ILLINOIS
DEPARTMENT OF NATURAL RESOURCES

# Illinois Department of Natural Resources

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

Bruce Rauner, Governor
Wayne A. Rosenthal, Director

## Authorization for Incidental Take and Implementing Agreement

Pursuant to the Illinois Endangered Species Protection Act (Act) (520 ILCS 10/5.5) and the regulations adopted to implement the Act (17 Ill. Adm. Code 1080), authorization is hereby granted to the City of Kankakee (hereinafter referred to as the City) for the incidental take of black sandshell (*Ligumia recta*), purple wartyback (*Cyclonaias tuberculata*), and river redhorse (*Moxostoma carinatum*). The Illinois Department of Natural Resources (hereinafter referred to as the Department) has determined that the taking is incidental to activities associated with the construction of the Kankakee Riverfront Trail pedestrian bridge over the Kankakee River in Kankakee County, Illinois. The project area is located in the City of Kankakee, 0.25 miles northwest (downstream) of the Illinois State Route 17 bridge over the Kankakee River. The new pedestrian bridge will be located on the old railroad alignment approximately 100 feet northwest of the Norfolk Southern Railroad bridge. The project area lies within the Kankakee River Illinois Natural Areas Inventory site (INAI#0980). The site is included on the Natural Areas Inventory due to the presence of specific suitable habitat occupied by State-listed aquatic species in this reach of the river.

### Procedural History

The Department received a Conservation Plan prepared by Hutchison Engineering, Inc., for the City on June 21, 2016, as a request for authorization for the incidental take of black sandshell, purple wartyback, and river redhorse. The Department requested additional information on June 21 and July 13, 2016, to make the conservation plan complete as prescribed by Ill. Adm. Code 1080.10. That additional information was received by the Department on June 21 and July 22, 2016. The public notice period will be detailed under #6 of the Compliance section below.

### Compliance with the Illinois Endangered Species Protection Act

The Act includes six criteria that must be satisfied for the authorization of incidental take of an endangered or threatened species. These criteria and the Department's determination for each are listed below.

1. The taking will not be the purpose of, but will only be incidental to, the carrying out of an otherwise lawful activity:

   The stated and apparent purpose of this proposed action is the construction of the Kankakee Riverfront Trail pedestrian bridge over the Kankakee River in Kankakee County, Illinois, to provide a river crossing to pedestrian and bicycling public using the trail. The project will include the removal of existing piers from a former railroad alignment, the construction of a temporary stone causeway to

support construction vehicles and equipment, the installation and dewatering of cofferdams, the construction of piers on the existing footings of the old piers, the construction of truss superstructures, the removal of the causeway and cofferdams, and the post-construction placement of riprap. Mussel relocation efforts will begin during the fall of 2016. The construction of the new bridge is scheduled to begin in spring of 2017. **The impact to suitable habitat at the new bridge could include approximately 0.33 acre for placement of the causeway and cofferdams.** Take of black sandshell, purple wartyback, and river redhorse may occur as a result of placement of temporary structures (cofferdams and causeways), construction of permanent structures (piers), or indirectly through habitat alteration. Individuals may be crushed during construction, stranded or killed in the pump during dewatering of the area within cofferdams, or otherwise impacted by habitat alteration. Noise and vibration resulting from cofferdam installation, drilling, and construction may have an adverse effect on some life history stage of the mussels and fish. Take could occur as a result of crushing or burial of individuals left behind following the relocation efforts when rock is placed into the riverbed. Some mortality from relocation is expected. Construction and relocation activities may indirectly result in the short-term decrease in reproduction due to stress and/or disturbance of mussels and fish. Construction may cause the displacement of glochidial fish hosts and increase sedimentation in mussel habitat areas. The take of black sandshell, purple wartyback, and river redhorse that could result from this project is not the purpose of the City's activities, but is incidental to the carrying out of an otherwise lawful activity.

2. The parties to the conservation plan will, to the maximum extent practicable, minimize and mitigate the impact caused by the taking:

   Proposed minimization and mitigation measures were included in the City's conservation plan.

   To meet the "maximum extent practicable" standard, additional minimization and/or mitigation measures may be required beyond those proposed by the City, based on the life history needs of the black sandshell, purple wartyback, and river redhorse. **All required minimization and mitigation measures are presented under the Authorization section below.**

3. The parties to the conservation plan will ensure that adequate funding for the conservation plan will be provided:

   The City entered into a Local Agency Agreement for Federal Participation with the State of Illinois Department of Transportation for the construction of this structure. By execution of that agreement on December 17, 2015, the City attested that sufficient monies have been appropriated to fund the City's share of projected costs.

It is the Department's opinion that the City's stated commitment to funding their proposed minimization and mitigation measures is sufficient to satisfy this criterion.

4. Based on the best available scientific data, the Department has determined that the taking will not reduce the likelihood of survival or recovery of the endangered species or threatened species in the wild within the State of Illinois, the biotic community of which the species are a part, or the habitat essential to the species' existence in Illinois:

   The **black sandshell** mussel is an Illinois State-threatened mussel species. It is found in medium to large rivers in areas with strong currents. The species is known to prefer substrates of coarse sand, gravel, cobble, or silt.

   Black sandshell mussels are long-term brooders, with females retaining developing glochidia in their gills from August until the following July, after which glochidia are released. Gravid female black sandshells are known to display their marginal papillae, moving them in a way that attracts fish hosts before releasing the parasitic glochidia. Black sandshell host fish include walleye (*Sander vitreus*), bluegill (*Lepomis macrochirus*), largemouth bass (*Micropterus salmoides*), sauger (*Sander canadensis*), white crappie (*Pomoxis annularis*), and many others that have been suggested as possible hosts.

   Black sandshell populations have declined due to habitat loss and degradation. In Illinois, the species is fairly common in the Upper and Middle Mississippi, Ohio, Rock, and Kankakee River Basins but is rare elsewhere. There are currently 96 extant (last 10 years) Element Occurrence Records for black sandshell mussels in the Illinois Natural Heritage Database in 29 of 102 Illinois counties.

   The Department has 26 pending or issued Incidental Take Authorizations for black sandshell. Types of projects included dredging, bridge removal and construction/replacement, boat dock construction, railroad construction, pier removal, dam removal, piling installation, riprap installation, oil pipeline construction, and diffuser installation. Past minimization and mitigation measures have included minimizing the impact footprint, controlling sedimentation to waterway, relocating individuals, removing zebra mussels from individuals, performing species and/or relocation research, releasing host fish inoculated with glochidia, and compensatory mitigation. This is the fourth Incidental Take Authorization to be issued for potential take of black sandshell in the Kankakee River.

   In June 2016, personnel from the Department performed surveys for freshwater mussels and fish in and near the area that will be affected by this project. Three (3) live black sandshells were collected during the survey. The City estimates that this project has the potential to take approximately 1-5 black sandshell mussels from the Kankakee River.

The **purple wartyback** is an Illinois State-threatened mussel species. It is known to inhabit larger rivers in areas with moderate current and gravel substrates. Purple wartybacks are reported to live up to 20 years, and reach sexual maturity around age 6.

Purple wartybacks are tachytictic, or short-term brooders. Females retain glochidia in their gills from May through August. Glochidial host fish for purple wartybacks include channel catfish (*Ictalurus punctatus*), yellow bullhead (*Ameiurus natalis*), flathead catfish (*Pylodictis olivaris*), and black bullhead (*Ameiurus melas*).

Purple wartyback populations have declined due to habitat loss and degradation. Dams, channelization, and dredging cause increased siltation, physically alter habitat conditions, and block the movement of fish hosts. Purple wartybacks are also susceptible to infestations of invasive zebra mussels (*Dreissena polymorpha*), which cause the deaths of native mussels by attaching to their shells in large numbers and suffocating them.

In Illinois, purple wartybacks have been found in the Kankakee, Vermilion, Fox, Iroquois, and Rock River Basins. There are currently 38 extant Element Occurrence Records for purple wartyback in the Illinois Natural Heritage Database found in 8 counties – Champaign, Grundy, Iroquois, Kankakee, Ogle, Pulaski, Vermilion, and Will.

The Department has 10 pending or issued Incidental Take Authorizations for purple wartyback. Types of projects included dredging, bridge removal and construction/replacement, railroad construction, oil pipeline construction, and diffuser installation. Past minimization and mitigation measures have included minimizing the impact footprint, controlling sedimentation to waterway, relocating individuals, removing zebra mussels from individuals, performing species and/or relocation research, and compensatory mitigation. This is the fourth Incidental Take Authorization to be pending or issued for purple wartyback in the Kankakee River.

In June 2016, personnel from the Department performed surveys for freshwater mussels and fish in and near the area that will be affected by this project. No purple wartybacks were collected during the survey, but a fresh dead purple wartyback specimen was collected from this location in 2012. The City estimates that this project has the potential to take approximately 1-5 purple wartyback mussels from the Kankakee River.

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The **river redhorse** is an Illinois State-threatened freshwater fish species endemic to the eastern half of the United States and southeastern Canada. The river redhorse is a large, bottom-feeding fish that is typically found in large clear creeks, rivers, and occasionally lakes. They prefer deep pools with moderate

current over bedrock or gravel substrates, and are intolerant of high turbidity, murky water, siltation, and pollution. The presence of river redhorse in an aquatic system is considered an indicator of good water quality.

River redhorse spawn occurs in April and May. During this time, adult river redhorses spawn at night at the top and bottom ends of shallow riffles. Mating takes place when two males press a single female between them, and eggs and sperm are released from the three fish. The redhorses bury their eggs in fine gravel with their tails.

River redhorse population decline has occurred as a result of poor water quality and habitat fragmentation. Historically, in Illinois, river redhorse have been found in the Vermilion, Kankakee, Illinois, Des Plaines, Wabash, Fox, and Mississippi Rivers, as well as several smaller creeks and tributaries. There are currently 22 extant Element Occurrence Records of river redhorse in the Illinois Natural History Database found in 10 of 102 Illinois counties – Cook, Grundy, Iroquois, Kankakee, Kendall, LaSalle, Marshall, Vermilion, White, and Will.

The Department has 11 pending or issued Incidental Take Authorizations for river redhorse. Previous projects included bridge replacements, a diffuser installation, hydroelectric dam construction, dam removal, railroad construction, and oil pipeline installation. Past applicants have been required to minimize instream project footprints, conduct instream work outside of fish spawning season, relocate fish trapped in cofferdams, and provide monetary support for future fish research. This is the third Incidental Take Authorization to be pending or issued for river redhorse in the Kankakee River.

In June 2016, personnel from the Department performed surveys for freshwater mussels and fish in and near the area that will be affected by this project. Three (3) live river redhorse specimens were collected during the survey. The City estimates that this project has the potential to take approximately 1-5 river redhorses from the Kankakee River.

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Based on the amount of habitat impacted by this project, the number of known occurrences of the black sandshell, purple wartyback, and river redhorse in Illinois, an assessment of the potential effect of this project on individuals in the project footprint, the conservation measures included in this authorization for incidental take, and the understanding that vulnerability and recovery information on the species remains limited; the Department has concluded that the taking proposed herein will not reduce the likelihood of survival or recovery of the black sandshell, purple wartyback, and river redhorse in the wild within the State of Illinois, the biotic community of which the species are a part, or the habitat essential to the species' existence in Illinois.

5. Any measures required under Section 5.5(b)(6) of the Act will be performed:

   These measures are listed below under "Authorization." This authorization is, by definition, subject to those terms and conditions and the signatures of representatives of the City indicate their commitment to performing those measures.

6. The public has received notice of the application and has had the opportunity to comment before the Department made any decision regarding the application:

   Public notice of the City's request for authorization of incidental take was published in the Breeze Courier (official state newspaper) on July 27, 2016. The notice was also published in the Kankakee Daily Journal on July 27, August 3, and 10, 2016. One additional publication occurred in the Kankakee Daily Journal on August 30, 2016, due to a necessary correction in the public comment closing date. A copy of the conservation plan was deposited at the Kankakee Public Library, where it was available for public review. The deadline for public comment was September 10, 2016. No comments were received from the public.

**Authorization**

It is the determination of the Department that the measures that will be implemented by the City will adequately minimize and mitigate the anticipated taking of black sandshell, purple wartyback, and river redhorse incidental to activities associated with the construction of the Kankakee Riverfront Trail pedestrian bridge over the Kankakee River in Kankakee County, Illinois. Further, the Department has concluded that the take authorized herein will not reduce the likelihood of survival or recovery of black sandshell, purple wartyback, and river redhorse in the wild within the State of Illinois, the biotic community of which the species are a part, or the habitat essential to the species' existence in Illinois. Additional listed mussel and fish species are known to inhabit the Kankakee River; this agreement does not authorize take of any species except black sandshell, purple wartyback, and river redhorse.

All terms and conditions included in the aforementioned Conservation Plan submitted by the City to the Department are incorporated into this agreement by reference and are made a part thereof.

Pursuant to Section 5.5 of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5] and the Administrative Rules for the Incidental Taking of Endangered and Threatened Species [Ill. Adm. Code 1080.40(b)], this authorization is issued subject to the following terms and conditions, which may include additions or modifications to the minimization and mitigation measures proposed by the City in the conservation plan:

1. This authorization is effective upon the signature of the Department and shall remain in effect for a period of **seven (7) years** from the date of the Department signature, unless terminated by written agreement of both parties.

This authorization may be revoked pursuant to the Act and Ill. Adm. Code 1080.80(b) if the Department finds that the City has failed to comply with any of these terms and conditions or has been responsible for the taking of black sandshell, purple wartyback, and river redhorse beyond that which is incidental to activities associated with the construction of the Kankakee Riverfront Trail pedestrian bridge over the Kankakee River in Kankakee County, Illinois.

2. The effective period of this authorization may be altered by mutual written agreement between the City and the Department. The Illinois Endangered Species Protection Board shall be notified of any such alteration.

   Any substantive changes, including but not limited to a change in the project footprint or a change in the State-listed species which could potentially be affected, will require that a new conservation plan be submitted to the Department to initiate the review and public notice process as required by the Act.

3. This authorization is non-transferable.

4. The Department reserves the right of entry by its staff or representatives to inspect species, potential habitat, and species management practices.

5. Biological consultants shall hold the necessary permits for work with non-listed and listed species; these include an Illinois Department of Natural Resources Scientific Collection Permit and an Illinois Department of Natural Resources Endangered Species Permit.

6. The City shall notify the Department's Endangered Species Program of commencement and completion of the pedestrian bridge project.

7. On-site personnel shall be educated on the sensitive biological resources in the area, the identification of listed mussel and fish species, regulations protecting the species, where the species might be found, how to report sightings or incidents that may involve take, the importance of avoiding take of the species, and response protocol if the species are found. <u>The City shall submit a copy of all education materials to the Department</u>.

8. The Department shall be informed of any sighting of State-listed species and provided location information within 48 hours, including photograph and GPS coordinates.

9. The City shall conduct, or cause to be conducted, the following pre-construction or construction efforts:

   a. Debris shall not be allowed to collect at the bottom of the river. Any debris that falls into the water shall be removed by the contractor as soon as is practicable.
   b. No explosive demolition shall take place when removing the existing piers.

c. The rock causeway shall be built out of riprap to allow water flow through the structure. Three (3) 18-inch pipe culverts shall be included in the causeway to sustain flow.
d. Erosion and sediment control measures shall be implemented in all areas affected by construction. Disturbance of vegetation shall be minimized to prevent erosion and sedimentation. All disturbed riparian areas shall be seeded or otherwise stabilized upon completion of construction activities.

10. The City shall conduct, or cause to be conducted, the following mussel survey and relocation efforts prior to the start of construction:

    a. A thorough search for freshwater mussels <u>within the footprint of the bridge construction and the temporary rock causeway</u>. Areas to be searched shall include a 10-meter buffer around existing piers prior to removal and the footprint of the temporary causeway and/or riprap. The search shall be conducted during biologically suitable mussel relocation periods. Mussels shall be measured, aged, sexed (when possible), and new locations documented by geographic coordinates. All listed mussels shall receive Passive Integrated Transponder tags to aid in identification of these individuals during monitoring. In addition, half of the non-listed mussels relocated (including a sampling representative of the diversity found) shall be etched or glitter-glued, such that they can be useful to the collection of relocation survivability data.
    b. Those conducting the search must be qualified at accurate identification of freshwater mussel species. All native freshwater mussels found during this search shall have zebra mussels removed from their shells and be relocated to suitable habitat as discussed below under (c).
    c. <u>Relocation sites shall be pre-approved by the Department</u>. Relocation sites shall be in areas with suitable stable substrates, similar unionid assemblages, and low to no zebra mussel infestations.
    d. Mussels shall not be relocated when air temperatures are at or below 32 degrees Fahrenheit, nor when water temperatures are at or below 40 degrees Fahrenheit. All mussels will be held in mesh bags suspended in the river or in containers of water changed every hour (every half-hour when air temperatures are at or above 87 degrees Fahrenheit). Water in containers shall be taken from the river where the mussels were collected. No mussels shall be held for more than three (3) hours before being returned to suitable habitat in the river.
    e. **A report including, but not limited to, the survey methodology utilized, the species and numbers of mussels located, the age and size of each individual sampled, an accounting of marked individuals, and maps of the area searched and the relocation site shall be provided to the Department within 60 days of completion of the survey and relocation effort.**

11. All fish and/or mussels that may become stranded within the dewatered areas shall be relocated to areas outside of the cofferdams, fish immediately downstream and mussels upstream to suitable habitat pre-approved by the Department. **A list of all fish species**

**and/or mussel species moved from cofferdams shall be included in the progress report required below under #12.**

12. **Within 60 days of construction completion (open to public)**, the City shall provide the Department with a project status report summarizing the implementation of minimization, mitigation, and restoration measures and evaluating the effectiveness of those measures and shall include a project photo log. The report shall also include a map and GPS coordinates of any listed species found post-relocation effort, a description of any injuries or mortalities, and the disposition of any individuals that were injured or killed.

13. The City shall conduct, or cause to be conducted, a thorough survey for freshwater mussels around the project area and the relocation site **in the 2nd and 4th years** following construction completion. For example, if the project is completed in 2017, these surveys shall be conducted in 2019 and 2021, when water levels and temperatures are suitable. **A report including, but not limited to, the survey methodology utilized, the species and numbers of mussels located (noting any marked individuals), the age and size of each individual sampled, an analysis of survival rates, and a map of the species locations shall be provided to the Department within 60 days of completion of the survey.**

14. The City shall conduct, or cause to be conducted, a fish survey from 30 yards upstream to 25 yards downstream of the pedestrian bridge in the 2nd year following construction completion. **A report including, but not limited to, the survey methodology utilized, the species and numbers of fish located, habitat conditions, flow regime, and a map of the survey location shall be provided to the Department within 60 days of completion of the survey.**

15. The salvage and relocation of non-listed aquatic species is hereby authorized by the Department with signature of this agreement per the Illinois Fish and Aquatic Life Code (515 ILCS 5/1-150).

16. As mitigation for the potential taking of purple wartyback, black sandshell, and river redhorse; the City shall install culverts within the causeway to increase sustained flow and install riprap around each pier to support fish spawning habitat. The estimated cost of these practices is $5,000. In addition, the City will provide compensatory mitigation to bring conservation benefit to the species potentially impacted by the project in the amount of $11,740. Compensatory mitigation shall be directed to the Forest Preserve District of DuPage County's Urban Stream Research Center to support mussel propagation research. Mitigation settlement funds earmarked for the conservation benefit of State-listed species are due at the execution of this agreement and are non-refundable, including events of revocation or termination.

Mitigation valuations are based on the Department's best current understanding of the species life history needs and impact analysis relevant to the project site's proposed conceptual design elements available at the time of review.

17. The City shall submit reports on all surveys within 60 days of survey completion.

18. All reports, notifications, and other project documentation shall be submitted to:

    Illinois Department of Natural Resources
    Office of Resource Conservation
    Endangered Species Program – Incidental Take Authorization Coordinator
    One Natural Resource Way
    Springfield, IL 62702-1271

    (217)557-8243
    DNR.ITAcoordinator@illinois.gov

    The Department's Endangered Species Program shall provide all reports required under this agreement to the Illinois Endangered Species Protection Board and to the Department's Natural Heritage Database.

19. The City official identified below is authorized to execute this agreement. Execution by the City indicates acceptance of all terms and conditions described in this authorization.

20. The execution of this agreement does not waive or excuse the responsibilities of the City to comply with other Federal, State, or local regulations, including but not limited to obtaining any required permits for the execution of this project.

*For the Illinois Department of Natural Resources:*

Dr. James Herkert, Director
Office of Resource Conservation

Date

Director, IDNR

APPROVED FOR EXECUTION
Date: 9/29/2016
Legal Counsel: Sol Krugel

*For the City of Kankakee:*

Nina Epstein

Honorable Nina Epstein, Mayor

9-27-2016

Date

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