

## BAT AVOIDANCE AND MITIGATION MEASURES

Specific avoidance and minimization measures, AMMs, related to the Indiana bat (*Myotis sodalis*) and Northern long-eared bat, NLEB (*Myotis septentrionalis*) required for this contract shall be as follows:

General AMM 1 - All operators, employees, and contractors working in areas of known or presumed bat habitat shall be aware of all Transportation Agency environmental commitments, including all applicable AMMs.

Lighting AMM 1 - Temporary lighting shall be directed away from suitable habitat during the active season.

Tree Removal AMM 1 - To the extent practicable, all phases and aspects of the project, such as temporary work areas, shall be modified to avoid tree removal in excess of what is required to implement the project safely.

Tree Removal AMM 2 - Time of year restrictions for tree removal shall be applied when bats are not likely to be present or tree removal shall be limited to 10 or fewer trees per project at any time of year within 100 ft of existing road or rail surfaces and outside of documented roosting and foraging habitat or travel corridors. A visual emergence survey shall be conducted with no bats observed. Tree removal may not occur during the active season for bats, from April 1<sup>st</sup> through September 30<sup>th</sup>.

Tree Removal AMM 3 - Tree removal shall be limited to that shown on the plans. Bright orange flagging or fencing shall be installed prior to any tree clearing to ensure contractors stay within the clearing limits.

Tree Removal AMM 4 - Documented Indiana bat or NLEB roosts that are still suitable for roosting, or trees within 0.25 mile of roosts, or documented foraging habitat, shall not be cut down at any time of the year.

Hibernacula AMM 1 - To avoid impacts to possible hibernacula, on-site personnel of projects located within karst areas shall use best management practices, secondary containment measures, or other standard spill prevention and countermeasures. A 300 ft buffer shall, where practicable, be employed to separate fueling areas and other major containment risk activities from caves, sinkholes, losing streams, and springs in karst topography.

The Contractor shall not handle dead or injured bats, regardless of species, and any other federally listed species that are found at the project site in order to preserve biological material in the best possible condition and to protect personnel from exposure to diseases, such as rabies. Project personnel shall ensure that any evidence about determining the cause of death or injury is not unnecessarily disturbed. Reporting the discovery of dead or injured listed species shall be required in all cases to enable the USFWS to determine whether the level of incidental take exempted by the biological opinion, BO, is exceeded, and to ensure that the terms and conditions are appropriate and effective. Parties finding a dead, injured, or sick specimen of any bat, regardless of species, or other endangered or threatened species, shall promptly notify the USFWS Bloomington Field Office at (812) 334-4261.

The active season for the bats is April 1<sup>st</sup> through September 30<sup>th</sup>.

"Suitable habitat" refers to the summer or winter habitat that is appropriate for use by the Indiana bat or NLEB, and may be known or unknown in terms of documented use.

"Trees" in accordance with this special provision is a pure stand of trees that are 3 in. dbh or greater, which are not mixed with larger trees or a mixed stand of trees less than 1,000 ft from a forested or wooded area.

Tree removal shall be in accordance with 201.02 and as shown on the plans. If tree removal beyond that shown on the plans is required, the Contractor shall obtain approval from the Engineer and the appropriate district Environmental Services Department before proceeding. Trees shall not be removed from wetlands or floodplain areas.

Suitable roosting sites shall remain after the structure work is complete.

At the pre-construction conference, in accordance with 108.04, the Contractor shall provide documentation that the Contractor's employees and subcontractors that will be present on the project site are aware of the environmental commitments and AMMs.

All costs associated with the bat AMMs shall be included in the cost of other items.

#### EQUIPMENT IN WATERWAY

Any equipment or cables placed in Little Blue River shall be clearly marked with navigation buoys as described in 312 IAC 5-4 in a manner that would be visible to any watercraft operator in the area. Any equipment or cables in Little Blue River in times of limited visibility shall be marked with flashing amber warning lights and reflective signage warning watercraft operators of the hazards.

Buoys, flashing amber warning lights, reflective signage, and incidentals shall be included in the cost of other items.

#### EXISTING PIPE

An existing 15 inch pipe of unknown location and elevation crosses Beechwood Road at approximately Station 101+50. The pipe was unable to be located during field investigation. If the pipe is found during construction it shall be removed and backfilled with B Borrow in accordance with the Specifications.

All work shall be coordinated with the Engineer. The location shall be shown on the as-built drawings if found. The work, backfill, and all incidentals shall be paid for as Pipe, Remove.

FISH SPAWNING SEASON

SECTION 107, LINE 541, INSERT AS FOLLOWS:

*The Contractor shall not perform in-stream construction activities during the fish-spawning season from April 1 through June 30 without prior written approval of the Indiana Department of Natural Resources Division of Fish and Wildlife.*

## HOOSIER NATIONAL FOREST

This project is located within the Hoosier National Forest. Specific stipulations required for this contract shall be as follows:

The Contractor shall be responsible for preventing the introduction and spread of noxious weeds and/or exotic plants of concern in the right-of-way easement area associated with this project. All equipment (mechanized and non-mechanized) and materials used in the construction, reconstruction and maintenance of this project shall be free from soil, seeds, plant parts, or other material that could contain or hold noxious weed or exotic plant seeds when such equipment initially enters the right-of-way easement.

The Contractor shall not dispose of any oil, oil products, or petroleum containers on National Forest Service lands. Appropriate preventive measures shall be taken to ensure that any such spill of oil or oil products does not enter any stream or other waters of the United States. The Contractor shall notify the Forest Service if such a spill does occur, and cleanup will be performed in accordance with the Code of Federal Regulations and all applicable state environmental laws.

To the maximum extent practicable, trees shall be felled in a direction to avoid damaging standing timber on National Forest Service land adjacent to and outside of right-of-way. The Contractor shall be responsible for disposing of all brush, slash (e.g., branches, boles), and other woody debris created because of vegetation clearing or other activities. Unless otherwise agreed in writing by the Forest Service, the following standards shall apply:

Brush and slash shall generally be removed from the right-of-way area and properly disposed of outside of National Forest Service land. If requested by the Contractor and approved by the Engineer and by the Forest Service in writing, brush and slash may be lopped and scattered on National Forest Service land outside of the right-of-way to lie within three feet of the ground, in lengths not to exceed eight feet when individual pieces exceed four inches in diameter or alternatively, may be chipped and scattered as a natural mulch.

Trails, roads, road shoulders, road prisms, culverts, ditches, and other drainage structures shall be cleared of all slash and debris resulting from this project.

All Public Land Survey System (PLSS) and National Forest survey monuments within the construction limits shall be protected during construction and maintenance of the highway facilities. In the event that a monument will be disturbed, its position shall be perpetuated prior to disturbance, using a minimum of three established ties to permanent objects located outside of the construction corridor, and subsequently reset by a Registered Land Surveyor licensed in the State of Indiana, in its original position following construction-related activities.

Contact the Hoosier National Forest office in Bedford, Indiana (812-276-4760) prior to the commencement of construction-related activities to obtain a map of known monuments within the project area that will be provided by the Forest Service, along with any existing corner records or surveys on file. Disturbed monuments shall be replaced with the same type of monument. The Forest Service will provide the aluminum monuments and aluminum caps, for replacing similar type monuments, which must be stamped under the supervision of a Registered Land Surveyor. A land corner record shall be prepared by a Registered Land Surveyor for each monument that is reset, using the Forest Service Land Corner Record form provided by the Forest Service. An orange carsonite survey marker post, provided by the Forest Service, shall be set adjacent to each reset monument.

Hoosier National Forest Contact  
Jackie Contreras  
248 15<sup>th</sup> Street  
Tell City, IN 47586  
Office Phone: 812-719-7399  
Email: [jackie.contreras@usda.gov](mailto:jackie.contreras@usda.gov)

The cost of any required coordination with the Hoosier National Forest and any work associated with the stipulations shall be included in the cost of other items.

NOTIFICATIONS

The Contractor shall contact the following entities at least two weeks prior to the start of construction, and at least two weeks prior to any roadway restrictions.

South Crawford Elementary School  
346 E State Road 62  
Leavenworth, IN 47137  
Tel. 812-739-2210

Crawford County High School  
1130 S State Road 66  
Marengo, IN 47140  
Tel. 812-365-2125

Leavenworth Fire Department  
645 East St.  
Leavenworth, IN 47137  
Tel. 812-267-9491

Crawford County Sheriff's Department  
715 Judicial Plaza Drive  
English, IN 47118  
Tel. 812-338-2802

Harrison County Hospital  
1141 Hospital Dr. NW  
Corydon, IN 47112  
Tel. 812-738-4251

Perry County Memorial Hospital  
8885 State Road 237  
Tell City, IN 47586  
Tel. 812-547-7011

United States Postal Service  
176 N East St.  
Leavenworth, IN 47137  
Tel. 812-739-2286

Southern Indiana Transit System  
3143 Progress Blvd.  
Corydon, IN 47112  
Tel. 812-734-1000

Notifications shall be included in the cost of other items.



## ROADSIDE DITCHES

If competent rock is encountered during the construction of the roadside ditches the natural rock bottom may be left in place in lieu of installing Class 2 riprap. This work will be at the discretion of the Engineer.

#### SCOPE AND RIGHT OF WAY CHANGE NOTIFICATION

If the scope of work or permanent or temporary right-of-way amounts change, the Department's Environmental Services Division, ESD, and the District Environmental Section shall be contacted immediately. Notifications shall be included in the cost of other items.

#### STREAM PROTECTION

Construction and demolition materials shall not be placed or allowed to fall into the waterway. Any incidental fallen materials in the waterway shall be removed within 24 hours using best management practices. Materials shall be lifted out of the waterway and not dragged across the streambed during removal whenever possible.

The bridge waterway opening shall be kept free of debris and sediment at all times.

Stream protection shall be included in the cost of other items.

TREE CLEARING RESTRICTIONS

The Contractor shall only clear trees from November 15 through March 30.

## DISMANTLING AND RELOCATION OF EXISTING TRUSS STRUCTURE

### **Description**

This work shall consist of preparing a disassembly plan and dismantling the existing truss bridge. James Baumgart will transport and take ownership of the existing truss bridge after dismantling.

### **Construction Requirements**

The Contractor shall prepare a disassembly plan for the existing truss bridge which shall include match-marking and mapping the bridge's components to facilitate its reassembly at the relocation site. The disassembly plan shall be submitted to INDOT and Indiana SHPO through Crawford County for a 30-day review and comment prior to disassembly commencing. The Contractor shall provide a written response to any INDOT and Indiana SHPO comments and a resolution agreed upon prior to disassembly commencing. If no comments are received within 30 days after the disassembly plan submission it may be assumed that INDOT and Indiana SHPO are in agreement with the disassembly plan.

The Contractor shall coordinate with James Baumgart at 502-807-5601 on the disassembly plan to ensure truss components can be transported safely by James Baumgart. The Contractor shall also load truss components on transportation provided by James Baumgart.

### **Method of Measurement**

The work will not be measured for payment.

### **Basis of Payment**

All costs associated with the disassembly plan preparation, coordination, match-marking, dismantling, loading of the dismantled truss structure, and all other incidentals shall be included in the cost of Present Structure, Remove.

## EROSION CONTROL BLANKET

The erosion control blankets shall consist of 100% biodegradable material in accordance with 621.05. The erosion control blankets shall not contain plastic netting or other non-biodegradable material.

## TEMPORARY CAUSEWAY

### **Description**

This work shall consist of construction and maintenance of temporary causeway in accordance with 105.03.

The temporary causeway shall be part of the temporary erosion control plan and shall be constructed with the other temporary erosion control measures in accordance with 205.

### **Materials**

Materials shall be in accordance with 205.02, 303.02, 616.02, and 908.02.

### **Construction Requirements**

Construction shall be in accordance with the applicable portions of 713, 717, and as follows:

Information describing the details of the temporary causeway shall be submitted for approval prior to construction. If the details of the temporary causeway are not in accordance with plans, details of the proposed temporary causeway, signed by and bearing the seal of the registered professional engineer, shall be submitted.

The Contractor may use an alternate method for gaining access beneath the bridge from what is shown on the plans, pending the approval of the Engineer. If an alternate method is proposed, the Contractor shall apply for and receive approval for the required amendments to the permits prior to performing the work.

The temporary causeway shall be built to an elevation of not less than that shown on the plans. The temporary causeway waterway area shall not be less than that shown on the plans.

The Contractor shall install the temporary causeway which includes, but is not limited to pipes, No. 2 stone, and class 1 riprap, to the locations and dimensions as shown on the plans.

Erosion and sediment control along the banks shall be in accordance with 205 and the Storm Water Pollution Prevention Plan.

Work shall not be conducted during rain events.

### **Maintenance and Inspection**

The temporary causeway shall be inspected within 24 hours of each rainfall event and at least once every seven calendar days. All damage shall be repaired by the Contractor immediately.

In the event of a washout, the temporary causeway shall be repaired within 48 hours after the water surface elevation has subsided to the ordinary high-water mark or a water surface elevation determined safe by the Engineer. The Contractor shall remove any debris in the channel, even if outside the right-of-way limits.

**Removal**

Temporary causeway shall be removed after construction in the channel is complete and permanent erosion control features have been established. Any areas disturbed by the temporary causeway shall be returned to their original condition and re-vegetated within 30 days of removal. Any materials from the temporary causeway that cannot be recycled on-site shall be disposed of in an upland area in accordance with 203.08.

**Method of Measurement**

Temporary Causeway will not be measured for payment.

**Basis of Payment**

Temporary Causeway will be paid for at the contract unit price per lump sum.

Payment will be made under:

**Pay Item**

**Pay Unit Symbol**

Temporary Causeway.....LS

The cost of all pipes, No. 2 stone, riprap, labor and equipment, and all necessary incidentals for the temporary causeway shall be included in the cost of the above pay item.

The cost of design, permit addendums, maintenance and repairs, installation, and removal for the temporary causeway will be included in the cost of the pay item.