SECTION 106—CONTROL OF MATERIAL

106.01—Source of Supply and Quality Requirements.

The materials used throughout the work shall conform to the requirements of the Contract. The Contractor shall regulate his supplies so that there will be a sufficient quantity of tested material on hand at all times to prevent any delay of work. Except as otherwise specified, materials, equipment, and components shall be new. Within 30 days after the date of the letter to the Contractor advising that the Department will recommend that the Board award the Contract, but not later than 7 days prior to the beginning of construction operations under the Contract, the Contractor shall file a statement of the known origin, composition and manufacture of all materials to be used in the work, including optional or alternate items. Material requirements not previously reported shall be submitted at least 60 days prior to their use on the project, but not less than two weeks prior to delivery. The Contractor's statement shall be identified by the complete state project number, and all items or component materials shall be identified by the specific contract item number and the specification reference shown in the Contract.

At the option of the Engineer, materials may be approved at the source of supply. If it is found during the life of the Contract that previously approved sources of supply do not supply materials or equipment conforming to the requirements of the Contract, do not furnish the valid test data required to document the quality of the material or equipment, or do not furnish valid quantities to document payment, the Contractor shall change the source of supply and furnish material or equipment from other approved sources. The Contractor shall notify the Department of this change, and provide the same identifying information noted hereinbefore, at least 60 days prior to their use on the project, but not less than two weeks prior to delivery.

Materials shall not be furnished from a source that has been identified by the Office of Federal Activities as being on the EPA's list of violating facilities.

When optional materials are included in the Contract, the Contractor shall advise the Engineer in writing of the specific materials selected. Thereafter, the Contractor shall use the selected materials throughout the project unless a change is authorized in writing by the Engineer. However, when the Contractor has an option as to the type of pipe that may be used, he may use any one of the approved types for each size of pipe, but he shall use the same type for a particular line. The Engineer may authorize other types and sources in an emergency that will unreasonably delay delivery of the selected material.

Equipment and material guaranties or warranties that are normally given by a manufacturer or supplier, or are otherwise required in the Contract, shall be obtained by the Contractor and assigned to the State in writing. The Contractor shall also provide an inservice operation guaranty for at least 6 months, beginning on the date of final acceptance, on all mechanical and electrical equipment and related components.

106.02—Material Inspection.

The Contractor shall advise the Engineer at least 2 weeks prior to the delivery of any material from a commercial source. The Contractor shall provide the Engineer with one copy of all invoices (prices are not required) for materials delivered to the project with the following exceptions: asphalt concrete; dense graded aggregate, to include aggregate base, subbase, and select material; fine aggregate; open graded coarse aggregate; crusher run aggregate; and road stabilization aggregate. The printed weights of each load of these materials, as specified in Section 109.01, shall accompany the delivery, and such information shall be made available to the Inspector at the project.

106.03—Local Material Sources (Pits and Quarries).

The requirements set forth herein apply exclusively to pits and quarries from which materials are obtained for use on contracts awarded by the Department.

Local material sources shall be concealed from view from the completed roadway and any existing public roadway. Concealment shall be accomplished by selectively locating the pit or quarry and spoil pile, providing environmentally compatible screening between the pit or quarry site and the roadway, or using the site for another purpose after removal of the material. The foregoing requirements shall also apply to any pit or quarry opened or reopened by a subcontractor or supplier. However, the requirements will not apply to commercial sand and gravel and quarry operations actively processing material at the site prior to the date of the Notice of Advertisement.

The Contractor shall furnish the Engineer a statement signed by the property owner in which the property owner agrees to the use of his property as a source of material for the project. Upon completion of the use of the property as a material source, the Contractor shall furnish the Engineer a release signed by the property owner indicating that the property has been satisfactorily restored. This requirement will be waived for commercial sources, sources owned by the Contractor, and sources furnished by the Department.

Local material pits and quarries shall not be opened or reopened without authorization by the Engineer. The Contractor shall submit for approval a site plan, including, but not limited to, (1) the location and approximate boundaries of the excavation with a slope gradient of 3:1 or greater; (2) procedures to minimize erosion and siltation; (3) provision of environmentally compatible screening; (4) restoration; (5) cover vegetation; (6) other use of the pit or quarry after removal of material, including the spoil pile; (7) the drainage pattern on and away from the area of land affected, including the directional flow of water; (8) constructed or natural waterways used for discharge; (9) a sequence and schedule to achieve the approved plan and; (10) the total drainage area for temporary sediment traps shall be shown. The site plan shall also include sediment basins if required. Sediment basins are required if the runoff from a watershed area of three acres or more flows across a disturbed

area of 10,000 square feet or greater. The Contractor shall design, construct and maintain the basin to accommodate the anticipated sediment loading from the land disturbing activity. The Contractor shall certify that the sediment basin design is in compliance with the Virginia Erosion and Sediment Control Regulations.

The Contractor's design and restoration shall be in accordance with the Contract and in accordance with the requirements of the federal, state, and local laws and regulations.

If the approved plan provides for the continued use or other use of the pit or quarry beyond the date of final acceptance, the Contractor shall furnish the Department a bond made payable to the Commonwealth of Virginia in an amount equal to the Engineer's estimate of the cost of performing the restoration work. If the pit or quarry is not used in accordance with the approved plan within 8 months after final acceptance, the Contractor shall perform restoration work as directed by the Engineer, forfeit his bond, or furnish the Engineer with evidence that he has complied with the applicable requirements of the State Mining Law.

Topsoil on borrow sites shall be stripped and stockpiled as directed by the Engineer for use as needed within the construction limits of the project or in the reclamation of borrow and disposal areas.

If the Contractor fails to provide necessary controls to prevent erosion and siltation, such efforts are not made in accordance with the approved sequence, or the efforts are found to be inadequate, he shall take immediate action to abate erosion and siltation. The Department may cause the Contractor to cease all contributing operations and direct efforts toward corrective action or may perform the work with state forces or other means determined by the Engineer. If the work is not performed by the Contractor, the cost of performing the work, plus 25 percent for supervisory and administrative personnel, will be deducted from monies due the Contractor.

Costs for applying seed, fertilizer, lime, and mulch; restoration; drainage; erosion and siltation control; regrading; haul roads; and screening shall be included in the contract price for the type of excavation or other appropriate items.

If the Contractor fails to fulfill the provisions of the approved plan for screening or restoring material sources, the Department may withhold and use for the purpose of performing such work any monies due the Contractor at the time of the final estimate. The Contractor will be held liable for penalties, fines, or damages incurred by the Department as a result of his failure to prevent erosion or siltation.

After removing the material, the Contractor shall remove metal, lumber, and other debris resulting from his operations and shall shape and landscape the area in accordance with the approved plan for such work.

If payment is to be made for material measured in its original position, material shall not be removed until cross sections have been taken. The material shall be reserved exclusively for use on the project until completion of the project or until final cross-sections have been taken.

(a) **Sources Located by the Department:** The Department may indicate on the plans where certain materials are known to exist. The Department usually holds no title in such sources. However, an option for the use of the material may have been obtained by the Department. Existing exploration and test data for such sources, together with existing options, will be available for inspection upon request at the office of the District or State Materials Division Administrator. The Contractor may have such instruments of option assigned to him. In such event, the Contractor shall advise the property owner of his acceptance in accordance with the instrument prior to entering such pits or quarries and shall assume all responsibility for doing so. The Department makes no guarantee as to the legal sufficiency of the instruments obtained hereunder.

The Department's exploration and test data for a local material source shall in no way constitute a guarantee of the quality and quantity of materials in the deposit. The Contractor shall perform exploration and tests as is necessary to determine the amount of selective excavating, processing, and admixing he shall perform in order to furnish the specified material. The cost of exploring, testing, processing, and admixing, including the cost of the admixture material, shall be borne by the Contractor.

(b) **Sources Furnished by the Department:** Sources furnished by the Department will be made available to the Contractor together with the right to use such property as may be required for a plant site, stockpiles, and haul roads. The Contractor shall confine his excavation operations to those areas of the property specified in the Contract.

The Contractor shall be responsible for excavation that shall be performed in order to furnish the specified material.

(c) **Sources Furnished by the Contractor:** When the Contractor desires to use local material from sources other than those located or furnished by the Department, he shall first secure the approval of the Engineer. The use of material from such sources will not be permitted until test results have been approved by the Engineer and written authority for its use has been issued.

The Contractor shall acquire the necessary rights to take material from sources he locates and shall pay all related costs, including costs that may result from an increase in the length of the haul. Costs of exploring, sampling, testing, and developing such sources shall be borne by the Contractor. The Contractor shall obtain representative samples from at least two borings in parcels of 10 acres or less and at least three additional borings per increment of 5 acres or portion thereof to ensure that lateral changes in material are recorded. Drill logs for each test shall include a soil description and the moisture content at intervals where a soil change is observed or at least every 5 feet of depth for consistent material. Samples obtained from the boring shall be tested by an approved laboratory

for grading, Atterberg limits, CBR, maximum density, and optimum moisture. The Department will review and evaluate the material based on test results provided by the Contractor. The Department may reject any material from a previously approved source that fails a visual examination or whose test results show that it does not conform to the specifications.

106.04—Disposal Areas.

Unsuitable or surplus material shown on the plans shall be disposed of as shown herein. Material not used on the project shall be disposed of by the Contractor off the right of way. The Contractor shall obtain the necessary rights to property to be used as an approved disposal area. For the purpose of this specification an approved disposal area is defined as that which is owned privately and has been approved by the Department for use in disposing of material not used on the project.

When neither unsuitable nor surplus material is shown on the plans, the Contractor shall dispose of it as shown herein. If the Contractor, having shown reasonable effort, is unsuccessful in obtaining the necessary rights to property to be used as an approved disposal area, the Department will obtain rights for disposal. Compensation, if not shown in the Contract, will be in accordance with the requirements of Section 104.02.

Prior to the Department approving a disposal area, the Contractor shall submit a site plan. The plan shall show (1) the location and approximate boundaries of the disposal area, (2) all procedures to minimize erosion and siltation, (3) haul roads, (4) provision for environmentally compatible screening, (5) restoration of and permanent cover vegetation in accordance with the Roadside Development Sheet for the area following the deposit of material, (6) the drainage pattern on and away from the area affected, including constructed or natural waterways used for drainage and calculations to determine the need for channel improvements if the natural channel will not accommodate the 2-year storm or the man-made channel will not accommodate the 10-year storm in accordance with the Virginia Erosion and Sediment Control Regulations, (7) the streams or tributaries receiving the discharge, (8) a sequence and schedule to complete the work, and (9) total drainage area for temporary sediment traps. The site plan shall also include sediment basins if required. Sediment basins are required if the runoff from a watershed area of 3 acres or more flows across a disturbed area of 10,000 square feet or greater. The Contractor shall design, construct and maintain the basin to accommodate the anticipated sediment loading from the land disturbing activity. Costs for applying seed, lime, fertilizer, and mulch, reforestation, drainage, erosion and siltation control, regrading, haul roads, and screening for disposal areas and pits shall be included in the contract price bid for the type of excavation or other appropriate items. The Contractor shall certify that the sediment basin design is in compliance with the Virginia Erosion and Sediment Control Regulations, all local, state, and federal ordinances and Section 107.14.

Disposal areas shall be cleared but need not be grubbed. The clearing work shall not damage grass, shrubs, or vegetation outside the limits of the approved area and haul

roads thereto. After the material has been deposited, the area shall be shaped to minimize erosion and siltation of nearby streams and landscaped in accordance with the approved plan for such work or shall be used as approved by the Engineer. The Contractor's design and restoration shall be in accordance with the requirements of the contract and federal, state, and local laws and regulations.

If the Contractor fails to provide the necessary controls to prevent erosion and siltation, or the efforts are found to be inadequate, he shall take immediate action to abate erosion and siltation. The Department may cause the Contractor to cease all contributing operations and direct efforts toward corrective action or may perform the work with state forces or other means determined by the Engineer. If the work is not performed by the Contractor, the entire cost of performing the work, plus 25 percent for supervisory and administrative personnel, will be deducted from monies due the Contractor.

The Contractor shall furnish the Engineer a statement signed by the property owner in which the owner agrees to the use of his property for the deposit of material from the project. Upon completion of the use of the property as an approved disposal area, the Contractor shall furnish the Engineer a release signed by the property owner indicating that the property has been satisfactorily restored. This requirement will be waived for property that is owned by the Contractor.

Material encountered by the Contractor shall be handled as follows:

(a) **Unsuitable material** for the purpose of this specification is defined as material having poor bearing capacity, excessive moisture content, extreme plasticity or other characteristics as defined by the Engineer and shall be disposed of at an approved disposal area or landfill licensed to receive such material.

(b) **Surplus material** as shown on the plans shall be disposed of by flattening slopes, used to fill in ramp gores and medians, or disposed of at an approved disposal area or a licensed landfill.

(c) **Organic materials** such as tree stumps and limbs (not considered merchantable timber), roots, rootmat, leaves, grass cuttings, or other similar materials shall be chipped or shredded and used on the project as mulch, given away or sold as firewood, chipped or shredded and given away or sold as mulch, burned at the Contractor's option if permitted by local ordinance, or shall be disposed of at an approved facility licensed to receive such materials. Organic material shall not be buried in state rights of way or in an approved disposal area.

(d) **Rootmat** for the purpose of this specification is defined as any material that, by volume, contains approximately 60 percent or more roots and shall be disposed of in accordance with (c) herein.

(e) **Inorganic materials** such as brick, cinder block, broken concrete without exposed reinforcing steel, or other such material shall be disposed of at an

approved disposal area or landfill licensed to receive such materials. If disposed of in an approved disposal area, the material shall have at least 2 feet of backfill cover and restored in accordance with other provisions of this section.

Concrete without exposed reinforcing steel and not blended, may be crushed and used as rock in accordance with Section 303. If approved by the Engineer, these materials may be blended with soils that meet AASHTO M57 requirements and deposited in fill areas within the right-of-way in accordance with the requirements of Section 303 as applicable.

Concrete with exposed reinforcing steel still attached shall not be disposed of at an approved disposal area but may be disposed of at a landfill licensed to receive such material.

(f) **Excavated rock** in excess of that used within the project site in accordance with the requirements of Section 303 shall be treated as surplus material.

Surplus material stockpile areas on the right-of-way shall be cleared but need not be grubbed. The clearing work shall not damage grass, shrubs, or vegetation outside the limits of the approved area and the haul roads thereto. Placement of fill material shall not adversely affect existing drainage structures. If necessary, modified existing drainage structures, as approved by the Engineer shall be paid for in accordance with Section 109.05. Within *7* days after the material has been deposited, the area shall be shaped and seeded to minimize erosion and siltation.

106.05—Rights for and Use of Materials Found on Project.

With the approval of the Engineer, the Contractor may use in the project any materials found in the excavation that comply with the specifications. Unless otherwise specified, the Contractor will be paid for both the excavation of such materials at the contract unit price and for the pay item for which the excavated material is used. However, the Contractor shall replace at his own expense with other acceptable material the excavation material removed and used that is needed for use in embankments, backfills, approaches, or otherwise. The Contractor shall not excavate or remove any material from within the construction limits that is not within the grading limits, as indicated by the slope and grade lines, without authorization by the Engineer.

106.06—Samples, Tests, and Cited Specifications.

Materials will be inspected and tested by the Engineer before or during incorporation in the work. However, the inspection and testing of such material shall not relieve the Contractor of the responsibility for furnishing material that conforms to the specifications. The Department may retest all materials that have been accepted

at the source of supply after delivery and may reject those that do not conform to the specifications. Stored material may be reinspected prior to use. Work in which untested materials are used without the written permission of the Engineer may be considered unacceptable.

Unless reference is made to a specific dated specification, references in these specifications to AASHTO, ASTM, VTM, and other standard test methods and materials requirements shall refer to either the test specifications that have been formally adopted or the latest interim or tentative specifications that have been published by the appropriate committee of such organizations as of the date of the Notice of Advertisement. Unless otherwise indicated, tests for compliance with specification requirements will be made by and at the Department's expense except that the cost of retests, exclusive of the first retest, shall be borne by the Contractor. Samples shall be furnished by the Contractor at his expense, and those that are not tested by the Contractor will be tested by a representative of the Department.

The inspection cost of structural steel items fabricated in a country other than the continental United States shall be borne by the Contractor. Inspection of structural fabrication shall be performed in accordance with the requirements of the appropriate VTM by a commercial laboratory approved by the Department. Additional cleaning or repair necessary because of environmental conditions in transit shall be at the Contractor's expense.

In lieu of testing, the Engineer may approve the use of materials based on the receipt of a certification furnished by the Contractor from the manufacturer. However, furnishing the certificate shall not relieve the Contractor of the responsibility for furnishing materials that conform to the specifications.

Materials requiring an MSDS will not be accepted at the project site for sampling or at the Department's laboratories for testing without the document.

106.07—Plant Inspection.

If the Engineer inspects materials at the source, the following conditions shall be met:

(a) The Engineer shall have the cooperation and assistance of the Contractor and producer of the materials.

(b) The Engineer shall have full access to parts of the plant that concern the manufacture or production of the materials being furnished.

(c) For materials accepted under a quality assurance plan, the Contractor shall furnish equipment and maintain a plant laboratory at locations approved for plant processing of materials. The Contractor shall use the laboratory and equipment to perform quality control testing.

The laboratory shall be of weatherproof construction, tightly floored and roofed, and shall have adequate lighting, heating, running water, ventilation, and electrical service. The ambient temperature shall be maintained between 68 degrees F and 86 degrees F and thermostatically controlled. The laboratory shall have a telephone, intercom, or other electronic communication system connecting the laboratory and scale house if the facilities are not in close proximity. The laboratory shall be constructed in accordance with the requirements of local building codes.

The Contractor shall furnish, install, maintain, and replace, as conditions necessitate, testing equipment specified by the appropriate AASHTO method or VTM being used and provide necessary office equipment and supplies to facilitate keeping records and generating test reports. The Contractor's technician shall maintain current copies of the appropriate test procedures. The Contractor shall also provide and maintain an approved test stand for accessing truck beds for the purpose of sampling and inspection. Cast iron grinding pots and rubber mauls will be furnished by the Department where required. The Department may approve a single laboratory to service more than one plant belonging to the same Contractor.

(d) Adequate safety measures shall be provided and maintained.

106.08—Storing Materials.

Materials shall be stored in a manner so as to ensure the preservation of their quality and fitness for the work. When considered necessary by the Engineer, materials shall be stored in weatherproof buildings on wooden platforms or other hard, clean surfaces that will keep the material off the ground. Materials shall be covered when directed by the Engineer. Stored material shall be located so as to facilitate its prompt inspection. Approved portions of the right of way may be used for storage of material and equipment and for plant operations. However, equipment and materials shall not be stored within the clear zone of the travel lanes open to traffic.

Additional required storage space shall be provided by the Contractor at his expense. Private property shall not be used for storage purposes without the written permission of the owner or lessee. Copies of the written permission shall be furnished the Engineer. Upon completion of the use of the property, the Contractor shall furnish the Engineer a release signed by the property owner indicating that the property has been satisfactorily restored.

106.09—Handling Materials.

Materials shall be handled in a manner that will preserve their quality and fitness for the work. Aggregates shall be transported from storage to the work in vehicles constructed to prevent loss or segregation of materials.

106.10—Unacceptable Materials.

Materials that do not conform to the specifications shall be considered unacceptable. Such materials, whether in place or not, will be rejected and shall be removed from the site of the work. If it is not practical for the Contractor to remove rejected material immediately, the Engineer will mark the material for identification. Rejected material whose defects have been corrected shall not be used until approval has been given by the Engineer.

106.11—Material Furnished by the Department.

The Contractor shall furnish all materials required to complete the work except those specified to be furnished by the Department.

Material furnished by the Department will be delivered or made available to the Contractor at the points specified in the Contract. The cost of handling and placing materials after delivery to the Contractor shall be included in the contract price for the item with which they are used.

The Contractor shall be responsible for material delivered to him, including shortages, deficiencies, and damages that occur after delivery, and any demurrage charges.

SECTION 107—LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

107.01—Laws To Be Observed.

The Contractor shall keep fully informed of federal, state, and local laws, bylaws, ordinances, orders, decrees, and regulations of governing bodies, courts, and agencies having any jurisdiction or authority that affects those engaged or employed on the work, the conduct of the work, or the execution of any documents in connection with the work. The Contractor shall observe and comply with such laws, ordinances, regulations, orders, or decrees and shall indemnify and hold harmless the State and its agents, officers, or employees against any claim for liability arising from or based on their violation, whether by himself, his agents, his employees, or subcontractors. The Contractor shall execute and file the documents, statements, and affidavits required under any applicable federal or state law or regulation affecting his bid or Contract or prosecution of the work thereunder. The Contractor shall permit examination of any records made subject to such examination by any federal or state law or by regulations promulgated thereunder by any state or federal agency charged with enforcement of such law.

In accordance with Title 2.2, Subtitle II, Part B, Chapter 43, Article 4 of the *Code of Virginia* (Virginia Public Procurement Act), the Contractor shall make payment