

Section 1018

**SECTION 1018
BORROW MATERIAL**

1018-1 GENERAL

Borrow material is used for embankments, backfill or other intended uses. Material that contains roots, root mats, stumps or other unsatisfactory material will not be acceptable.

1018-2 APPROVAL OF BORROW SOURCE

The approval of borrow sources is subject to Section 230.

(A) Statewide Criteria for Acceptance of Borrow Material

See exceptions in Subarticle 1018-2(B).

Use only natural earth materials as borrow material. Any other materials are subject to rejection.

TABLE 1018-1 PIEDMONT AND WESTERN AREA CRITERIA FOR ACCEPTANCE OF BORROW MATERIAL	
Soil with PI of 25 or less	Acceptable
Soil with PI of 26 through 35	Acceptable, but not to be used in top 2 ft of embankment or backfill
Soil with PI of more than 35	Not Acceptable

(B) Exceptions to Statewide Criteria for Acceptance of Borrow Material

(1) Soils in the Coastal Plain (area described below) will be accepted in accordance with the Table 1018-2.

TABLE 1018-2 COASTAL AREA CRITERIA FOR ACCEPTANCE OF BORROW MATERIAL	
Soil with PI of 15 or less	Acceptable
Soil with PI of 16 through 20	Acceptable, but not to be used in top 2 ft of embankment or backfill
Soil with PI of more than 20	Not Acceptable

Areas where Table 1018-2 is applicable are as follows:

- Division 1 Entire Division except Northampton (West of I-95)
- Division 2 Entire Division
- Division 3 Entire Division
- Division 4 Edgecombe, Wayne, Johnston (East of US 301), Wilson (East of I-95), Nash (East of I-95), Halifax (East of I-95)
- Division 6 Bladen, Columbus, Robeson, Cumberland, Harnett (South of NC 27)
- Division 8 Scotland, Hoke, Moore (Southeast of US 15-501, NC 73, NC 211), Richmond (East of US 220 North and US 1 South)

Table 1018-2 shall be applicable to the flood plains of the Roanoke, Tar, Neuse, Cape Fear and Lumber Rivers and their tributaries that are outside the above described areas.

(2) Waste or by-products from industrial processes or mining operations are not acceptable except by specific written approval.

(3) When tested, soils having a pH of less than 5.5 or an organic content more than 4.0% may be rejected.

- 1 (4) When material is to be used for placing embankments or backfilling of undercut
2 areas that are excessively wet, the material shall consist of Class II, III or IV select
3 material.

4 **SECTION 1019**
5 **SHOULDER AND SLOPE MATERIAL**

6 **1019-1 GENERAL**

7 Use shoulder and slope material to construct shoulders and plate slopes with materials capable
8 of supporting vegetation. Material that contains roots, root mats, stumps or other
9 unsatisfactory material will not be acceptable.

10 **1019-2 SHOULDER AND SLOPE BORROW**

11 Use borrow sources in accordance with Article 1018-2.

12 Use soil consisting of loose, friable, sandy material with a PI greater than 6 and less than 25
13 and a pH ranging from 5.5 to 6.8. Remove stones and other foreign material 2" or larger in
14 diameter.

15 Use approved material obtained from unclassified excavation, fine grading operations or
16 borrow sources as provided in Section 230.

17 **1019-3 AGGREGATE SHOULDER BORROW**

18 Use aggregate shoulder borrow (ASB) that meets the following gradation in Table 1019-1.

TABLE 1019-1	
GRADATION OF AGGREGATE SHOULDER BORROW	
Sieve	Percentage Passing
1 1/2"	100
1/2"	55-95
#4	35-74

19 **SECTION 1020**
20 **ASPHALT MATERIALS**

21 **1020-1 DELIVERY AND ACCEPTANCE OF ASPHALT MATERIALS**

22 Asphalt materials are accepted at the source of shipment subject to the conditions herein.

23 All asphalt transport tankers, including rail and truck tankers, shall have a sampling valve in
24 accordance with Asphalt Institute Publication MS-18, ASTM D140 or a comparable device
25 acceptable to the Engineer.

26 Each transport tanker delivering asphalt materials to the project or rail siding shall keep
27 a running log showing the date, destination and type and grade of material hauled on each
28 trip. Print, stamp, or write in ink information appearing in the log and have available for
29 examination upon request.

30 Furnish with each shipment 2 copies of a delivery ticket. Ensure both copies accompany the
31 shipment and are delivered to the Engineer or his representative at the destination. The
32 delivery ticket shall contain the following information:

- 33 (A) Name of Producer/Supplier and location
34 (B) A statement that the material has been tested and meets AASHTO specifications or is
35 being provided by an approved supplier under Approved Supplier Certification (ASC)
36 (C) The grade of the material
37 (D) If applicable, the rotational viscosity in Pascal-Seconds (Pa-S) at 135°C and 165°C
38 (E) If applicable, the recommended laboratory mixing and compaction temperature (°C for
39 the PGAB)