kaskaskia Engineering Group, LLC

Exhibit B – Photo Log

Photo Log

Kickapoo State Park – Pond 6 Bridge Removal

Photos Taken 3/9/2021 except where noted

1. Northeast side of bridge. Cleared access road to Middle Fork Vermilion River.

2. Looking southwest from northeast side of Pond 6 bridge.

3. Looking west across Middle Fork Vermilion River from northeast side of Pond 6 bridge.

4. Tree with large crack (potential bat roosting habitat) on northeast side of bridge.

5. Large dead tree with cavities. Potential bat roosting habitat on northeast side of bridge.

6. Looking northeast from northeast side of Pond 6 bridge.

7. Gravel substrate on northeast side of bridge.

8. Facing south from northeast side of bridge.

Photo Log

Kickapoo State Park – Pond 6 Bridge Removal

Photos Taken 3/9/2021 except where noted

9. Facing southeast from north side of bridge.

10. Facing southwest from northeast side of bridge.

11. Facing southwest under bridge. Sandbar on south side of Pond 6 bridge, Middle Fork Vermilion River.

12. Looking west from east side of Pond 6 bridge.

13. Looking south from top of Pond 6 bridge.

14. Looking north from top of Pond 6 bridge.

15. Looking southeast from top of Pond 6 bridge.

16. Facing east from top of Pond 6 bridge.

17. River bank on southwest side of bridge.

18. River bank on northwest side of bridge.

19. River bank on northeast side of bridge.

20. River bank on southeast side of bridge.

Photo Log

Kickapoo State Park – Pond 6 Bridge Removal

Photos Taken 3/9/2021 except where noted

	
21. Pond just east of Middle Fork Vermilion River near bridge.	22. View of log jam from northeast side of bridge in April of 2021.

Exhibit C – Project Plans

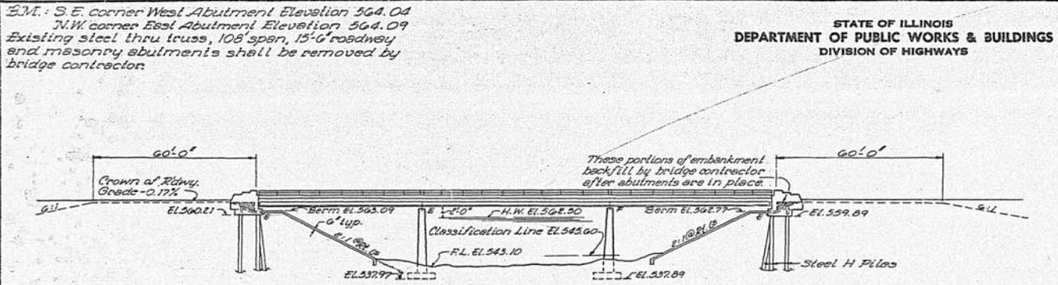
B.M.: S.E. corner West Abutment Elevation 564.04
N.W. corner East Abutment Elevation 564.09
Existing steel thru truss, 108' span, 15'-6" roadway and masonry abutments shall be removed by bridge contractor.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

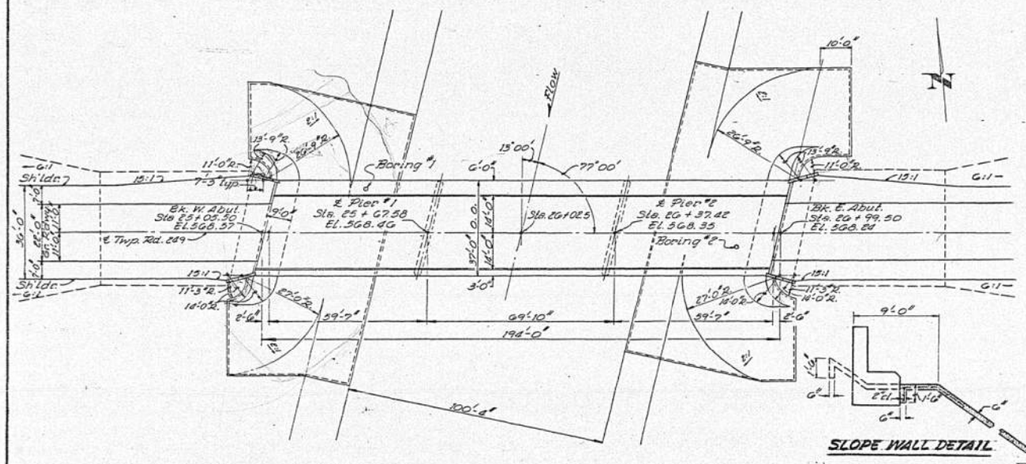
* SENATE BILL 275

SECTION NO.	LOCATION	COUNTY	TOTAL SHEETS	SHEET NO.
4	5 BR	VERMILION	19	4
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 1
9 SHEETS

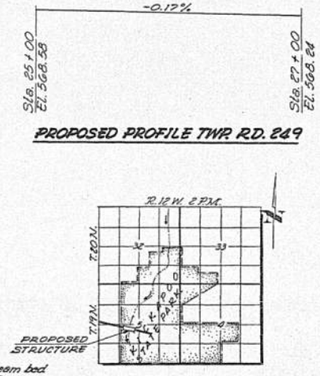


ELEVATION



PLAN

SLOPE WALL DETAIL



PROPOSED PROFILE TWP. RD. 249

LOCATION PLAN

WATERWAY INFORMATION

Drainage Area ..... 283,320 Acres.
Character ..... Level, Clay, Silty
Required Opening (25 yr.) ..... 2,289 Sq. Ft.
Present Opening ..... 1,858 Sq. Ft.
Proposed Opening ..... 2,363 Sq. Ft.
Ordinary Water Elevation 545.70
Low Water Elevation 544.90

DESIGN STRESSES

f_c = 1,400 psi ..... Super. & Sub.
v_c = 75 psi ..... Footings.
f_s = 20,000 psi ..... Reinforcement.
f_s = 20,000 psi ..... Struct. (A-36).
n = 10

LOADING HS20-44

GENERAL NOTES

Class X Concrete shall be used throughout except in piers.
Class A Concrete shall be used in piers.
Coarse aggregate to be used in parapet handrails and end posts must be absolutely free of chert, flint, limonite, lignite and soft sandstone.
The concrete floor shall be finished in accordance with Article 51.19 of the Standard Specifications.
Slope wall shall be reinforced with welded wire fabric 6"x 6" mesh, weighing 58# per 100 sq. ft.
All reinforcement bars shall be lapped 20 diameters unless otherwise shown.
Rivets ¾"ø; Open holes 13/16" unless otherwise noted.
Anchor bolts shall be set before riveting diaphragms over supports.
The exposed surfaces of expansion guard (4"x 4"x 5/16") shall be given two shop coats of red lead paint. The contact surfaces shall be given one coat of red lead paint and anchor studs shall not be painted.
Expansion guards are included in quantity of structural steel. Estimated weight = 800 lbs.
Except as otherwise provided, all structural steel shall receive one shop coat of red lead paint and two field coats of aluminum paint. See Article 56.1 to 56.9 inclusive of the Standard Specifications.
The Contractor shall drive one steel test pile in a permanent location at the west abutment as directed by the Engineer before ordering the remainder of piles.
Permanent forms will not be permitted in forming the concrete floor.
Layout of slope walls may be varied to suit ground conditions in the field as directed by the Engineer.

STATION 26 + 02.5
BUILT 196 BY
STATE OF ILLINOIS
T.R. 249 SEC. 5 BR.
SENATE BILL 275
LOADING HS20

NAME PLATE
See Standard 2113-1

* Excavation for Slope Wall is included in Class A and Class B Excavation For Structures.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER.	SUB.	TOTAL
Removal of Exist. Structures	Each			1
* Class A Excav. for Structures	Cu.yds.		325	325
* Class B Excav. for Structures	Cu.yds.		209	209
Class A Concrete	Cu.yds.		217.0	217.0
Class X Concrete	Cu.yds.	214.2	81.0	295.2
Reinforcement Bars	Lbs.	46,460	12,380	58,840
Structural Steel	Lbs.	101,350		101,350
Alum. Handrail	Lin.ft.	382		382
Steel Piles (8 BP 36)	Lin.ft.		425	425
Test Piles Steel (8 BP 36)	Each		1	1
Name Plates	Each		1	1
Slope Wall	Sq.yds.		1,147	1,147
Protective Coat	Sq.yds.	906		906
Rock Excav. for Stuctures	Cu.yd.		15	15
Bridge Seat Sealant	L.S.		1	1

GENERAL PLAN & ELEVATION
SENATE BILL 275
TWP. RD. 249 SEC. 5 BR
VERMILION COUNTY
STATION 26+02.5

DESIGNED	V.B. CROSBY
CHECKED	O.W. Hayden
	V.B.C.
DRAWN	J. Mullenix
CHECKED	G.W.

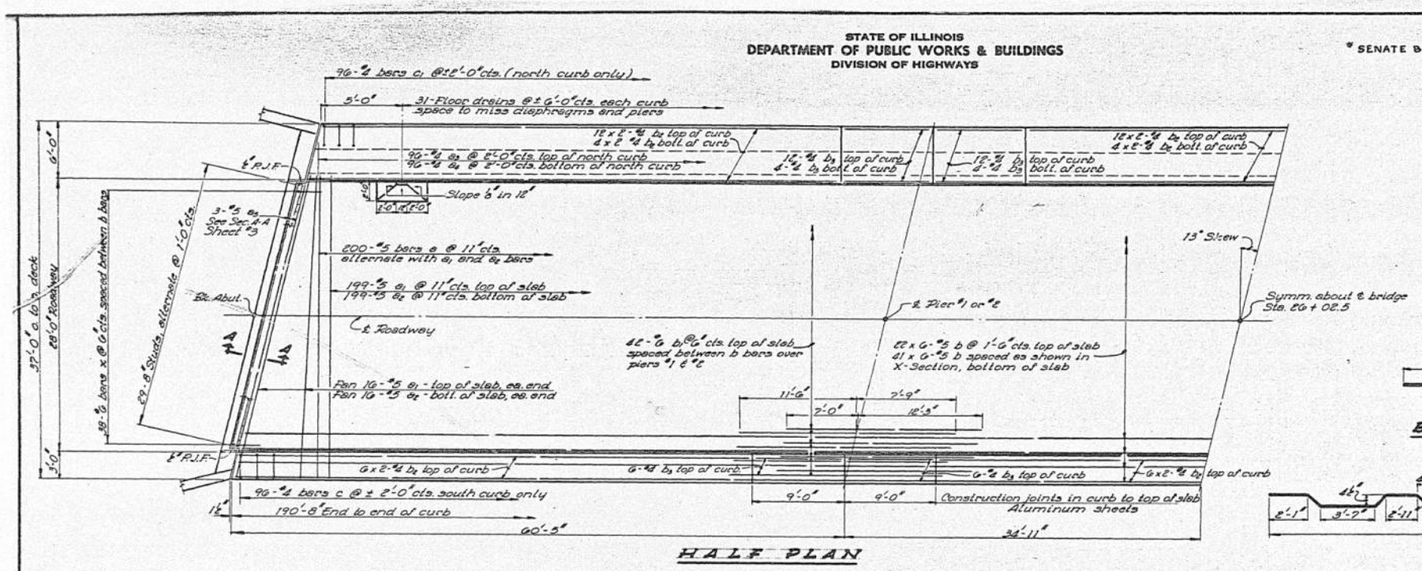
JULY 23 1946
EXAMINED W. E. Bennett, DIVISION OF BRIDGES AND TRAFFIC STRUCTURES
PASSED
APPROVED

FOR INFORMATIONAL USE ONLY

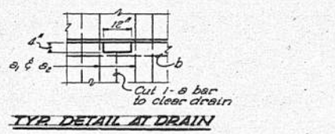
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

* SENATE BILL 275

					SHEET NO. 2
9	SBR	VERMILION	19	5	9 SHEETS

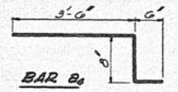


HALF PLAN

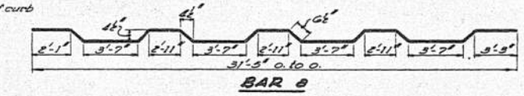


TYP. DETAIL AT DRAIN

BAR a3

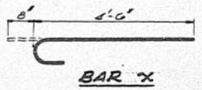


BAR a4

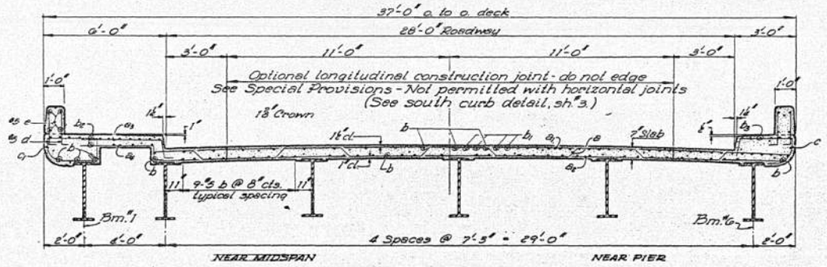


BAR a

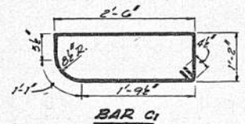
BAR d



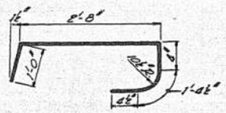
BAR x



CROSS SECTION



BAR c1



BAR c

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	200	#5	32'-9"	
a1	231	#5	31'-5"	
a2	231	#5	31'-5"	
a3	90	#4	5'-6"	
a4	90	#4	4'-8"	
a5	6	#5	28'-3"	
b	378	#5	32'-8"	
b1	84	#6	19'-5"	
b2	132	#4	20'-4"	
b3	88	#4	8'-9"	
c	90	#4	3'-9"	
c1	90	#4	7'-9"	
x	70	#6	5'-2"	
Reinforcement Bars			Lbs.	46,480
* Structural Steel			Lbs.	20,330
Class X Concrete			Cu. yds.	213.2

*Weight of bearing assemblies with lead plates and anchor bolts are included as structural steel. Estimated wt. = 0.960.

SUPERSTRUCTURE 1
TWP. RD. 249 SEC. 3 BR
VERMILION COUNTY
STATION 26 + 02.5

Note: Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
Min. bar laps = 20 diameters.

DESIGNED	V.B. DZOAN	JULY 23 1964
CHECKED	G.H. Hogan V.B.D.	EXAMINED
DRAWN	J.Mullenix	PASSED
CHECKED	P.H.H.	APPROVED

FOR INFORMATIONAL USE ONLY

Farnsworth GROUP
2709 McGRAW DRIVE
BLOOMINGTON, ILLINOIS 61704
(309) 663-8435 / Info@f-w.com

	DESIGNED - PMG	REVISED	
	CHECKED - DAH	REVISED	
	DRAWN - DJM	REVISED	
DATE - 10/02/2020	CHECKED - JML	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 092-9903
SHEET NO. 15 OF 21 SHEETS

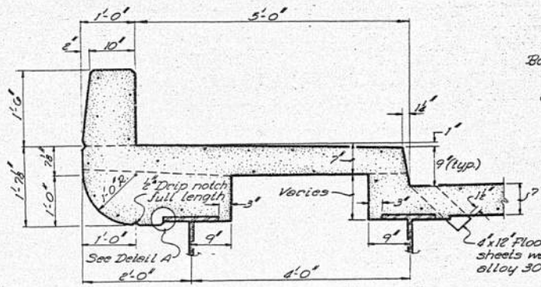
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1507	KICKAPOO STRUCTURES 2021	VERMILION	36	26
		CONTRACT NO. 46923		
	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

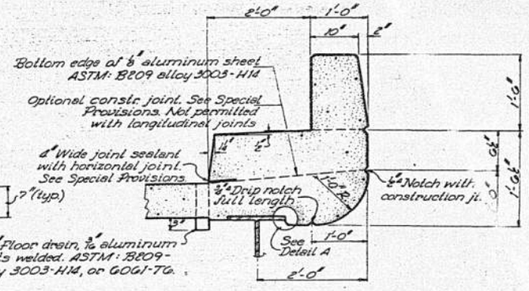
* SENATE BILL 275

			VERMILION	19	6

SHEET NO. 3
9 SHEETS

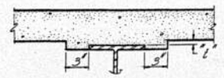


NORTH CURB DETAIL



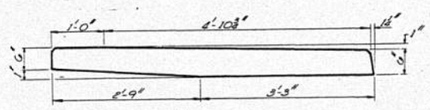
SOUTH CURB DETAIL

Note: Cost of aluminum drains and sheets shall be incidental to Class X Concrete.



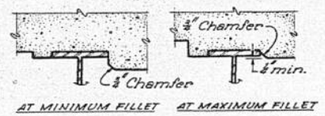
STANDARD FILLET DETAIL

Fillet height equals difference between bottom of slab and top of beam plus dead load deflection shown on this sheet.



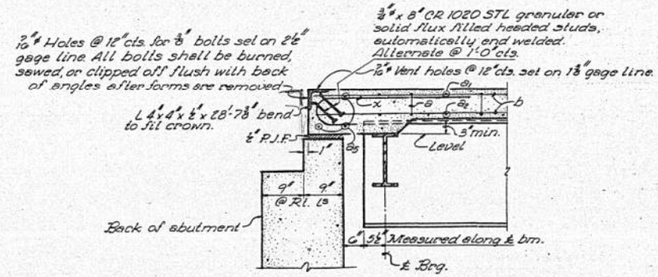
DETAIL OF ⅜" ALUMINUM SHEETS

North curb joints only ~ ASTM: B209 alloy 3003-H14

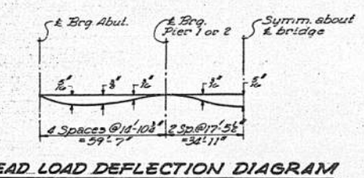


AT MINIMUM FILLET AT MAXIMUM FILLET

DETAIL A



SECTION A-A



DEAD LOAD DEFLECTION DIAGRAM
(Includes weight of conc. only)

DESIGNED	V.B. CARTER	
CHECKED	G.H. Hughes V.B.C.	
DRAWN	J. Mullenix	
CHECKED	G.H.H.	

JULY 23 1964

EXAMINED	H.G.B.
PASSED	
APPROVED	

SUPERSTRUCTURE 2
TWP. RD. 249 SEC. 5 BR
VERMILION COUNTY
STATION 26+025

FOR INFORMATIONAL USE ONLY

Farnsworth GROUP
2709 McGRAW DRIVE
BLOOMINGTON, ILLINOIS 61704
(309) 663-8435 / Info@f-w.com

	DESIGNED - PMG	REVISED
	CHECKED - DAH	REVISED
	DRAWN - DJM	REVISED
DATE - 10/02/2020	CHECKED - JML	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 092-9903
SHEET NO. 16 OF 21 SHEETS

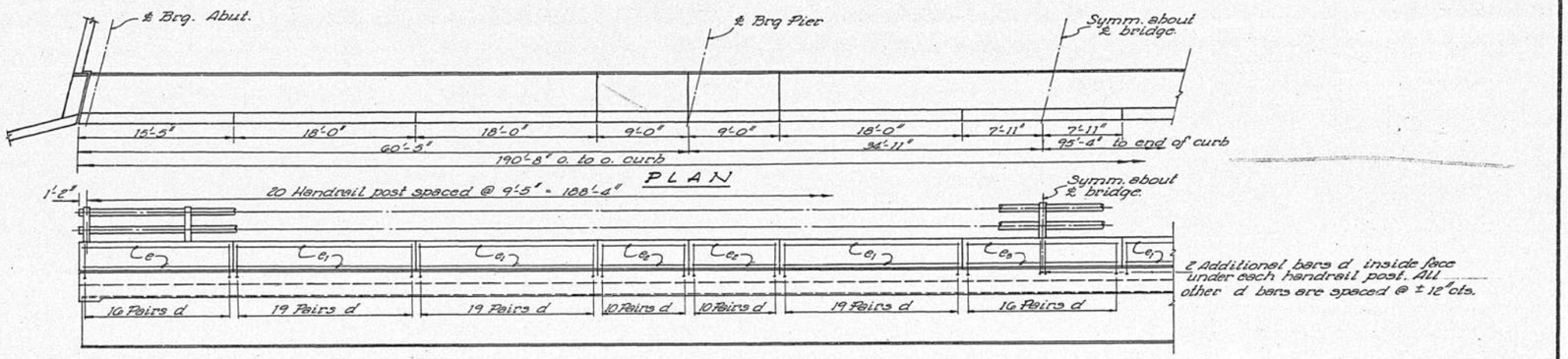
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1507	KICKAPOO STRUCTURES 2021	VERMILION	36	27
		CONTRACT NO. 46923		
	ILLINOIS	FED. AID PROJECT		

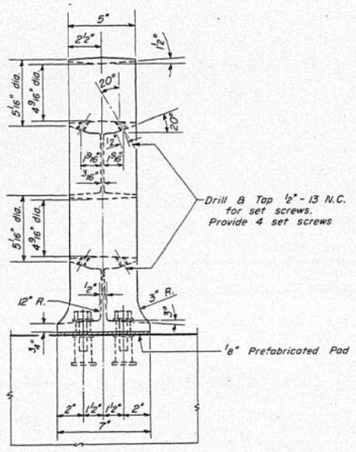
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

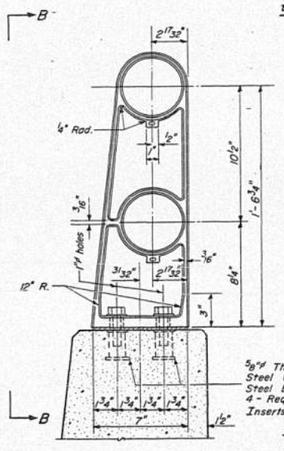
℄ SENATE BILL 275

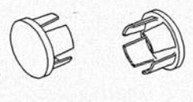
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
150	5BR	VERMILION	19	7

SHEET NO. 4
9 SHEETS







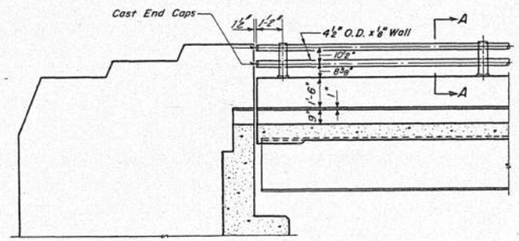


CAST END CAP
DRIVE FIT TYPE
8 - Required
Incidental to item "Aluminum Handrail"

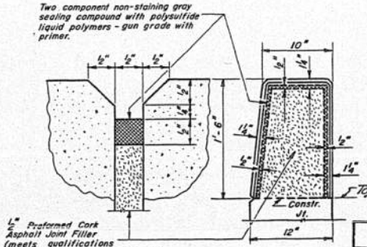
⅝"ø Threaded Inserts. Provide 1 - Stainless Steel Washer and 1 - ⅝"ø x 2½" Stainless Steel Bolt with each Insert
4 - Required each post
Inserts shall be cast in place.

RAIL POST DETAILS

NOTES
Aluminum handrail will be paid for at the contract unit price per lineal foot for ALUMINUM HANDRAIL, measured as specified, which price shall be payment in full for all materials, fabrication, transportation and erection.
All Posts shall be placed normal to parapet.
All Posts shall be of Aluminum conforming to ASTM Specification B-108 alloy 58-T8-T6.
All Rail Tubing shall be of Aluminum conforming to ASTM Specification B-235 alloy 6061-T6, or 6062-T6.
Aluminum handrail shall be measured in lineal feet. The length paid for shall be the overall length along the top longitudinal railing member through all post and gaps. Rail Tubing may extend a maximum of 3 panel lengths.
For material composition of Prefabricated Pad, See Art. 54.9(f), (Bearings and Anchorage), of the Std. Specs.
Set Screws shall be of Aluminum conforming to ASTM Specification B-211 alloy 2024-T4.

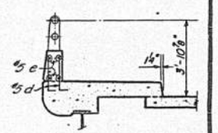


ELEVATION - END POST



½" Preformed Cork Asphalt Joint Filler (meets qualifications for ASTM Designation D 1751), Cost Incidental

PARAPET JOINT DETAIL



SEC. THRU N.CURB

BILL OF MATERIAL

Item	Unit	Quantity
Aluminum Handrail	Lin. Ft.	352

BAR LIST

Bar	No.	Size	Length	Shape
d	892	#5	8'-9"	
e	10	#5	15'-1"	
c_1	68	#5	17'-9"	
c_2	92	#5	8'-9"	
c_3	8	#5	15'-7"	

Note: Concrete & reinforcement bars of parapet walls are included in superstructure quantities, see sheet 6.

ALUMINUM HANDRAIL
TWP. RD. 249 SEC. 5BR
VERMILION COUNTY
STATION 26 + 02.5

DESIGNED	V.B. DZUGAN	EXAMINED	JULY 23 1964
CHECKED	P.H. Hagenow	PASSED	
P.G.B. DRAWN	J.E.O. J.C.M. W.A. Sausaman	APPROVED	
CHECKED	P.H.H		

R-11 Drawn 2-17-60 Rev. 11-2-62 Rev. 7-17-63

FOR INFORMATIONAL USE ONLY

Farnsworth GROUP
2709 McGRAW DRIVE
BLOOMINGTON, ILLINOIS 61704
(309) 663-8435 / Info@f-w.com

	DESIGNED - PMG	REVISED
	CHECKED - DAH	REVISED
	DRAWN - DJM	REVISED
DATE - 10/02/2020	CHECKED - JML	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 092-9903
SHEET NO. 17 OF 21 SHEETS

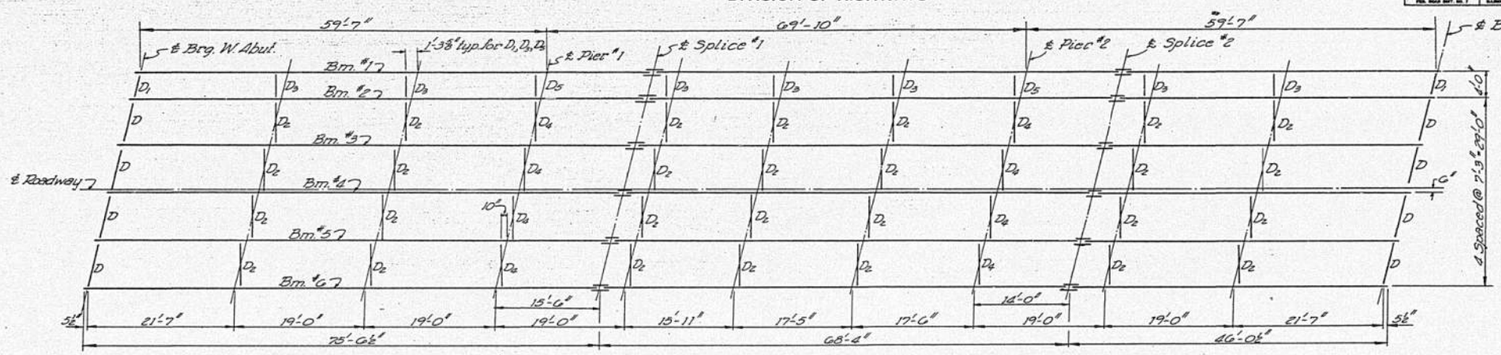
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1507	KICKAPOO STRUCTURES 2021	VERMILION	36	28
		CONTRACT NO. 46923		
	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

* SENATE BILL 276

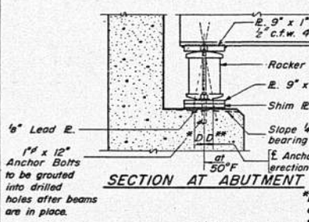
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	5BR	VERMILION	19	8
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 5
9 SHEETS

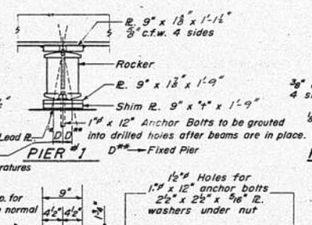


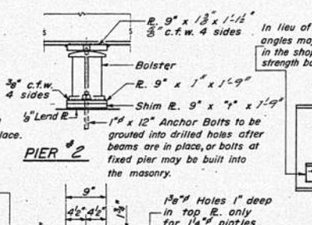
STRUCTURAL STEEL LAYOUT

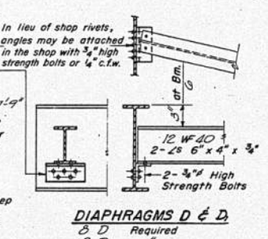
All beams are 36 WF 150



SECTION AT ABUTMENT

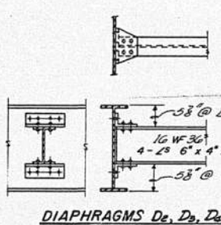






DIAPHRAGMS D & D1

8	D	Required
2	D1	"



DIAPHRAGMS D2, D3, D4, D5

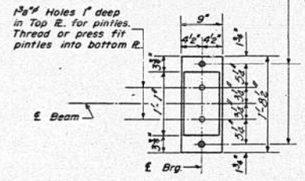
28	D2	Required
7	D3	"
8	D4	"
2	D5	"

"℄" DIMENSIONS

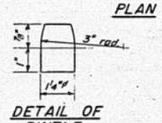
	Bm. #1	Bm. #2	Bm. #3	Bm. #4	Bm. #5	Bm. #6
All Supports	6"	6"	1"	3"	0"	0"

ELEVATION TOP OF WF

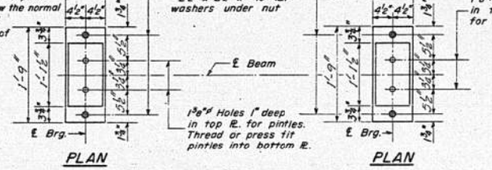
	Bm. #1	Bm. #2	Bm. #3	Bm. #4	Bm. #5	Bm. #6
℄ Brg. W. Abut.	567.03	567.84	567.79	568.00	567.95	567.83
℄ Pier #1	567.68	567.68	567.80	567.84	567.79	567.67
℄ Splice #1	567.64	567.64	567.78	567.80	567.75	567.63
℄ Pier #2	567.55	567.55	567.67	567.71	567.66	567.54
℄ Splice #2	567.53	567.53	567.65	567.69	567.64	567.52
℄ Brg. E. Abut.	567.52	567.52	567.64	567.68	567.63	567.51



PLAN

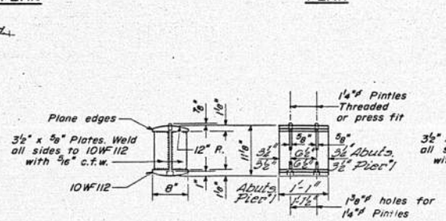


DETAIL OF PINTLE

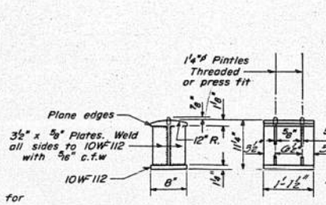


PLAN

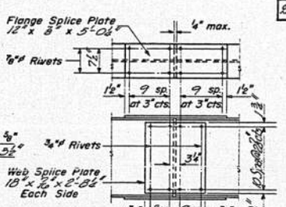
PLAN



DETAIL OF ROCKER AT ABUTS. & PIER #1



DETAIL OF BOLSTER AT PIER # 2



DETAIL OF SPLICE

STRUCTURAL STEEL

TWP. RD. 249 SEC. 5BR
VERMILION COUNTY
STATION 26+02.5

DESIGNED	V.B. DOTTER
CHECKED	P.H. Hughes
H.G. Barnett	V.B.D. J.C.M.
DRAWN	W.A. Sausaman Jr.
CHECKED	P.H.H.

JULY 23 1964
EXAMINED H.G. Barnett
PASSED Ellwood
APPROVED U.E. Althoff

I-2 7-2-62 Rev. 11-9-62 Rev. 8-16-63 Rev. 12-10-63

FOR INFORMATIONAL USE ONLY

Farnsworth GROUP
2709 McGRAW DRIVE
BLOOMINGTON, ILLINOIS 61704
(309) 663-8435 / Info@f-w.com

	DESIGNED - PMG	REVISED
	CHECKED - DAH	REVISED
	DRAWN - DJM	REVISED
DATE - 10/02/2020	CHECKED - JML	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 092-9903
SHEET NO. 18 OF 21 SHEETS

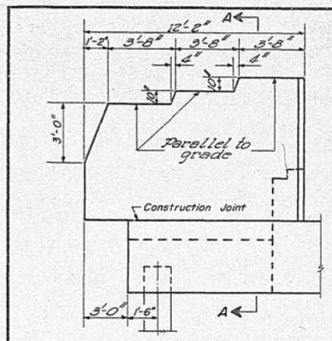
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1507	KICKAPOO STRUCTURES 2021	VERMILION	36	29
		CONTRACT NO. 46923		
	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

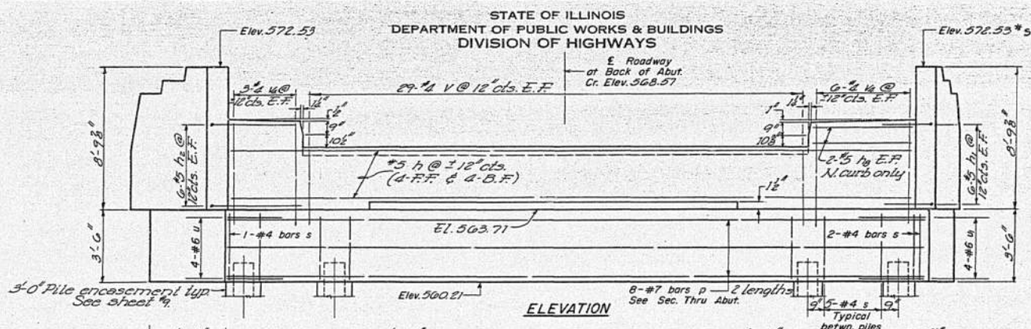
SENATE BILL 275

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#	5BR	VERMILION	19	9

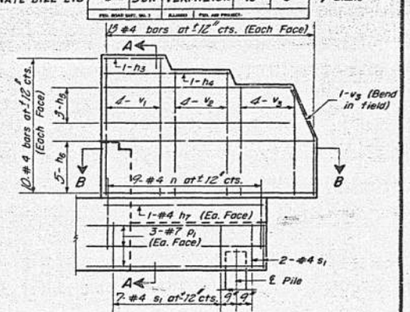
SHEET NO. 6
9 SHEETS



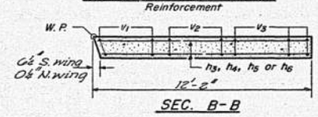
WING WALL ELEVATION
Dimensions



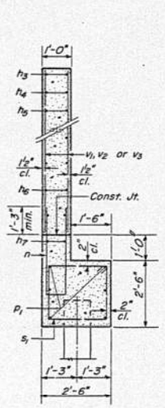
ELEVATION



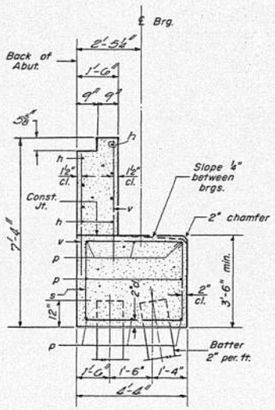
WING WALL ELEVATION
Reinforcement



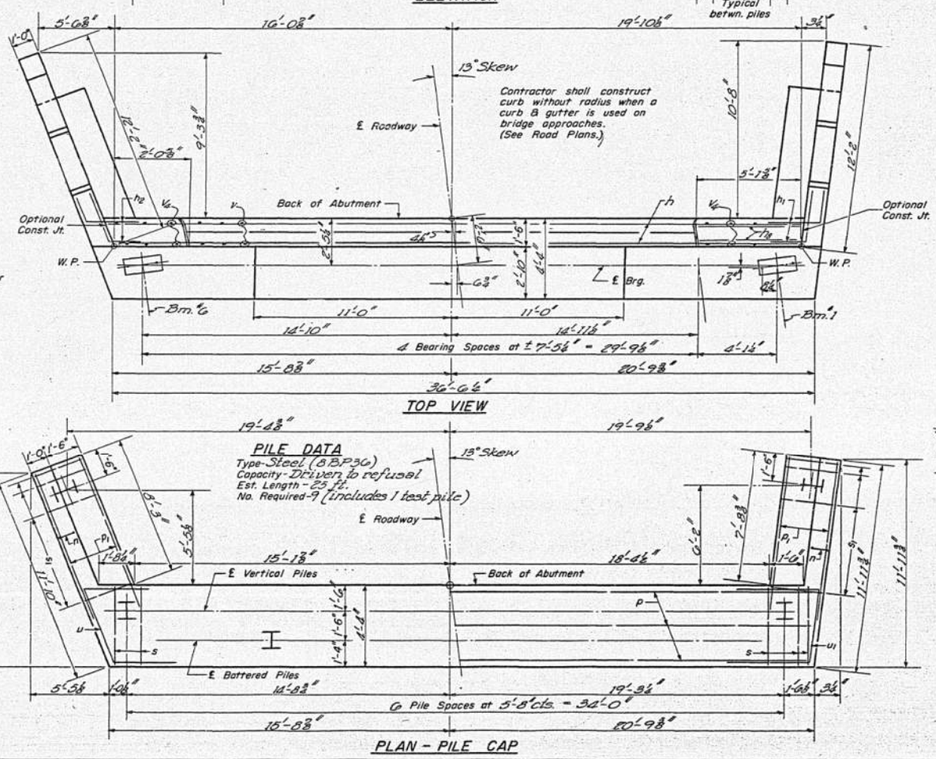
SEC. B-B

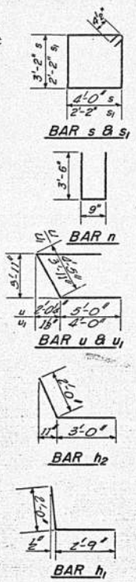


SEC. A-A



SEC. THRU ABUT.





WEST ABUTMENT
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	6	#5	35'-8"	—
h1	12	#5	4'-9"	L
h2	12	#5	5'-0"	L
h3	4	#4	3'-0"	—
h4	4	#4	6'-8"	—
h5	12	#4	10'-2"	—
h6	20	#4	11'-6"	—
h7	4	#4	8'-9"	—
h8	4	#5	6'-9"	—
n	18	#4	7'-9"	U
p	10	#7	20'-0"	—
p1	12	#7	9'-9"	—
s	33	#4	15'-1"	□
s1	18	#4	9'-5"	□
u	4	#6	12'-5"	⊏
u1	4	#6	11'-11"	⊏
v	58	#4	6'-9"	—
v1	10	#4	8'-8"	—
v2	10	#4	7'-10"	—
v3	20	#4	7'-0"	—
v4	18	#4	6'-6"	—
Class X Concrete			Cu. Yds.	40.5
Reinforcement Bars			Lbs.	2,850
Steel Piles (BBP36)			Lin. Ft.	200
Test Piles Steel (BBP36)			Ea.	1

WEST ABUTMENT
TWP. RD. 249 SEC. 5BR
VERMILION COUNTY
STATION 26+02.5

DESIGNED	V.B. OZBEK	
CHECKED	P.W. Hagen	V.B.O.
DRAWN	W. A. Sousoman Jr.	
CHECKED	P.W.H.	

JULY 23 1964

EXAMINED W.E. Bamesmann
PASSED
APPROVED U.E. Reed

A-8-L (1°-14°) 7-18-62 Rev. 11-27-62

FOR INFORMATIONAL USE ONLY

Farnsworth GROUP
2709 McGRAW DRIVE
BLOOMINGTON, ILLINOIS 61704
(309) 663-8435 / Info@f-w.com

	DESIGNED - PMG	REVISED	
	CHECKED - DAH	REVISED	
	DRAWN - DJM	REVISED	
DATE - 10/02/2020	CHECKED - JML	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 092-9903
SHEET NO. 19 OF 21 SHEETS

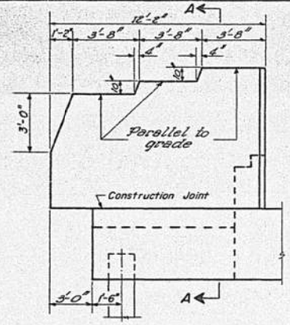
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1507	KICKAPOO STRUCTURES 2021	VERMILION	36	30
			CONTRACT NO. 46923	
		ILLINOIS	FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

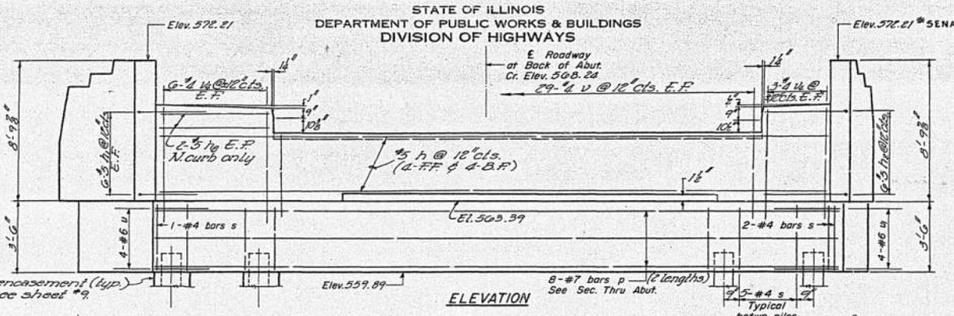
SENATE BILL 275

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	5BR	VERMILION	19	10
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

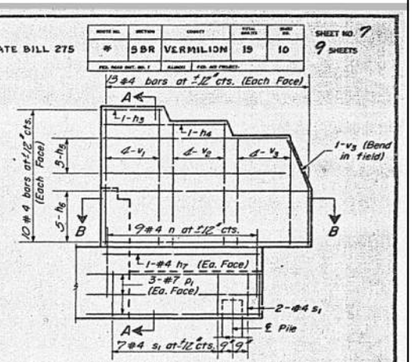
SHEET NO. 7
9 SHEETS



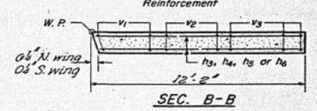
WING WALL ELEVATION
Dimensions



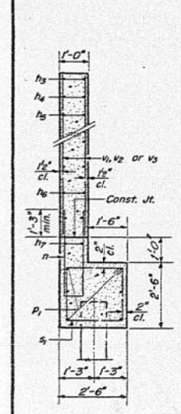
ELEVATION



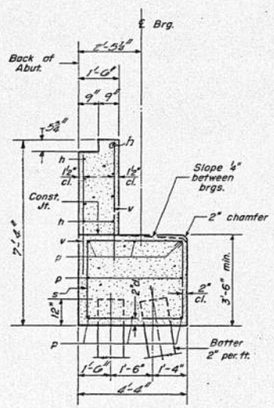
WING WALL ELEVATION
Reinforcement



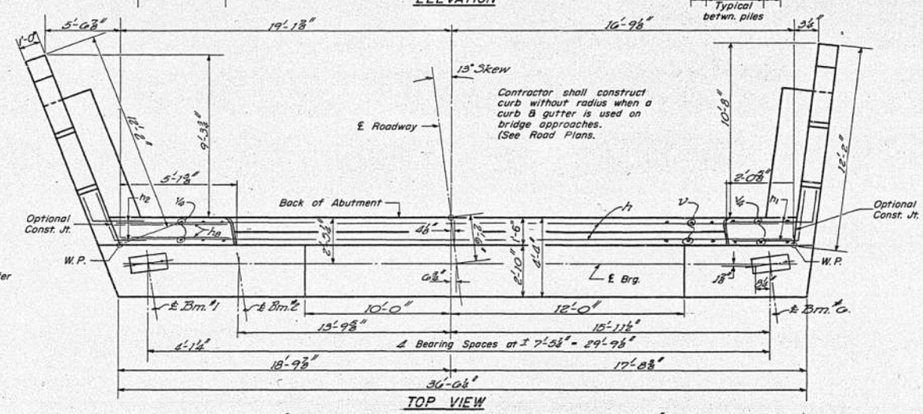
SEC. B-B



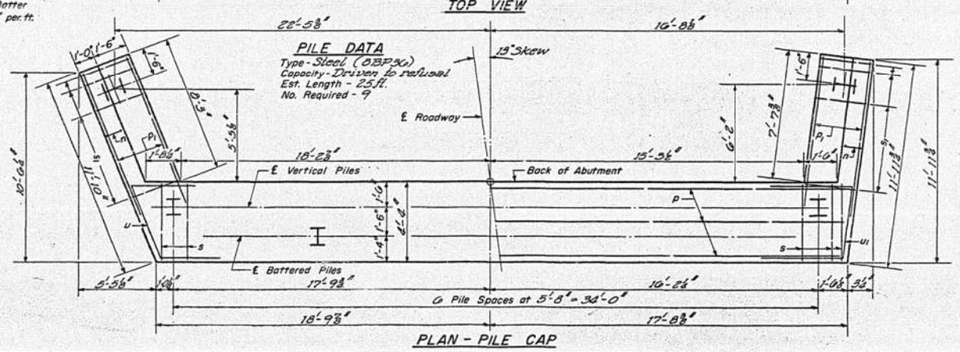
SEC. A-A



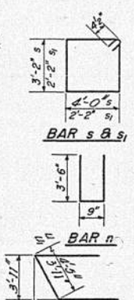
SEC. THRU ABUT.



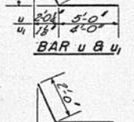
TOP VIEW



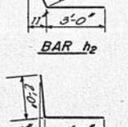
PLAN - PILE CAP



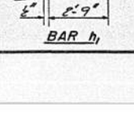
BAR s & s₁



BAR n



BAR u & u₁



BAR h₂

BAR h₁

EAST ABUTMENT
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	8	#5	35'-8"	—
h₁	12	#5	6'-9"	L
h₂	12	#5	5'-0"	—
h₃	4	#4	3'-0"	—
h₄	4	#4	6'-8"	—
h₅	12	#4	10'-6"	—
h₆	20	#4	11'-6"	—
h₇	4	#4	8'-9"	—
hₚ	4	#5	6'-9"	—
n	18	#4	7'-9"	U
p	76	#7	80'-0"	—
p₁	12	#7	9'-9"	—
s	33	#4	15'-1"	□
s₁	18	#4	9'-5"	□
u	4	#6	16'-5"	U
u₁	4	#6	11'-11"	U
v	38	#4	6'-9"	—
v₁	76	#4	8'-8"	—
v₂	76	#4	7'-10"	—
v₃	20	#4	7'-0"	—
v₄	18	#4	6'-6"	—
Class X Concrete			Cu. Yds.	20.3
Reinforcement Bars			Lbs.	2,850
Steel Piles (BP36)			Lin. Ft.	225

EAST ABUTMENT
TWP. RD. 219 SEC. 5BR
VERMILION COUNTY
STATION 26 + 02.5

DESIGNED	V.B. OZTAS
CHECKED	P.M. Hagaman V.B.O.
DRAWN	W. A. Sessoman Jr.
CHECKED	D.H.W.

JULY 23 1962

EXAMINED W. P. Bamesberger
PASSED E. B. Lamb
APPROVED U.E. Staff

A-8-L (1°-14°) 7-18-62 Rev. 11-27-62

FOR INFORMATIONAL USE ONLY

Farnsworth GROUP
2709 McGRAW DRIVE
BLOOMINGTON, ILLINOIS 61704
(309) 663-8435 / Info@f-w.com

	DESIGNED - PMG	REVISED
	CHECKED - DAH	REVISED
	DRAWN - DJM	REVISED
DATE - 10/02/2020	CHECKED - JML	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 092-9903
SHEET NO. 20 OF 21 SHEETS

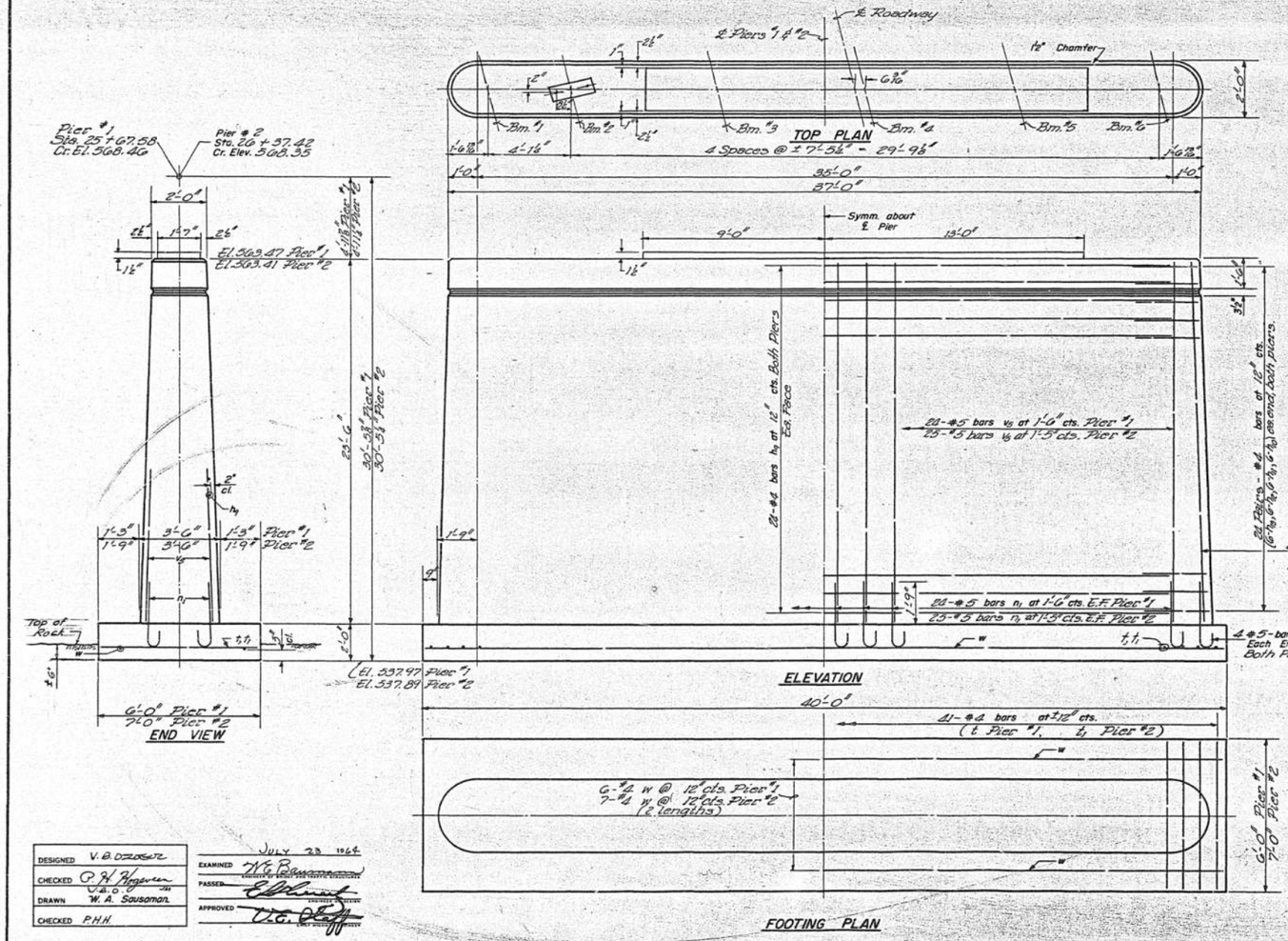
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1507	KICKAPOO STRUCTURES 2021	VERMILION	36	31
		CONTRACT NO. 46923		
	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

SENATE BILL 275

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	5BR	VERMILION	19	11
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 8
9 SHEETS



Bar	R	A
h_{10}	1½"	2'-0"
h_{11}	1-1½"	2'-3"
h_{12}	1-3½"	2'-6"
h_{13}	1-5½"	2'-10"

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_9	96	#4	35'-0"	—
h_{10}	48	#4	3'-0"	⌐
h_{11}	48	#4	3'-9"	⌐
h_{12}	48	#4	4'-0"	⌐
h_{13}	48	#4	4'-4"	⌐
n_1	114	#5	8'-0"	⊏
t	41	#4	5'-8"	—
t_1	41	#4	6'-8"	—
ν_2	114	#5	23'-3"	—
w	86	#4	80'-4"	—
Class A Concrete			Cu. Yds.	217
Reinforcement Bars			Lbs.	6680

DESIGNED	V. B. DZIOBER	
CHECKED	G. H. Ferguson, V.B.O. Jr.	
DRAWN	W. A. Sausaman	
CHECKED	P.H.H.	
EXAMINED	JULY 23 1964	
PASSED		
APPROVED		

P-1 Re-drawn 7-21-59 Rev. 11-25-59

PIERS #1 & #2
TWP. RD. 249 SEC. 5 BR
VERMILION COUNTY
STATION 26+02.5

FOR INFORMATIONAL USE ONLY

Farnsworth GROUP
2709 McGRAW DRIVE
BLOOMINGTON, ILLINOIS 61704
(309) 663-8435 / info@f-w.com

	DESIGNED - PMG	REVISED
	CHECKED - DAH	REVISED
	DRAWN - DJM	REVISED
DATE - 10/02/2020	CHECKED - JML	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 092-9903
SHEET NO. 21 OF 21 SHEETS

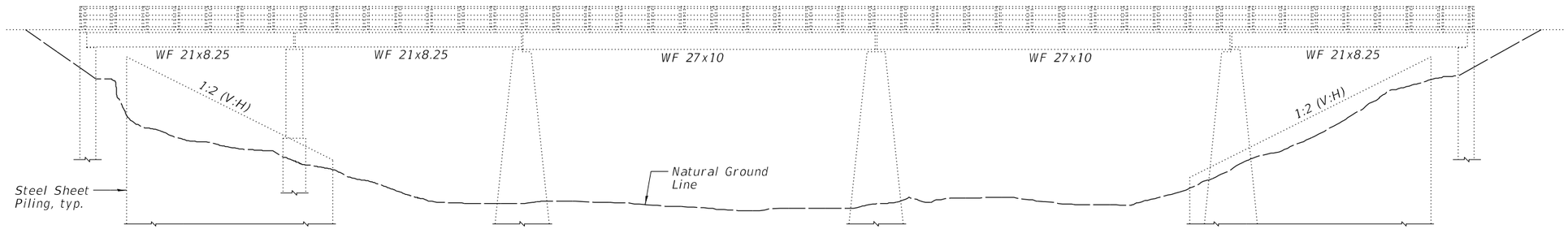
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1507	KICKAPOO STRUCTURES 2021	VERMILION	36	32
		CONTRACT NO. 46923		
	ILLINOIS	FED. AID PROJECT		

Existing Structure: Structure No. 092-9904 was built in 1900, there is no Section Number. In 1987 two sheet pile walls were installed at each end span with riprap to stabilize and restore the embankments. The superstructure consists of a five-span simple rolled steel beam bridge with a 6" thick timber deck. The substructure consists of concrete abutments and four piers. However, foundation details at the substructure units are not known. The back-to-back of abutments length measures 241'-8" and the out-to-out deck width measures 18'-0". The span lengths measure 36'-0", 39'-6", 61'-4", 61'-6", and 41'-0". The structure is not skewed.

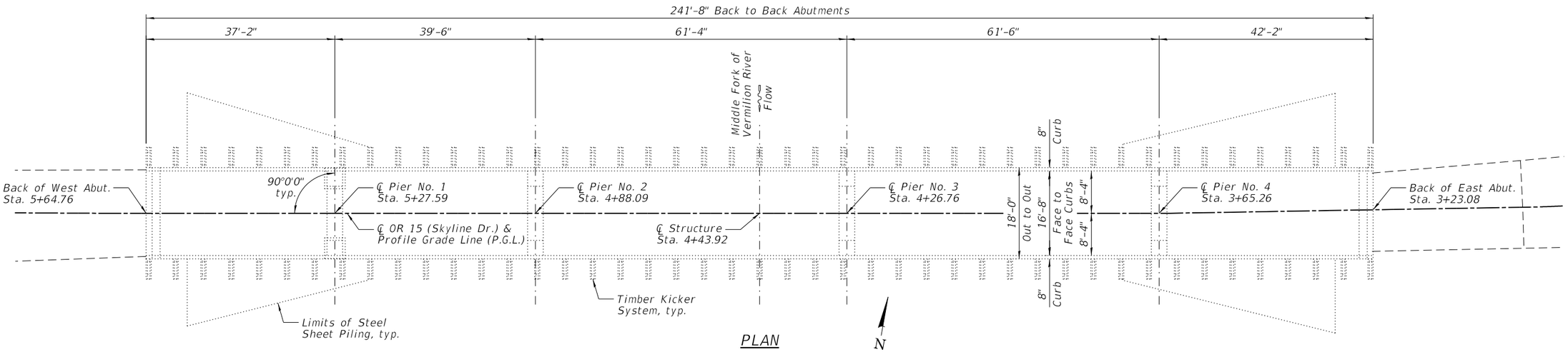
No Salvage.

SCOPE OF WORK

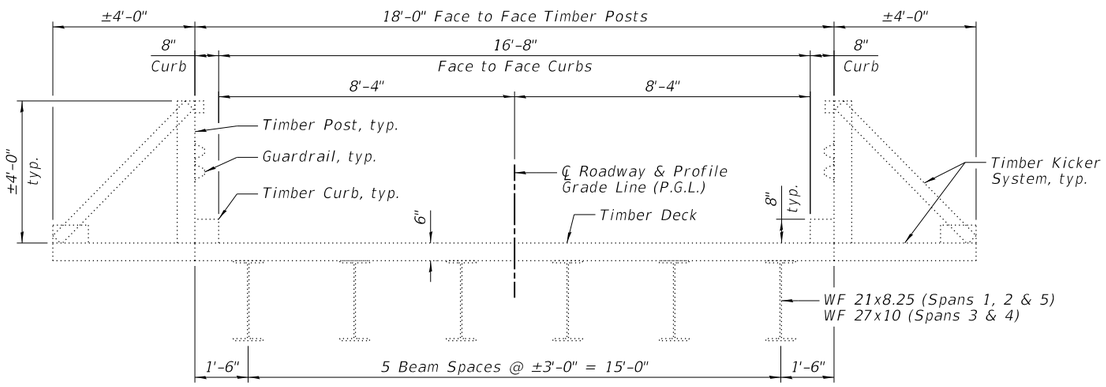
1.) Remove the existing bridge including substructure units and sheet pile walls to a minimum of 1'-0" below existing grade.



ELEVATION

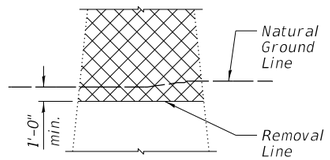


PLAN



CROSS SECTION

(Looking East)



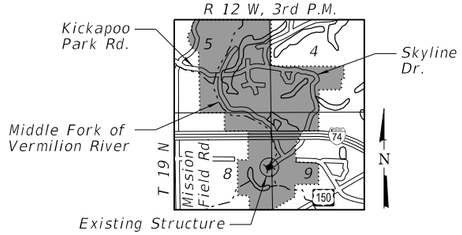
TYPICAL REMOVAL DETAIL

LEGEND

Removal of Existing Structures

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal of Existing Structures	Each	1



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
OR 15 (SKYLINE DRIVE) OVER
MIDDLE FORK OF
VERMILION RIVER
SECTION KICKAPOO STRUCTURES 2021
VERMILION COUNTY
STATION 4+43.92
STRUCTURE NO. 092-9904

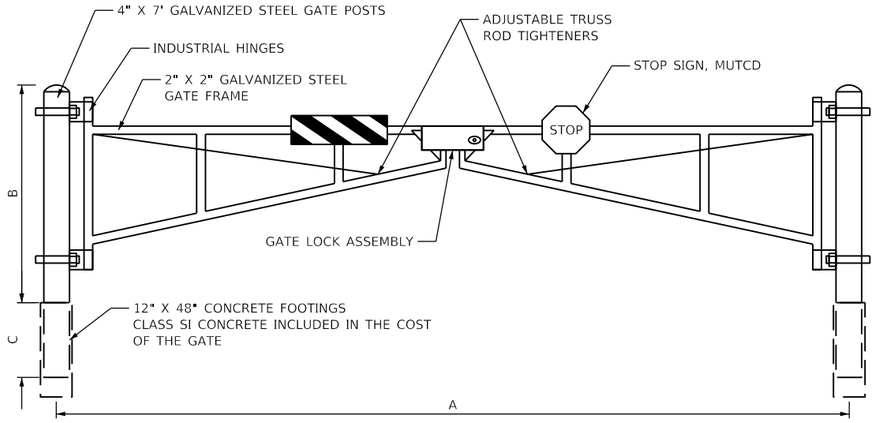
Farnsworth GROUP
2709 McGRAW DRIVE
BLOOMINGTON, ILLINOIS 61704
(309) 663-8435 / Info@f-w.com

	DESIGNED - PMG	REVISED
	CHECKED - DAH	REVISED
	DRAWN - DJM	REVISED
DATE - 10/02/2020	CHECKED - JML	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 1 SHEETS

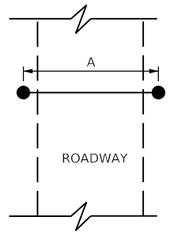
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N/A	KICKAPOO STRUCTURES 2021	VERMILION	36	33
		CONTRACT NO. 46923		
		ILLINOIS	FED. AID PROJECT	



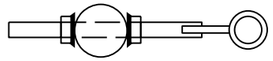
LOCATIONS	A	B	C
POND No. 6 ACESS ROAD	24	4	3

NOTES:

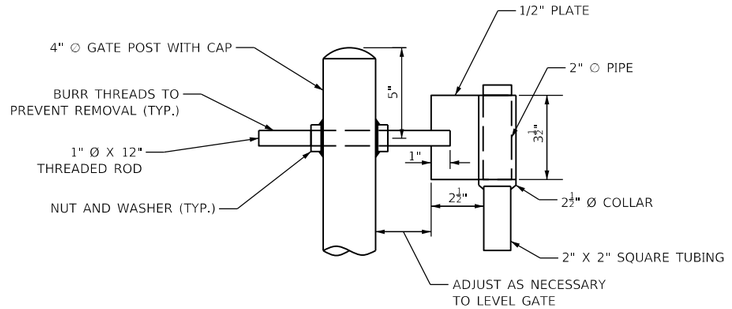
CONTRACTOR SHALL VERIFY DIMENSION "A" WITH ENGINEER PRIOR TO MANUFACTURING GATE.



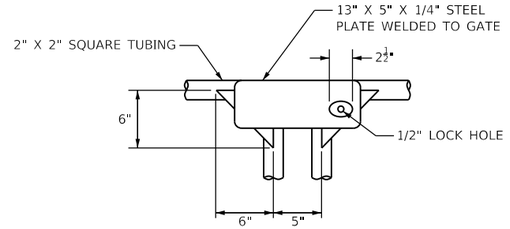
PLAN VIEW



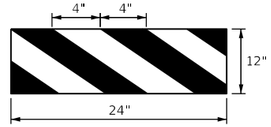
PLAN VIEW



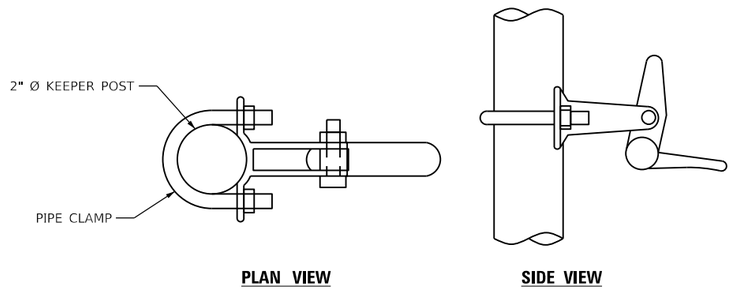
TOP GATE HINGE



GATE LOCK ASSEMBLY

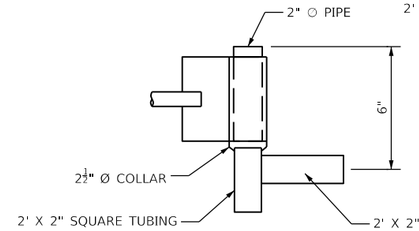


HORIZONTAL PANEL DETAIL
(YELLOW AND BLACK)

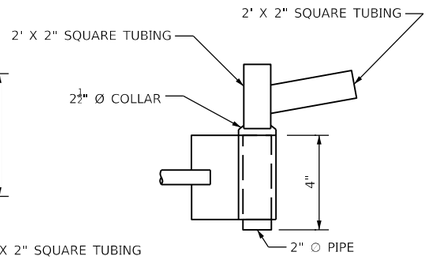


PLAN VIEW **SIDE VIEW**

AUTOMATIC GATE KEEPER



DETAIL AT TOP HINGE



DETAIL AT BOTTOM HINGE

GATE DETAILS

PEN TABLE: IDOTSS4_Standard Project Pen.tbl
PRINT DRIVER: IDOTSS4_RD_PDF_H_MONO.pltcfg
SHEET FILE: J:\2018\180177.18 - IDOT PTB 188-013 Kickapoo SP Structures\04_Drawings\DGN\CADD_Sheets\D546923-001 Details 01.dgn

Farnsworth GROUP
2211 BRADLEY AVENUE
CHAMPAIGN, ILLINOIS 61821
(217) 352-7408 / info@f-w.com

USER NAME = jgrimm	DESIGNED - JGG	REVISED	
	DRAWN - SRL	REVISED	
PLOT SCALE = 24.00 ' / ft.	CHECKED - GAC	REVISED	
PLOT DATE = 10/16/2020 9:22:44 AM	DATE - 10/09/2020	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GATE DETAILS
KICKAPOO STATE PARK

SCALE: NO SCALE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1507	KICKAPOO STRUCTURES 2021	VERMILION	36	34
		CONTRACT NO. 46923		
		ILLINOIS FED. AID PROJECT		

Exhibit D – Agency Coordination

CERP code: 2101398
(Provided by CERP staff.)

Illinois Department of Natural Resources

COMPREHENSIVE ENVIRONMENTAL REVIEW PROCESS

Regional (or previous) CERP code:		Project title:	Pond 6 bridge removal		
Site name:	Kickapoo	Proposed start date:	SFY 21		
Contact person:	Louis Yockey	Phone:	557-6724	County:	Vermilion
Township:	19N	Range:	12W	Section:	8

Project Description:

This project will demolish and remove six concrete piers and the steal vehicular bridge spanning the Middle Fork of the Vermilion river on Skyline Drive in Kickapoo State Park. The bridge has numerous structural issues and has been closed to vehicular traffic since 2012. The cost to repair the bridge exceeds the recreational benefits west of the river, and it is the department's desire to remove it from the Middle Fork National Scenic River since recurring log jams at the piers create unsafe conditions for paddlers.

The 241-foot-long structure (SN 092-9904) was originally built in the early 1900's as part of a railroad spur serving a coal strip mine. When the mining operation closed, and the substructure was left in place and the bridge was converted to vehicular use. The new superstructure was made of steel stringers placed on the existing supports and a wooden plank deck. (see attached June 2019 bridge condition report for bridge details)

The project is currently in design, but it is anticipated that a temporary causeway will be constructed in the river to allow access for heavy equipment to remove and disposed of the piers and structure. Approximately 350 lineal feet of road will be eliminated on the east side of the river. The project will include stabilizing the riverbank, and extensive landscaping of all disturbed areas including seeding and tree planting.

Is tree clearing required? Yes or No **yes** Number, size, species: **Numerous < 2" width w/ non exfoliating bark**

Is work area in a Federal Aid Project boundary? Yes or No **NO** Federal Aid type:

Funding source: IDNR Capital— Heavy Equipment— Force Account—

Other State, Local, or Private agency— **IDOT road program**

Federal Agency— Federal Program—

Approval by Site Superintendent (for all NON-CAPITAL projects, e.g., heavy equipment, force account, leases, r-o-w, etc.)

Signature, Site Superintendent: *Tim Edison* Date: 7/21/20

CERP Staff Only
REVIEWS PERFORMED

	Approved	Approved w/ Restrictions	Comments
Threatened & Endangered Species Natural Areas/Nature Preserves		x	See all restrictions on following page.
Wetlands		x	See all restirctions on following page.
Cultural Resources	x		
Other (contaminants, wildlife, federal nexus, etc.)	n/a		

Justin Dillard, CERP Program Manager
217–557-6723

6/7/2021
Date

T&E Species Restrictions for Pond 6 Bridge Removal, Kickapoo SP, 2101398

-Incidental Take Authorization for Bigeye Chub and Eastern Sand Darter will be necessary prior to this project commencing.

Impacts to state and federally listed mussels known in the watershed were determined to be unlikely based on a site assessment and report by the Division of Natural Heritage (Brian Metzke) dated April 16, 2021 (attached).

-In-stream best management practices are required to reduce the risk of downstream impacts to protected resources from this project.

-Including: Sediment and erosion control BMPs (plastic mesh erosion control blankets should be avoided due to wildlife entanglement risks), minimize instream work to the extent practical, and minimize fluvial geomorphology changes to the extent practical, such as using culverts within causeways, if causeways are necessary.

-See attached report: this project is not anticipated to directly impact listed mussels or quality mussel habitat.

-Any trees to be felled that are larger than 5" DBH with exfoliating bark or crevices shall only be felled between Nov 15 and March 31 to protect listed bats.

-Bat survey of the bridge deck is required prior to bridge removal.

-All impacted areas must be restored with viable native vegetation within one year of impact. This includes IDNR 1:1 caliper inch replacement policy for trees lost on IDNR property.

Site Reconnaissance and Mussel Resource Evaluation

for Pond 6 Bridge Removal, Kickapoo State Park, Illinois

April 16, 2021

Brian Metzke, Aquatic Ecologist

Illinois Department of Natural Resources, Division of Natural Heritage

Background

In 2018 the Illinois Department of Natural Resources (IDNR), Office of Reality and Environmental Planning, submitted a request for Comprehensive Environmental Review associated with a planned removal of a logjam which had accumulated at the Pond 6 bridge over the Middle Fork Vermilion River in Kickapoo State Park (Figure 1). Multiple resources of concern were identified during the review, including five state-listed and two federally-listed mussel species recorded near the project area. In July 2018 IDNR and the Illinois Natural History Survey conducted a mussel survey in the project area with the goal of creating a species inventory. Six live individuals from three non-listed species were collected during 8.75 person-hours of effort, and all individuals were found more than 200 meters downstream of the bridge. At that time of the survey the area near the bridge was described as a large scour pool with unconsolidated substrates and ill-suited for mussels. The logjam removal occurred in 2018.

In July 2020 IDNR requested a second Comprehensive Environmental Review for the planned removal of the Pond 6 bridge. That review recommended further information regarding local aquatic life assemblages to determine whether an Incidental Take Authorization (ITA) for state-listed fish and mussels was necessary. Given the truncated timeframe for project completion, consultants for the IDNR initiated a Conservation Plan in application for an ITA, but sought concurrence regarding which species should be included in the Plan. A discussion between IDNR, Kaskaskia Consulting, and U.S. Fish and Wildlife Service staff held on April 12, 2021 determined additional information was required to assess the likelihood of listed mussel presence in the project area given the 2018 logjam removal may have improved habitat and mussels may have colonized the area. IDNR staff visited the project area on April 15, 2021 with the goals of evaluating habitat characteristics and mussel resources.

Procedure and Observations

IDNR staff waded the project area to a distance of approximately 100 meters upstream and 50 meters downstream of the Pond 6 bridge. Depth was periodically measured and substrate was qualitatively assessed. Mussel searches were conducted using visual and tactile techniques.

Discharge was approximately 150 cubic feet per second, which is relatively low for the Middle Fork Vermilion River (25^{th} percentile discharge is 227 cubic feet per second). Water clarity was relatively high

and substrates were clearly visible to a depth of approximately 1.1 meters. Water temperature was approximately 14.5°C (58°F) during the visit. Width ranged from 20 to 40 meters and most of the search area was deeper than 0.75 meters.

An expansive logjam has reaccumulated at the bridge (Photograph 1, 2, 3). Deep scour pools with unconsolidated silt and sand extend approximately 20 meters upstream and downstream of the bridge (Figure 2). Silt and organic matter have accumulated around several of the bridge piers and these deposits were above the water elevation at the time of the site visit. This area was mostly more than 2 meters deep and wadeable.

The area near the west bank upstream of the bridge was heavily sedimented with silt to 0.5 meters deep in some areas (Figure 2). Near the east bank upstream of the bridge the substrate was loosely consolidated sand and coarse gravel. The middle of the channel upstream of the bridge was loosely consolidated sand. Approximately 75 meters upstream of the bridge the sand and coarse gravel substrate became firmer. Most of the habitat upstream of the bridge may be characterized as pool and run. Downstream of the bridge pool is an extensive riffle with coarse gravel substate (Figure 2; Photograph 4). Mean depth was approximately 0.3 meters.

Approximately 1 person-hour of effort was expended searching for mussels, most of which occurred in the upstream reach of the project area. No live or fresh-dead mussels were observed. Four species were recorded from weathered shells: Fluted Shell, Plain Pocketbook, Mucket, and an unknown species of Pigtoe. None of these species are state or federally-listed.

Conclusions

Deep scour pools and silt deposits near the bridge, and unconsolidated substrates upstream of the bridge, suggest the logjam is producing an actively shifting channel with mobile substrates. The area 50 meters upstream and 20 meters downstream is likely poor quality habitat for mussels. The absence of live mussels in this reach supports this conclusion.

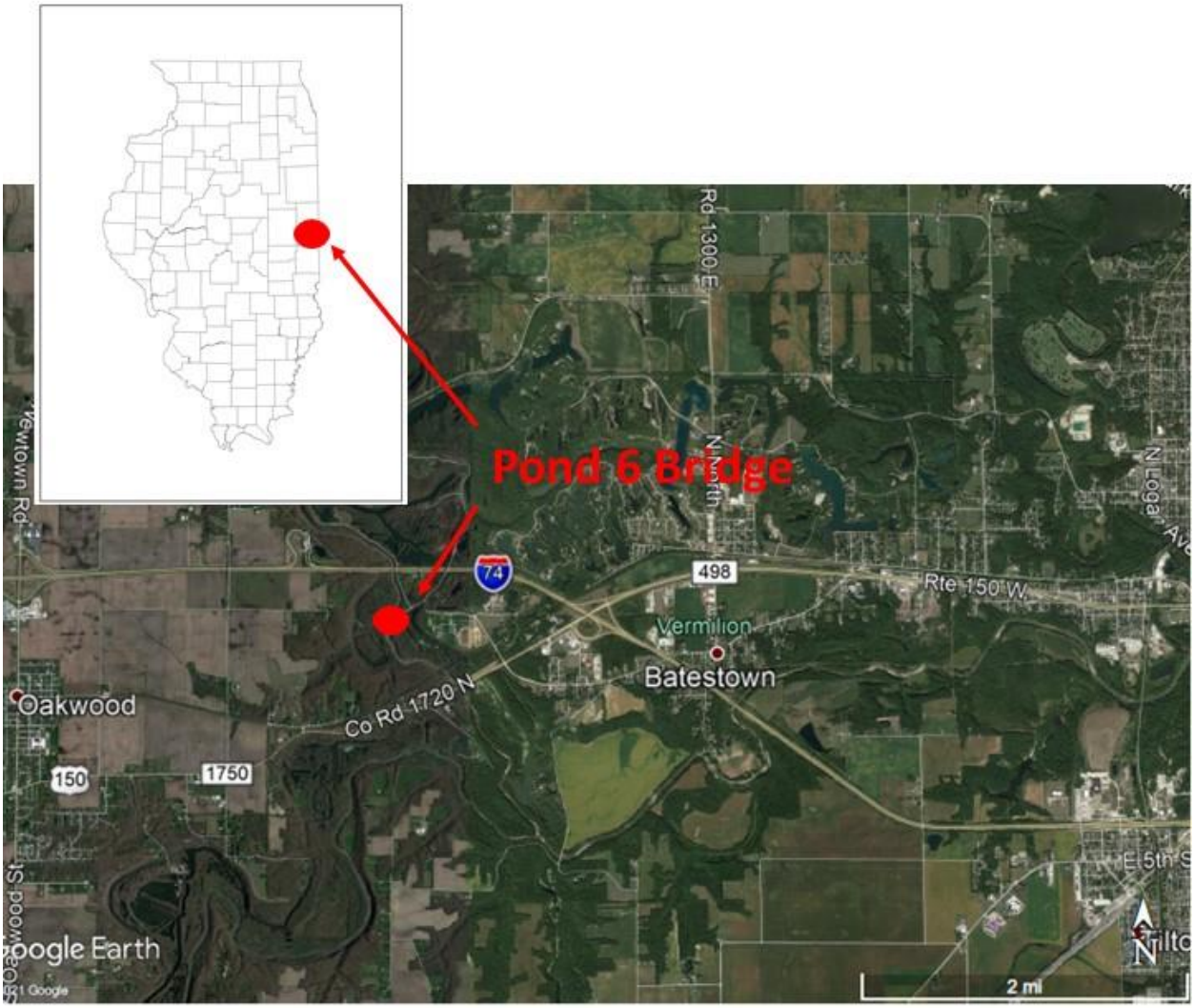


Figure 1. Location of Pond 6 Bridge on the Middle Fork Vermilion River, in Kickapoo State Park, approximately 5 miles west of Danville, Vermilion County, Illinois

Figure 2. Aerial photograph of Pond 6 Bridge with approximately boundaries of substrate and habitat types. A log jam was present at the bridge on April 15, 2021 and was similar to that in this aerial photograph.

Photograph 1. Middle Fork Vermilion River looking upstream (north) from the Pond 6 Bridge. The logjam is in the foreground.

Photograph 2. Facing west towards the Pond 6 Bridge and logjam from the east bank of the Middle Fork Vermilion River.

Photograph 3. Facing south towards the Pond 6 Bridge.

Photograph 4. Middle Fork Vermilion River facing downstream (south) from the Pond 6 Bridge.