SECTION 201 - CLEARING AND GRUBBING

201.01 Description. This section describes clearing, grubbing, protecting trees, vegetation, and objects designated to remain, removing and disposing of vegetation, debris, and unwanted material from right-of-way, easements, road approaches, project and borrow pit sites, and other areas designated in the contract documents or by the Engineer. Perform clearing and grubbing in advance of grading operations.

Clearing is defined as removing and disposing of all unwanted surface material, such as trees, brush, grass, weeds, downed trees, and other material.

Grubbing is defined as removing and disposing of all unwanted vegetative matter from underground, such as stumps, roots, buried logs, and other debris.

Debris is defined as unusable or unwanted material produced by clearing and grubbing.

201.02 Materials. None

201.03 Construction.

(A) Vector Control. Prior to starting site clearing or structure removal, comply with rodent control requirements of Title 11, Chapter 26, Section 11-26-35, HAR.

(B) Best Management Practices (BMP). Ensure that all BMP measures are in place before clearing and grubbing starts. If BMP measure is removed temporarily to accommodate construction operations, reinstall before end of workday.

(C) Limits. Clear and grub entire length of project within limits specified below, unless otherwise indicated in the contract documents.

1) A width of 5 feet outside of excavation and embankment slope lines for highway construction areas that include structures, frontage and access roads, streets, ramps, approaches, and ditches and channels with a bottom width of 12 feet. When slopes require rounding, extend clearing and grubbing limits to outside limits of slope rounding.

2) A width of 2 feet outside of excavation and embankment slope lines for highway construction areas that include ditches and channels with a bottom width of less than 12 feet.
(3) Material sites within right-of-way.

(4) Areas enclosed by interchange loops and ramps.

(D) Clearing. Clear all surface objects, including trees, logs, roots of
downed trees, brush, residue of agricultural crops, grass, weeds, asphalt,
concrete, masonry, and other unwanted material, such as lumber, trash, and
loose debris.

Preserve trees, shrubs, plants, and other objects to remain within the
established limits.

Protect remaining trees and shrubbery from injury or damage. No
trees shall be removed until all tree protection zones are established and
approved by the Engineer. Cut trees to be removed without injuring trees and
shrubbery that are to remain.

Cut tree branches that are less than 20 feet above finished grade
where they extend over the roadway, close to the trunks, in accordance with
recognized standards of good arboricultural practices. Remove additional
branches, as required, to give trees a balanced appearance. Perform tree
work in accordance with ANSI A300 and ANSI Z133. Contract tree work to
ISA Certified Arborist. with a minimum of 10 years of continuous licensure
and experience. Practices such as topping, flush cuts, stub cuts, lion-tailing,
over-thinning, climbing with spikes or any other unacceptable arboricultural
practices will not be allowed.

For the duration of construction within drip lines of trees to remain, the
following will not be allowed:

(1) Changes, alteration, or disturbance to grade by filling,
excavating, or scraping, except as indicated in the contract
documents.

(2) Storage of construction materials and equipment.

(3) Stockpiling of construction materials and excavated materials.

(4) Disposal of liquids, including concrete sleuth, gas, oil, and
paint.

(5) Vehicular traffic, equipment, or pedestrian traffic.

(6) Attachment of wires, ropes, lights, or other such attachments
other than those of a protective nature to trees to be preserved.

(7) Cleaning of equipment or material under canopy of tree or
group of trees to be preserved.
Drip line shall be defined as the circle which would exist if you drew a line below the tips of the outer most branches of a tree or shrub.

Establish Tree Protection Zones [TPZ] by erecting protective fences around trees identified in the contract documents or trees with trunk diameter greater than 8 inches, measured at height of 4.5 feet. Protective fence shall be 4-foot-high, orange, plastic mesh or equivalent accepted by the Engineer, supported on minimum 6-foot-long steel T-post. Surround tree with protective fence at minimum 10 feet from tree trunk, with steel T-post spaced at minimum 5 feet on center. Fences shall be erected prior to the commencement of any work and shall not be removed until all work is completed.

If trees or shrubs other than those designated for removal on the contract documents are damaged in any way as determined by the Engineer, the contractor shall immediately install a Tree Protection Zone fence as detailed above and have an ISA Certified Arborist perform a 360 degree inspection of each damaged tree and shrub. Trees or shrubs not shown on contract documents shall be protected and shall not be removed without written consent from Engineer. Damaged trees or shrubs shall receive a unique serialized self-locking tree tag for identification and reporting purposes. The ISA Certified Arborist shall provide a written report with photographs documenting damages and required mitigating measures within one week of receiving notification from the Engineer. All materials and labor shall be performed at the contractor’s expense. Mitigating measures shall be completed within 7 days of the report completion. The ISA Certified Arborist shall continue to monitor the health of the damaged trees or shrubs until restored to full health by performing minimum monthly site inspections and a monthly report to be provided to the Engineer.

If trees other than those designated for removal are damaged beyond survival condition as determined by the Engineer, remove such trees and replace with trees of same species, spread, height and and size; and maintain for duration of construction or 12 months, whichever is greater, at no increase in contract price or contact time.

Do not exceed total erosion control exposure area limits described in Subsection 209.03(B) – Construction Requirements.

Protect land monuments, property markers, or official datum points until the Engineer authorizes their removal.

(E) Grubbing. Grub areas below natural ground surface of vegetative and unwanted material interfering with proposed work, within limits specified.

Leave in place, all undisturbed and sound stumps and nonperishable solid objects that will be more than 3 feet below subgrade and embankment.
201.04 Measurement. Clearing and grubbing will be paid on a lump sum basis. Measurement for payment will not apply.

201.05 Payment. The Engineer will pay for the accepted clearing and grubbing on a contract lump sum basis. Payment will be full compensation for the work prescribed in the section and the contract documents.

The Engineer will pay for the following pay item when included in the proposal schedule:

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<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
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<tbody>
<tr>
<td>Clearing and Grubbing</td>
<td>Lump Sum</td>
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END OF SECTION 201