SECTION 106
CONTROL OF MATERIAL

106-1 GENERAL REQUIREMENTS

(A) General

The materials used in the work shall meet all requirements of the contract and shall be subject to inspection, test, or rejection by the Engineer at any time. Materials used in the work shall be new, recycled, or recovered as permitted by the contract.

It is the Department's intent to expand the use of recyclable and recovered materials in its construction programs. The Contractor is encouraged to find innovative and alternative ways for beneficial use of recyclable materials that are currently a part of the solid waste stream and that contribute to problems of declining space in landfills.

The Contractor shall make his own determination of the various kinds and quantities of materials that are necessary for the acceptable performance and timely completion of the work. It shall be the Contractor's responsibility to obtain materials that meet the requirements of the contract. The Contractor shall be responsible for the acceptability of all materials used in the work and for the timely delivery of materials to the project so that adequate time will be available for the safe and proper performance of the work.

To facilitate testing by the Department, the Contractor shall furnish a complete statement of the origin of all materials to be used in the construction of the work, together with samples when required. The statement of origin shall be furnished to the Materials and Tests Unit sufficiently in advance of any shipment or fabrication of materials so that arrangements can be made for proper inspection.

The Contractor shall furnish a MSDS with all paints and hazardous chemicals proposed for use on the project. The MSDS shall be in accordance with the North Carolina Hazard Communication Standard, 13 NCAC 7CF.0101.(a)(99).

The Contractor shall provide access, means and assistance in the verification of all testing equipment, scales, measures and other devices operated by him in connection with the testing of the materials.

If the Contractor desires or is required to furnish materials from local deposits, other than those, if any, described in the contract, he shall assume full responsibility for the sampling of the sources and the acceptability of the material in accordance with these specifications. He shall furnish without charge such preliminary samples as may be required; except that, if requested in writing, the Engineer may allow Department forces to take samples as requested by the Contractor. In the latter case, the Contractor shall reimburse the Department for the total expense of the sampling as determined by the Engineer. Tests will be made and reports rendered, but it is understood that such tests shall in no way be construed as a guarantee of acceptance of any material that may be delivered later for incorporation in the work. The Contractor shall assume full responsibility for the production of uniform and satisfactory materials from such local deposits and shall indemnify and save harmless the Department from any and all claims for loss or damages resulting from the opening and operation thereof, or from the failure of the deposit after development to produce materials acceptable to the Engineer, in either quality or quantity.

(B) Domestic Steel

All steel and iron products that are permanently incorporated into this project shall be produced in the United States except minimal amounts of foreign steel and iron products may be used provided the combined project cost of the bid items involved does not exceed 0.1% of the total amount bid for the entire project or $2,500, whichever is greater. This minimal amount of foreign produced steel and iron products permitted for use is not applicable to fasteners. Domestically produced fasteners are required.

All steel and iron products furnished as domestic products shall be melted, cast, formed, shaped, drawn, extruded, forged, fabricated, produced, or otherwise processed and manufactured in the United States. Raw materials including pig iron and processed pelletized and reduced iron ore used in manufacturing domestic steel products may be imported; however, all manufacturing processes to produce the products, including coatings, shall occur in the United States.

Before each steel or iron product is incorporated into any project or included for partial payment on a monthly estimate, the Contractor shall furnish the Engineer a notarized certification certifying that the product conforms to the above. The Engineer will forward a copy of each certification to the Materials and Tests Unit.

Each purchase order issued by the Contractor or a subcontractor for steel and iron products to be permanently incorporated into any project shall contain in bold print a statement advising the supplier that all manufacturing processes to produce the steel or iron shall have occurred in the United States. The Contractor and all affected subcontractors shall maintain a separate file for steel products permanently incorporated into any project so that verification of the Contractor's efforts to purchase domestic steel and iron products can readily be verified by an authorized representative of the Department or the Federal Highway Administration.

106-2 SAMPLES, TESTS AND CITED SPECIFICATIONS

All tests will be made in accordance with the most recent standard or interim methods of the AASHTO in force on the date of advertisement. Should no AASHTO method of test exist for a material, the most recent standard or tentative method of ASTM or other methods adopted by the Department will be used.

All reference made to a specification published by AASHTO, ASTM or any other organization other than the Department, that does not indicate the date of publication, will be understood to mean the specification current on the date of advertisement for the project. When a more current specification is published during the life of the project, and when it is mutually agreed by the Contractor and the Engineer and such agreement is documented by a supplemental agreement, the Department may accept materials meeting the requirements of the latest publication.

106-3 CONTRACTOR FURNISHED CERTIFICATION

The Contractor shall furnish the Department material certifications obtained from the producer, supplier or an approved independent testing laboratory for the following types of materials, unless otherwise directed by the Engineer:

(A) Materials required to meet criteria documented by tests that are normally performed during the production process;

(B) Materials that are required to meet specifications other than those published by AASHTO, ASTM or the Department;

(C) Materials produced at locations that are not within routine travel distance for Department representatives;

(D) Materials required to meet criteria documented by tests involving special equipment not readily available to Department representatives; and

(E) Any other special material when so directed by the Engineer.

Material certifications of one of the following types shall be furnished for pre-tested materials. The specific type of material certification for each material shall be in accordance with the schedule maintained by the Materials and Tests Unit. Copies of this schedule may be obtained from the Materials and Tests Unit.

Type 1 - Certified Mill Test Report

A certified mill test report shall be a certified report of tests conducted by the manufacturer on samples taken from the same heat or lot number as the material actually shipped to the project. The report shall identify the heat or lot number.

Type 2 - Typical Certified Mill Test Report

A typical certified mill test report shall be a certified report of tests conducted by the manufacturer on samples taken from a lot that is typical of the material actually shipped to the project, but that may or may not be from the lot shipped.

Type 3 - Manufacturer's Certification

A manufacturer's certification shall be a certified statement that the material actually shipped to the project was manufactured by production processes that are periodically and routinely inspected to assure conformance to specification requirements.

Type 4 - Certified Test Reports

A certified test report shall be a certified report of test conducted by an approved independent testing laboratory on samples taken from the same heat or lot number as the material actually shipped to the project. The report shall identify the heat or lot number.

Type 5 - Typical Certified Test Reports

A certified test report shall be a certified report of tests conducted by an approved independent testing laboratory on samples taken from a lot that is typical of the material actually shipped to the project, but that may or may not be from the lot shipped.

Type 6 - Supplier's Certification

A supplier's certification is a signed statement by the supplier that the material described in the certification is of the specification grade required and that the supplier has on hand Type 1 or Type 2 material certifications to cover the material that is included in the Type 6 supplier's certification.

Type 7 - Contractor's Certification

Contractor’s certification is a signed statement by a contractor that the used material described in the certification meets the current specifications to the best of the contractor’s knowledge and that the contractor had in his possession at the time of purchase a Type 1 or Type 2 material certification to cover the material that is included in the Type 7 Contractor’s certification.

106-4 DELIVERY AND HANDLING OF MATERIALS

All materials shall be handled carefully and in such manner as to preserve their quality and fitness for the work. Materials damaged during delivery or handling shall not be used without approval of the Engineer.

106-5 STORAGE OF MATERIALS

Materials shall be stored so as to insure the preservation of their quality and fitness for the work. Stored materials that may have been approved before storage shall be subject to inspection at any time and shall meet the specifications at the time it is put into use. Stored materials shall be located to facilitate their inspection. Subject to the approval of the Engineer, that portion of the right of way not required for public travel may be used for storage purposes and for the Contractor's plant and equipment, but any additional space required therefor shall be provided by the Contractor at no expense to the Department. All storage sites located within the right of way shall be restored to their original condition by the Contractor at no expense to the Department, except where the materials stored are or are to become the property of the Department.

106-6 INSPECTION AT SOURCE

The Engineer may undertake the inspection of materials at the source of supply. This inspection will be performed by Department personnel or private organizations retained by the Department. Where approved by the Engineer, the results of tests performed by private laboratories, producers, or manufacturer's laboratories may be used in determining compliance of a material or product with the specifications.

The Department assumes no obligation to inspect materials at the source of supply. Such inspection will be undertaken only upon condition that:

(A) The cooperation and assistance of the Contractor and the producer with whom he has contracted for materials is assured.

(B) The representative of the Engineer will have full entry authority at all times to such parts of the plant as may concern the manufacture or production of the materials.

(C) Laboratory facilities shall be provided when required by the Engineer.

Where the Department agrees to inspect or test materials during their production or at the source of supply, the Contractor shall bear the cost of testing performed on materials ordered by him but not incorporated into the project.

The Department reserves the right to retest all materials that have been tested and accepted at the source of supply after the same have been delivered and to reject all materials that, when retested, do not meet the specifications.

106-7 SCALES AND PUBLIC WEIGHMASTER

When material is to be paid on a per ton basis, the Contractor shall furnish platform scales or other weighing devices that have been certified by the N.C. Department of Agriculture. If the platform scales or other weighing devices are located outside of North Carolina, they shall have been certified by the Department of Agriculture within the particular state. The scales may be constructed and operated to provide automatic weighing, recording and printing of tickets for the load being weighed.

The Department may deny or withhold any portion of payment for any load of materials weighed if in relation to such load of materials, the Contractor falsifies any weighing certification information or otherwise fails to comply with the requirements contained in this contract.

All scales shall be operated by a public weighmaster licensed in accordance with NCGS § 81A. A certified weight certificate shall be issued by a North Carolina public weighmaster for each load. The certificate shall be in the form of a ticket furnished by the Contractor and shall contain the following information:

(A) Department project contract number
(B) Date
(C) Time issued, if for bituminous plant mix or Portland cement stabilized base course mixed in a central plant
(D) Type of material
(E) Gross weight
(F) Tare weight
(G) Net weight of material
(H) Quarry or plant location
(I) Department's Job Mix Formula Number, if ticket is for asphalt plant mix
(J) Department's Asphalt Plant Certification Number, if ticket is for asphalt plant mix
(K) Truck number
(L) Contractor's name
(M) Public weighmaster's stamp or number
(N) Public weighmaster's signature or initials

When certified weighing devices other than platform scales are to be used, the gross weight and tare weight will not be required.

The Engineer may direct the Contractor to re-weigh the contents of any truck load that is to be delivered to the work on approved platform scales at no cost to the Department.

When tractor and trailer units are to be used in hauling material to be weighed, the platform scales shall be of sufficient length so as to accommodate the entire unit or the tractor shall be disconnected and the trailer and its contents weighed as a separate unit.

106-8 DEPARTMENT FURNISHED MATERIAL

The Contractor shall furnish all materials necessary to complete the work, except those materials specified in the contract to be furnished by the Department. Payment at the contract price for the item that includes the use of Department furnished material will be full compensation for all costs of handling and placing such materials after they are delivered or made available to the Contractor.

The Contractor shall be held responsible for all material furnished to him, and deductions will be made from any money due him to make good any shortage and deficiencies from any cause whatsoever and for any damage that may occur after Department furnished material has been made available.

106-9 DEFECTIVE MATERIAL

All materials that are not in conformity to the contract shall be defective and such materials, whether in place or not, may be rejected and removed from the site of the work unless otherwise permitted by the Engineer in accordance with Article 105-3. No rejected material, the defects of which may have been substantially corrected, may be used until approval has been given by the Engineer.

106-10 DENSITY DETERMINATION BY NUCLEAR METHODS

The Engineer may, at his option, use nuclear methods as described in Articles 520-9 and 610-10 to determine the density of selected pavement materials. The use of nuclear methods will include the establishment of the required density through the use of control strips constructed from materials actually being used on the project, and the determination of the density being obtained in test sections located throughout the project.