

- 1 (D) Surveying that the Engineer has deemed could not have been anticipated or is not
- 2 customary or inherent to the construction industry.
- 3 (E) The stakeout of the roadway survey alignments for intermediate cross sections when
- 4 deemed necessary by the Engineer.
- 5 If the Engineer determines intermediate cross sections are not necessary for computing partial
- 6 payments, the intermediate stakeout of the survey line is incidental to the work.
- 7 *Supplemental Surveying Office Calculations* will be measured and paid as the actual number
- 8 of hours the Contractor’s survey personnel is actively engaged in performing office
- 9 calculations specifically associated with Subarticles 801-3(A) through 801-3(E).
- 10 *Supplemental Surveying Office Calculations* will be paid at the stated price of \$60.00 per
- 11 hour. *Supplemental Field Surveying* will be paid at the stated price of \$110.00 per hour. The
- 12 payment includes furnishing personnel, all surveying equipment, stakes, layout drawings,
- 13 calculations, stakeout records and any materials and equipment necessary to perform the
- 14 surveying and engineering work.
- 15 If the Engineer directs that the accuracy of the original stakeout be checked and the stakeout
- 16 is found to be in error, perform the work required to check and correct the stakeout at no cost
- 17 to the Department.
- 18 *Exploratory Excavation* required to locate a utility will be paid in accordance with
- 19 Article 104-7.
- 20 *Work Zone Signs (Portable)* will be paid in accordance with Article 1110-4.
- 21 *Flaggers* will be paid by the day in accordance with Article 1150-4.
- 22 Any payments for *Supplemental Field Surveying* or *Supplemental Surveying Office*
- 23 *Calculations* required by this section will be paid on the appropriate partial payment estimate.
- 24 Payment will be made under:

Pay Item	Pay Unit
Construction Surveying	Lump Sum
Supplemental Field Surveying	Hour
Supplemental Surveying Office Calculations	Hour

**SECTION 802
DISPOSAL OF WASTE AND DEBRIS**

802-1 DESCRIPTION

The work consists of the disposal of waste and debris including, but not limited to, furnishing any waste areas; providing and implementing a Development, Use and Reclamation Plan; any right of access to waste areas; disposing of waste and debris; dressing and shaping of waste areas; furnishing and spreading earth material over debris, rock, broken pavement and masonry; clearing and grubbing of waste areas; hauling waste and debris to waste areas or permitted landfills; assessment for wetlands and endangered species; obtaining required permits or certifications; and any tipping fees required for disposal in permitted landfills.

Define “waste” as all excavated materials that are not used in the construction of the project, including overburden from borrow sources and soil-type base course sources.

Define “debris” as all undesirable material encountered on the project.

802-2 GENERAL REQUIREMENTS

Follow the most recent reclamation procedures found on the Department’s website for all waste sites. Before the removal of any waste from any project, obtain certification from the State Historic Preservation Officer of the State Department of Cultural Resources certifying

Section 802

1 that the deposition of the waste material to the proposed waste area will have no effect on any
2 known district, site building, structure or object, architectural or archaeological, that is
3 included, or eligible for inclusion, in the National Register of Historic Places. Furnish a copy
4 of this certification to the Engineer before performing any work in the proposed waste site.

5 Provide an area and dispose of waste and debris outside of the right of way, unless otherwise
6 allowed by written request. Limit the materials placed in non-permitted disposal areas to
7 clean soil, rock, concrete, brick, other inert materials and bituminous asphalt when placed at
8 least 4 feet above the water table. Mixtures of soil and vegetation, that are primarily soil, may
9 be placed in non-permitted disposal areas. Place all other debris in sites permitted by the
10 Solid Waste Management Division of NCDEQ, unless otherwise approved.

11 Maintain the earth surfaces at all waste areas in a manner that will effectively control erosion
12 and siltation until final acceptance of the project.

13 Shape the waste or disposal area to drain such that no water will collect or stand. Provide
14 a functioning drainage system.

15 Shape rock and earth waste to contour and blend with the adjacent topography. Cover all
16 rock, concrete, broken pavement and masonry with a minimum 6 inch thick layer of earth
17 material from the project or borrow. Earth material should be tested to insure it will support
18 long-term growth of the proposed ground cover and should be amended as necessary to
19 support permanent growth. As an exception, side slopes constructed of all rock material will
20 not require earth covering. Construct all slopes, other than rock, 2:1 or flatter. Construct rock
21 slopes on a stable angle of repose.

22 Where the Engineer has granted permission to dispose of waste within the right of way, the
23 Engineer will have the authority to establish whatever additional requirements may be
24 necessary to insure the satisfactory appearance and drainage of the completed project.

25 Where electing to dispose of waste or debris in active public waste or disposal sites, provide
26 evidence satisfactory to the Engineer that the Solid Waste Management Division of NCDEQ
27 has permitted the proposed area or site.

28 Where electing to dispose of waste in a waste or disposal area, other than active public waste
29 or disposal areas permitted by the Solid Waste Management Division of NCDEQ or on the
30 Department's right of way or an existing borrow pit, submit jointly with the property owner
31 a notarized Development, Use and Reclamation Plan for each waste or disposal area proposed
32 for use.

33 As part of the Reclamation Plan, perform the following before wasting:

34 (A) Material Description

35 Detail the type of waste material proposed in the area. Only material originating from the
36 Department's projects and complying with the Solid Waste Disposal Act will be
37 permitted within the proposed waste or disposal area.

38 (B) Topography

39 Detail the existing topography and locations of the proposed access and egress haul
40 roads. Detail the proposed final topography of the waste or disposal area showing any
41 proposed drainage systems. If a pond is to be constructed or remain, the minimum depth
42 shall be at least 4 feet as determined from the water table at the time the reclamation plan
43 is executed. The slope of the soil below the water shall be between 5:1 and 2:1. The
44 slope of the sides above the water line shall be 2:1 or flatter.

45 (C) Slopes

46 Rock and earth waste shall be shaped to contours that are compatible to and blend with
47 the adjacent topography. Cover all rock with a minimum 6 inch layer of earth material
48 either from project waste or from borrow. As an exception, side slopes constructed of all

1 rock material will not require earth covering. Construct all slopes at a 2:1 or flatter
2 except rock slopes that shall be on a stable angle of repose.

3 **(D) Construction Debris**

4 Cover construction debris and all broken pavement and masonry with a minimum
5 6 inch thick layer of earth waste material from the project or borrow. Shape the
6 completed waste area as required above for the disposal of earth or rock waste.

7 **(E) Erosion Control**

8 Detail the temporary and permanent erosion control measures, along with design
9 calculations, that are intended during use of the site and as part of the reclamation.
10 Unless considered impractical due to special circumstances, provide in the plan for the
11 use of staged permanent seeding and mulching and appropriate fertilizer topdressing on
12 a continual basis during site use and the immediate total reclamation of the site when the
13 site is no longer needed. Define the seed mixture proposed for establishing temporary
14 and/or permanent vegetation. Establish permanent stand of vegetation before acceptance
15 of project.

16 **(F) Evaluation for Potential Wetlands and Endangered Species**

17 Hire an experienced environmental consultant on the Department's approved list to
18 perform an assessment of the waste site for potential conflicts with wetlands, areas of
19 environmental concern, federally listed threatened or endangered species, and federal
20 species of concern.

21 Delineate the boundaries of any wetlands or jurisdictional surface waters (streams)
22 encountered. Follow the standard practice for documenting the wetland delineation
23 including completion of the US Army Corps of Engineer's approved Wetland
24 Determination Data Form. Document information including data regarding soil,
25 vegetation and hydrology. Maintain a minimum 25 foot buffer adjacent to all sides of the
26 wetland boundary and a minimum 50 foot buffer adjacent to any stream. Depict the
27 limits of the delineated wetland and surrounding buffer on the Reclamation Plan. Do not
28 dispose of waste and debris in any area under the Corps of Engineers' or any other
29 environmental agencies' regulatory jurisdiction unless and until the NCDOT permit has
30 been modified to permit such disposal activity in the jurisdictional area.

31 Perform a site assessment for federally listed threatened or endangered species to include
32 habitats that may support these species. Provide to the Engineer a detailed report on the
33 assessment findings. If federally listed threatened or endangered species, or habitat that
34 may support such species, exist on the proposed waste site, notify the Engineer before
35 continued pursuit of such site.

36 **(G) Buffer Zones**

37 Allocate sufficient area between the nearest property line and the tie-in of the slope to
38 natural ground to allow for the operation of excavation, hauling, and seeding equipment
39 and for the installation of any and all erosion control devices required. Leave additional
40 undisturbed area between the source and any watercourse or body to prevent siltation of
41 the watercourse or body and the movement of the shore line either into the watercourse or
42 body or into the waste areas. Determine if the adjoining property owners or other
43 government agencies require any additional buffer zones and comply with those
44 requirements. [Suggested minimum distances are 10 feet from property lines and 50 feet
45 from water bodies or watercourses.] Do not place waste material within the 100-year
46 floodplain unless superseded by an environmental permit.

47 **(H) Approval**

48 Obtain written approval from the Engineer before wasting within the proposed waste or
49 disposal area.

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1 Submit a revised or additional reclamation plan if the non-permitted waste or disposal
2 area is expanded by more than one acre or is significantly changed from the previously
3 approved submittal.

4 **802-3 MEASUREMENT AND PAYMENT**

5 Seeding and mulching, fertilizer topdressing and establishing erosion control measures for
6 waste or disposal areas will be measured and paid at the contract unit prices for the items
7 established in the contract.

8 When permitted to waste within the right of way and when the waste area requires additional
9 covering material before seeding, provide covering material at no cost to the Department.

10 When waste areas are located outside the right of way, no payment will be made for any
11 borrow used to cover rock, broken pavement, masonry or other inert materials.

12 Except as otherwise provided above, no direct payment will be made for the work covered by
13 this section. Payment at the contract prices for the various items in the contract will be full
14 compensation for all work covered by this section.

15 **SECTION 806**
16 **RIGHT-OF-WAY AND CONTROL-OF-ACCESS MARKERS**

17 **806-1 DESCRIPTION**

18 Furnish and install precast concrete or granite markers to mark the boundaries of the right of
19 way or the control of access in accordance with the contract.

20 **806-2 MATERIALS**

21 Refer to Division 10.

Item	Section
Deformed Steel Bar Reinforcement	1070-2
Precast Concrete Units	1077

22 The Contractor may, at his option, use either granite or concrete markers. Make granite
23 markers from granite that is hard and durable, of a light color, free from seams which impair
24 its structural integrity, and of a good, smooth splitting appearance.

25 **806-3 CONSTRUCTION METHODS**

26 Precast the right-of-way and control-of-access markers in watertight forms of a size and shape
27 that will produce a completed marker of the dimensions shown in the *Roadway Standard*
28 *Drawings*. Construct the forms so as to impress the plastic concrete with the lettering and
29 markings shown in the contract.

30 Cure the concrete in accordance with Article 420-15. Give that portion of the marker that will
31 be above the surface of the ground ordinary surface finish in accordance with
32 Subarticle 420-17(B).

33 If using granite markers, quarry and finish the markers to the dimensions indicated in the
34 contract. Drill holes will be permitted in the sides and bottom.

35 Install the markers vertically in the ground to the depth and locations specified in the contract.
36 Thoroughly tamp backfill material.

37 **806-4 MEASUREMENT AND PAYMENT**

38 *Right-of-Way Markers* will be measured and paid in units of each for the actual number of
39 right-of-way markers furnished, installed and accepted.

40 *Control-of-Access Markers* will be measured and paid in units of each for the actual number
41 of control-of-access markers furnished, installed and accepted.