6.10 SITE PREPARATION

6.11 CLEARING AND GRUBBING

Indiana Bats

Indiana Bats (Myotis sodalis) are included on both the federal and state endangered species list. The U.S. Fish and Wildlife Service considers the following counties as being within the potential range of the species in Iowa: Adair, Adams, Appanoose, Audubon, Benton, Boone, Carroll, Cass, Cedar, Clarke, Clinton, Dallas, Davis, Decatur, Des Moines, Greene, Guthrie, Henry, Iowa, Jasper, Jefferson, Johnson, Jones, Keokuk, Lee, Linn, Louisa, Lucas, Madison, Mahaska, Marion, Marshall, Monroe, Muscatine, Page, Polk, Poweshiek, Ringgold, Scott, Story, Tama, Taylor, Union, Van Buren, Wapello, Warren, Washington, and Wayne.

Projects located in the listed counties requiring tree removal, are subject to review for Indiana bat habitat. No action is necessary for projects in these counties that do NOT involve tree removal. It is intended that during the project development process, project corridors located in these counties be assessed for possible Indiana bat habitat if clearing or grubbing is needed.

Refer to Appendix 6-1(a) for the Iowa DOT Indiana bat habitat documentation form and Appendix 6-1(b) for the procedure guide based on guidance from the Iowa DNR and US Fish and Wildlife Service.

If suitable Indiana bat habitat is present, the US Fish and Wildlife Service and the Iowa DNR must be contacted by the Office of Location and Environment. In addition, clearing of trees is not allowed between April 15 and September 15. The Office of Location and Environment should be contacted if suitable habitat is present and may be consulted if there is any question regarding the assessment for Indiana Bats.

A copy of the completed Iowa DOT documentation form, Appendix 6-1(a), is to be submitted to the Office of Location and Environment. Additionally, the District may request that Office of Location and Environment complete habitat surveys and data forms.

There may be considerable elapsed time between an estimate of clearing and grubbing and the actual work. If actual site conditions are different than those shown in the contract documents, the following suggested resolutions are provided:

- If additional trees are in the right-of-way, payment may be based on the number of logs and down timber.
- If the log has been removed, leaving branches and the stump, payment may be based on clearing and grubbing.
- If fence is partially removed or in poor condition but requires an identifiable removal operation, full price for fence removal may be made.
- Where brush and/or junk has been deposited within the right-of-way, a price agreeable to both the contractor and the project engineer may be negotiated or a force account change order may be used.

Disposal of Waste

The Iowa DNR Administrative Rules (IAC 567-23.2) prohibit open burning, “Open burning” is defined as “*any burning of combustible materials where the products of combustion are emitted into the open air without passing through a chimney or stack*”. Thus, burning is not allowed on construction projects, with the exception of waste from

clearing and grubbing operations. The rules provide an exemption for burning of clearing and grubbing waste, on premises, with specific restrictions.

These restrictions include:

- At least 1/4 mile from any inhabited building, unless a written waiver is submitted to the Iowa DNR by the owner of the building
- Rubber tires shall not be used to ignite the waste

The rules prohibit open burning of any material in the following specific localities: Cedar Rapids, Marion, Hiawatha, Council Bluffs, Carter Lake, Des Moines, West Des Moines, Clive, Windsor Heights, Urbandale, Pleasant Hill and portions of Cerro Gordo County

Local ordinances may be more restrictive than the Iowa DNR rules, and not allow burning of any clearing and grubbing waste.

Other options for disposing of grubbing and clearing waste include:

- Chipping
  Chipping of the down timber for mulching material
- Firewood
  Salvaging of the logs for firewood
- Landfill
  Disposal at a "yard waste" landfill
- Burial on project
  Disposal of stumps and other wood waste which cannot reasonably be disposed of by any of the above listed options may be buried on the project with certain restrictions. The Iowa Department of Natural Resources (Iowa DNR) has granted a variance to the Iowa Department of Transportation (Iowa DOT) to allow the burial of clearing and grubbing waste on the State of Iowa right-of-way. The location for burying the stumps is only allowed with the approval of the project engineer.

  The contractor shall formally request permission to bury stumps within the project limits. The Department is not obligated to provide a location on the project to bury the stumps. The project engineer may allow disposal by burial on the project based on the following:
  Site shall not be located under the roadway template.
  Site shall not be in a floodplain wetland, or cultural resources site
  Site shall not interfere with future known highway construction areas.

Area Clearing

This method of clearing and grubbing is intended for use in heavily timbered areas such as relocated alignments and borrow areas. Area clearing is not usually intended for use on reconstruction projects or where individual trees need to be cleared and/or grubbed.

The locations for area clearing and grubbing are to be specifically identified. Example of location identification may be "From Station 100 to Station 250, Right Side, Borrow A."

The unit of measurement for clearing by area is hectare (acre). If the identified area is right-of-way line to right-of-way line, this is the area to be measured for payment even though the actual clearing and grubbing may be less.

Selective Clearing

All desirable trees between the right-of-way line and the need line shall be preserved, provided they are not within the clear zone or cause restricted sight distance. Trees

which have more than one-third of their root system removed will normally not survive, therefore, these trees should be cleared and grubbed.

Trees are important for erosion control and slope stabilization, as well as enhancing the appearance of the completed highway.

Desirable trees and shrubs include oak, hackberry, cherry, maple, hickory, ash, sycamore, linden, walnut, plum, all evergreens, as well as many other trees. In most cases cottonwood, willow, and box elder should not be preserved unless they serve to reduce soil erosion. If there are any questions concerning trees to be saved, the project engineer should consult the Office of Design (Roadside Development Section) for guidance.

The method of measurement for selective clearing is units. The quantity for payment is a calculation derived from measurements taken of the various sized trees and stumps, hedge rows, bushes, growing corn, and field fence.

Preliminary Estimate for Clearing Right of Way (Form 650014)

The project engineer shall arrange to have a preliminary estimate made of the clearing and grubbing required for a proposed construction project. The project engineer is to transmit this information to the "designer in charge" on the form entitled "Preliminary Estimate for Clearing Right of Way" (Form 650014). The "designer in charge" is usually from the Office of Design, but on selected projects may be from the Office of Bridges and Structures. Plan sheets detailing the proposed clearing "by area" should also be included. The Office of Design or the Office of Bridges and Structures must receive this information at least 12 weeks prior to the project letting. Clearing and grubbing should be discussed on the design field exam.

A separate preliminary estimate for clearing shall be made for each project and broken down into divisions as shown on the plans. Use "Clearing and Grubbing Form 103" located online at http://www.iowadot.gov/construction/contract_admin.html under the Inspection Tools tab. Retain these "work sheets" in the project engineer's file. Do not forward copies of these work sheets to the Office of Design or the Office of Bridges and Structures.

Method of Payment

The method of payment for clearing and grubbing is based on the contract unit price multiplied by the measured quantity (hectares/acres or units).

Example:

Contract Unit Price	= $2.50
Contract Quantity	= 2,149.50 Units
Total Item	= $2.50 X 2,149.50 = $5,373.75

For progress payments, the number to be entered on the progress vouchers will be that portion of the 2,149.50 which was completed.

6.12 REMOVAL AND DISPOSAL OF OLD PAVEMENT

Pavement is removed from all cuts and fills with less than 1.2 m (4 feet) of cover. On projects which require borrow, the plans may specify that the old portland cement concrete (PCC) pavement be placed in fills in 600 mm (2-foot) depths and covered with at least 600 mm (2 feet) of suitable soil. The removed concrete is to be broken into pieces with an area of 0.2 sq m (¼ square yard) or less if placed in fills, as per *Article*

2510.02.A.

Where existing PCC pavement would be located within 1.2 m (4 feet) and 1.8 m (6 feet) of the proposed profile grade, the PCC pavement will be required to be broken up and left in place. If the existing pavement has been resurfaced, the hot mix asphalt resurfacing will be removed by scarification.

PCC pavements may be used as Class D or Class E Revetment, if requirements of *Article 4130* are met. Use should be approved by the District Materials Engineer.

For pavements where the existing PCC pavement will be more than 1.8 m (6 feet) below the proposed profile grade, the pavement will normally be left in place. If asphalt resurfacing is present, it shall be removed.

6.13 DISPOSAL OF HOT MIX ASPHALT PAVEMENT

Unless otherwise directed or authorized, all hot mix asphalt pavement and other bituminous materials not specifically addressed or described in the plans shall be removed from the project and become the property of the contractor. The contractor shall manage the material in accordance with all current federal and state rules and regulations.

Salvaged hot mix asphalt (HMA) pavement may be used as special backfill material. When intended for special backfill material, the HMA pavement is normally removed by scarification. The material must pass a 50 mm (2-inch) sieve. A vibratory steel wheel roller or pneumatic tired roller is commonly used for compaction.

6.14 DEMOLITION WASTE

Refer to *Construction Manual 10.61* for demolition information. Demolition waste should be disposed of at a disposal or recycling facility permitted or approved by the Iowa DNR.