

DIVISION 2 EARTHWORK

SECTION 200 CLEARING AND GRUBBING

200-1 DESCRIPTION

Perform the work of clearing and grubbing in all wooded areas between the construction limits. Perform the work of clearing and grubbing in all non-wooded areas between the construction limits and the limits of the project right of way or in easements shown on the project plans where seeding and mulching, sprigging, sodding or other work as indicated.

“Clearing” is defined as the cutting, removal and satisfactory disposal of all wooded vegetation and debris.

“Grubbing” is defined as the complete removal and satisfactory disposal of all grassy vegetative matter, root mat, ball and root, topsoil material high in organic content and surface debris.

200-2 MATERIALS

Refer to Division 10.

200-3 CONSTRUCTION METHODS

Perform the following as part of the work of clearing and grubbing:

- (A) Remove and dispose of crops, weeds and other annual growth;
- (B) Remove and dispose of surface debris such as fences, steps, walls, chimneys, column footings, other footings, foundation slabs, basements, other foundation components, signs, junked vehicles and other rubble and debris;
- (C) Fill holes and depressions that exist or are created;
- (D) Cut off and plug at the right-of-way or construction limits any private water or sewer line intercepted during the construction of the project;
- (E) Cut off and remove from the right-of-way or construction area any septic tank or portion thereof encountered within the right-of-way or construction area during the construction of the project; and
- (F) Remove materials in wetland areas to a depth of one foot below existing ground to be measured in accordance with Section 225.

Perform clearing and grubbing operations sufficiently before grading operations to prevent any debris from interfering with the excavation or embankment operations.

In environmentally sensitive areas shown on the original plans or permit drawings, perform grubbing operations no more than 7 calendar days before beginning continuous grading operations.

Perform all work under this section to minimize soil erosion and in accordance with Article 107-12. Coordinate the work with other operations such that no more than 17 acres of exposed, erodible surface area will be accumulated at any one time by the clearing and grubbing operation until erosion control measures are provided. Install temporary or permanent erosion control measures as soon as clearing and grubbing or land disturbing activities begin. Perform such erosion control work, temporary or permanent, as needed to minimize erosion resulting from clearing and grubbing operations.

Section 200

1 The Contractor may request an increase in the accumulated acres exposed by clearing and
2 grubbing. If approved, establish and maintain such erosion control measures as needed.

3 Failure on the part of the Contractor to perform the required erosion control measures will be
4 just cause for the Engineer to direct the suspension of clearing and grubbing operations in
5 accordance with Article 108-7. The suspension will be in effect until such time as the
6 Contractor has satisfactorily performed the required erosion control work. If the Contractor
7 fails to perform the directed work within a reasonable length of time, the Engineer may have
8 the work performed in accordance with Article 105-16.

9 **200-4 CLEARING**

10 Perform clearing within the limits established by the clearing method required by the plans
11 and as directed.

12 The Engineer will designate all areas of growth or individual trees that shall be preserved due
13 to their desirability for landscape or erosion control purposes. When the trees to be preserved
14 are located within the construction limits, they will be shown in the plans or designated by the
15 Engineer.

16 Trim or cut branches of trees that overhang the roadbed, utility easements or obstruct sight
17 distances and that are less than 16 feet above the elevation of the finished grade so as to not
18 endanger the health of the tree.

19 In embankment areas where the depth of the embankment measured under the roadbed
20 exceeds 6 feet in height, cut sound trees at a height of not more than 6 inches above natural
21 ground. When trees are to be cut outside the construction limits and the Engineer has
22 designated that the area is not to be grubbed, cut the trees reasonably close to the natural
23 ground surface. Cut trees to approximately 6 inches above low water level in swamp areas.

24 At a bridge site, clear the entire width of the right of way beginning at a station 3 feet back of
25 the beginning extremity of the structure and ending at a station 3 feet beyond the ending
26 extremity of the structure.

27 Prevent limb, bark or root injuries to trees, shrubs or other types of vegetation that are to
28 remain growing and prevent damage to adjacent property. Repair scarred areas in accordance
29 with generally accepted horticultural practice. Where plants are damaged by any construction
30 operations to such an extent as to destroy their value for shade or other landscape purposes,
31 cut and dispose of them.

32 **200-5 GRUBBING**

33 Perform grubbing on all areas cleared, with the following exceptions:

34 **(A)** In embankment areas, when the depth of embankment measured under the roadbed
35 exceeds 6 feet in height, cut off sound stumps not more than 6 inches above the existing
36 ground level and do not grub. Remove unsound or decayed stumps to a depth of
37 approximately 2 feet below the natural ground surface.

38 **(B)** When authorized, leave stumps outside of construction limits in place. Cut such stumps
39 off reasonably close to the natural ground surface.

40 **(C)** Cut off stumps in swamp areas to approximately 6 inches above low water level and do
41 not grub.

42 **(D)** Do not grub in areas where waste or unsuitable material is to be deposited unless such
43 areas are to become a part of a future roadway.

44 **(E)** Grub all areas where piles are to be driven regardless of fill height.

45 **(F)** Fill all holes and other depressions within the areas between the construction limits and
46 the limits of clearing and grubbing. Bring all areas to a uniform contour where later
47 mowing operations will take place.

1 200-6 DISPOSITION OF TIMBER, STUMPS AND DEBRIS

2 The property owner will have no right to use or reserve for their use any timber on the project.
3 All timber cut during the clearing operations shall become the property of the Contractor and
4 shall be removed from the project or shall be satisfactorily disposed of as provided
5 hereinafter.

6 Do not cut any trees and vegetation beyond the clearing limits established. Do not cut any
7 trees and vegetation that is to be preserved for landscape or erosion control purposes as shown
8 in the plans and permit drawings.

9 Remove from the project and properly dispose of all vegetation, roots, stumps, tree laps, limbs
10 and timber remaining on the project by a satisfactory method.

11 When vegetation is disposed of by burning, burn so as to prevent injury to property within or
12 outside of the right of way. Comply with all Federal, State and local laws, ordinances and
13 regulations when burning. Secure all necessary burning permits. Perform all burning under
14 the constant care of a competent watchman. Do not allow smoldering or dense smoke to
15 occur during burning.

16 Before trees or vegetation are disposed of in locations off the right of way and out of sight of
17 the project, furnish the Engineer with verification that the site is permitted. If required, file
18 an approved reclamation plan and furnish a written release from the property owner, or his
19 authorized agent, granting the servitude of his lands.

20 If it is not burned, dispose of all debris including vegetation in accordance with Section 802.

21 200-7 SELECT TREE REMOVAL

22 When the contract includes the item of *Select Tree Removal* and the work of clearing and
23 grubbing has been completed to the original clearing limits, the Engineer may elect to have
24 select trees removed from the project. Trees removed in this manner shall have an average
25 cross section diameter of at least 4 inches at a point 2 feet above the ground level.

26 Completely remove the select trees including the root ball and properly backfill unless
27 otherwise directed.

28 200-8 MEASUREMENT AND PAYMENT

29 *Clearing and Grubbing* will be paid on a lump-sum basis and no measurement will be made
30 of any clearing and grubbing performed within the limits originally staked and within the
31 right of way or easements shown on the original plans.

32 *Supplementary Clearing and Grubbing* that is directed by the Engineer and is performed on
33 areas outside the limits originally staked or beyond the limits of the right of way or easements
34 or within environmentally sensitive areas shown on the original plans will be measured and
35 paid at the contract unit price per acre. All measurement of clearing and grubbing will be
36 made horizontally.

37 Once the root mat is removed, material that consists predominately of soils will be measured
38 and paid in accordance with Section 225.

39 Materials used to fill depressions in accordance with Subarticle 200-5(F) will be measured
40 and paid in accordance with Sections 225 or 230, depending on the source of the material.

41 When the Contractor is required to furnish borrow sources, material sources or waste areas, or
42 when the Engineer permits the Contractor to obtain borrow or deposit waste on any area
43 within the right of way instead of borrow and waste areas which were to have been furnished
44 by the Contractor, no measurement of clearing and grubbing will be made for such areas.

45 When an increase in accumulated acres exposed by clearing and grubbing is requested by the
46 Contractor and approved by the Engineer, no payment will be made for the temporary seeding
47 and mulching required by the increase in accumulated exposed acres.

Section 205

- 1 *Select Tree Removal* will be measured and paid as the actual number of select trees removed
- 2 from the project.
- 3 Work performed in cleaning up non-wooded areas between the construction limits and the
- 4 limits of the project right of way or easements shown in the plans; work performed in the
- 5 dressing up of areas between the construction limits and the clearing limits; and the removal
- 6 of weeds, vines, plant stalks, loose rock and small scattered trees will be incidental to the
- 7 work of clearing and grubbing.
- 8 Where plants are damaged by construction operations, the work to cut and dispose of them
- 9 will be incidental to the work of clearing and grubbing.
- 10 Payment will be made under:

Pay Item	Pay Unit
Clearing and Grubbing	Lump Sum
Supplementary Clearing and Grubbing	Acre
Select Tree Removal	Each

SECTION 205
SEALING ABANDONED WELLS

205-1 DESCRIPTION

14 Seal abandoned wells at locations shown in the contract or as directed. Perform all work in
15 accordance with NCDEQ requirements.

205-2 CONSTRUCTION METHODS

17 Use a Well Contractor certified by the State of North Carolina to perform abandonment.

18 Environmental Ground Water Monitoring Well abandonment should be coordinated with the
19 GeoEnvironmental Section of NCDOT.

20 Seal each well before clearing and grubbing the well site. Check the well from land surface to
21 the entire depth of the well before it is sealed to ensure freedom from obstructions that may
22 interfere with sealing operations. Before sealing, place chlorine in the well in sufficient
23 quantities to produce a chlorine residual of at least 100 milligrams per liter in the well.

24 All casing and screen materials may be salvaged except casing that is cemented in place. In
25 the case of gravel-packed wells in which the casing and screens have not been removed,
26 perforate the casing opposite the gravel pack at intervals not exceeding 10 feet.

27 Completely fill bored wells with cement grout or dry clay compacted in place. Completely
28 fill wells constructed in unconsolidated formations with cement grout by introducing it
29 through a pipe extending to the bottom and raising it as the well is filled. Fill wells
30 constructed in consolidated rock formations or that penetrate zones of consolidated rock to at
31 least 5 feet below the top of the consolidated rock with sand, gravel or grout opposite the
32 zones of consolidated rock. Fill the remainder of the well with cement grout.

33 Complete a certified well abandonment record (Form GW-30) and submit to the Engineer.

205-3 MEASUREMENT AND PAYMENT

35 *Sealing Abandoned Wells* will be measured and paid in units of each for the actual number of
36 wells acceptably sealed. Work includes, but is not limited to, chlorinating the well before
37 sealing; perforating the well casing; filling the well with cement grout, dry clay, sand or
38 gravel; and furnishing all necessary records.

39 Payment will be made under:

Pay Item	Pay Unit
Sealing Abandoned Wells	Each