

CORE BORING
CONTRACT DOCUMENTS

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CORE BORING CONTRACT PROPOSAL

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SPECIAL PROVISIONS

Attachment # 1

TABULATION OF BORINGS

Attachment # 2

LOCATION MAP AND BORING LOCATION

Attachment # 3

NOTICE TO BIDDERS

SUBJECT: State Project:
Federal Project:
Project Description:
County:

Gentlemen:

You are invited to submit a proposal for the performance of work described in and governed by the attached documents. General information and instructions for submitting a proposal are as follows:

General Instructions

1.0 PURPOSE:

_____, has been engaged by the West Virginia Department of Transportation, Division of Highways, (WVDOH), to prepare plans and specifications for subject project. The Consultant's agreement with the WVDOH provides that the Consultant shall receive bids for test borings and, subject to the approval of the WVDOH, award the contract.

2.0 LOCATION OF WORK:

The project is located in _____ County, West Virginia, in the vicinity of _____. A vicinity map is included in Attachment 3.

3.0 SCOPE OF WORK:

3.1 GENERAL:

Project Length: _____ Miles
Number of proposed roadway borings:
Number of proposed structure borings:
Estimated lineal footage for roadway borings:
Estimated lineal footage for structure borings:

Boring types, locations, and depths are indicated in the table and drawings included here as Attachments 2 and 3.

3.2 SPECIFIC:

The work shall consist of furnishing all tools, equipment, materials, labor, and supervision necessary to make the test borings and take disturbed and undisturbed samples at the locations and to the depths or elevations indicated or specified by the Engineer; and to perform all work incident thereto, all in accordance with the Specifications.

3.3 REQUIRED NUMBER OF DRILL RIGS:

The Contractor shall begin work with no fewer than _____ fully equipped and manned drilling rigs on the site. The number shall not be reduced without permission of the Engineer.

4.0 WORKING TIME:

Work shall be started at the site within seven (7) calendar days after written notice from the Engineer to proceed. All work shall be completed within calendar days after commencement of work. One additional calendar day will be added to this contract time for each _____ borings added to the proposal quantity.

5.0 DISPOSITION OF SAMPLES:

The Contractor will, at his expense, deliver or ship samples selected for testing to:

All samples selected for resilient modulus value shall be delivered or shipped to:

West Virginia Department of Transportation,
Division of Highways
Materials Control Soils and Testing Division
190 Dry Branch Road
Charleston, West Virginia 25306

The Engineer may photograph selected rock cores and the Contractor will dispose of the rock core as directed by the Engineer.

6.0 THE PROPOSAL:

The proposal shall be made on the form included as page P-1. It shall be delivered to _____ on or before _____ at which time it be opened and read publicly.

In addition to the required Bid Bond, the Proposal must be accompanied by:

5 executed copies of the Free Competitive Bidding Affidavit (Page P-6)

3 executed copies of the Non-Discrimination Clause (Page P-8 thru P-9)

7.0 CONTACT PERSONNEL:

The following personnel may be contacted to provide pertinent information for the project:

1. Engineer (Project Manager):

Name _____ Number _____

2. Stake Out / Survey / Right of Entry:

Name _____ Number _____

3. Railroad Contact (If Applicable):

Name _____ Number _____

4. Geotechnical (Project Manager) / Inspector:

Name _____ Number _____

PROPOSAL FORM

Test Borings and All Related Work

STATE PROJECT:
FEDERAL PROJECT:

COUNTY:
LENGTH: Miles

TO: _____
(Engineer)

BID OPENING: _____
(Time)

(Name of Bidder)

(Date)

The abovesigned bidder having full knowledge of this site, the Notice to Bidders, the Plans, the General Specifications for Sub-surface Investigations and Special Provisions agrees to furnish all tools, equipment, material, labor, and supervision necessary to make the test borings and take disturbed and undisturbed samples at the locations and to the depths or elevations indicated or specified by the Engineer; and to perform all work incident thereto, all in accordance or specified by the Engineer; and to perform all work incident thereto, all in accordance with the Specifications and related documents for the prices listed in the following schedule:

ITEM NO.	ITEM	UNIT	APPROX. QUANTITIES	ITEMIZED PROPOSAL	
				UNIT BIT PRICE	TOTAL AMOUNT
1	Mobilization and Demobilization	LS	LS	*	*

* MUST BE SAME AMOUNT

TOTAL BID: _____

On acceptance of this Proposal, the undersigned agrees to do the following, and within the time limit stated in the Specifications:

1. Enter into a written contract in accordance with 103.8 of the General Specifications;
2. Furnish a Contract Bond in accordance with 103.5 of the General Specifications;
3. Begin work within seven (7) calendar days from the notice to proceed, and to prosecute the work in such a manner as to complete all borings within _____ calendar days from commencement of work; and
4. Provide a minimum of _____ drill rigs which shall not be reduced in number without permission of the Engineer.

Accompanying this Proposal is a bid bond or certified check for 10% of the bid price which is to be forfeited, as liquidated damages, if, in the event that this Proposal is accepted, the undersigned shall fail to execute the Contract and furnish satisfactory contract bond under the conditions and time set forth in the Specifications.

DATE:

(Name of Bidder)

BY:_____

(Type of Organization)*

(P.O. Address)

*Partnership, Proprietorship, Corp., etc.

PROPOSAL GUARANTY BOND

STATE PROJECT:

FEDERAL PROJECT:

_____ COUNTY

KNOW ALL MEN BY THESE PRESENTS, That we, _____

_____ hereinafter called the "Principal" and _____,

a corporation incorporated under the laws of the State of _____,

duly authorized to do business in the State of West Virginia, hereinafter called the

"Surety" are held and firmly bound unto _____

_____ dollars (\$ _____), lawful money of the United

States of America, to be paid to _____,

which payment will and truly to be made and done, we bind ourselves, our heirs,

executors, administrators, and successors, jointly and severally firmly by these

presents.

SIGNED, sealed and dated this _____ day of _____, 20 _____.

The condition of the above obligation is such that whereas the Principal has submitted to _____ a Proposal attached

hereto and hereby made a part hereof, to enter into a contract in writing for:

State Project _____

NOW, THEREFORE,

(a) If said Proposal shall be rejected by _____,

or in the alternative,

(b) If said Proposal shall be accepted by _____,

and the Principal shall duly execute the Contract and furnish the required Contract Bond within the stipulated time, then this obligation shall be void; otherwise the same shall remain in force and effect, and the Principal and Surety will pay unto the obligee the amount of this bond, it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligation of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the _____ may accept such Proposal; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers.

Witness Principal

Witness Surety

(SEAL) By _____

Attach Powers of Attorney Involved

Countersigned at _____, West Virginia, this _____ day of _____, 20 ____.

Resident Agent

FREE COMPETITIVE BIDDING AFFIDAVIT

Prior to approval of the Contract for this work, there should be filed a sworn statement executed by, or on behalf of, the person, firm, association, or corporation to whom such contract is to be awarded, certifying that such person, firm, association, or corporation has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such contract. This sworn statement in the form of an affidavit on attached form, executed and sworn to be each bidder, shall be submitted in duplicate with the proposal for construction of this project.

This affidavit must be sworn to before a Notary Public who must affix his seal thereto if outside the State of West Virginia.

FREE COMPETITIVE BIDDING AFFIDAVIT

Section 112 © of Title 23, United States Code

State of _____

County of _____

I, _____ (Contractor) by
_____(name and title of
authorized representative), being duly sworn to depose, say and certify: That said
contractor has not, either directly or indirectly, entered into any agreement,
participated in any collusion, or otherwise taken any action in restraint of free
competitive bidding in connection with the contract for State Project _____
_____ in _____ County.

Contractor

Name and Title of Authorized
Representative

Taken, subscribed, and sworn before me this _____ day of _____, 20____.

Notarial Seal
if executed outside
West Virginia

Notary Public

STATE PROJECT:

NON-DISCRIMINATION OF MINORITY BUSINESS ENTERPRISES

The WVDOH hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

STATE PROJECT:

NON-DISCRIMINATION OF EMPLOYEES:

The Contractor agrees as follows: During the performance of this contract, the Contractor and any of its sub-contractors shall provide equal employment opportunities for all qualified persons and shall not discriminate against any employee or applicant because of race, color, or national origin. The Contractor and its sub-contractor shall comply with the Executive Orders of the Governor of the State of West Virginia, dated October 16, 1963, and December 15, 1965, and conform to Presidential Order No. 11246, and the Civil Rights Act of 1964.

During the performance of this contract, the Contractor for itself, its assignees, and successors in interest (hereinafter called Contractor) agree as follows:

1. Compliance with Regulations: The Contractor will comply with the regulations of the Department of Transportation relative to non-discrimination in federally assisted programs of the Department of Transportation, (Title 49, Code of Federal Regulations), which are herein incorporated by reference and made a part of this contract.
2. Non-Discrimination: The Contractor, with regard to the work performed by it after award and discriminate on the ground of race, color, or national origin in the selection and retention of sub-contractors, including procurement of materials and leases of equipment. The Contractor will not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices, when the contract covers a program set forth in Appendix B of the Regulations.
3. Solicitations for Sub-contractors, including Procurement of Materials and Equipment: In all solicitations either by competitive bid or negotiation made by the Contractor for work to be performed under a sub-contract, including procurement of materials or equipment, each potential sub-contractor or supplier shall be notified by the Contractor of the Contractor's obligations under this contract and the regulations relative to non-discrimination on the ground of race, color, or national origin.
4. Information and Reports: The Contractor will provide all information and reports required by the Regulations, or orders and instructions issued pursuant thereto, and will permit access to its books, records, accounts, and other sources of information, and its facilities as may

be determined by the Engineer, the WVDOH or the Federal Highway Administration (FHWA) to be pertinent to ascertain compliance with such regulations or directives. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the Engineer, the WVDOH, or the FHWA, as appropriate, and shall set forth what efforts it has made to obtain the information.

5. Sanctions for Non-Compliance: In the event of the Contractor's non-compliance with the non-discrimination provisions of this contract, the Engineer shall impose such contract sanctions as it, the WVDOH or the FHWA, may determine to be appropriate, including, but not limited to,
 - a. withholding of payments to the Contractor under the contract until the Contractor complies; and/or
 - b. cancellation, termination, or suspension of the contract, in whole or in part.

6. Incorporation of Provisions: The Contractor will include the provisions of paragraphs (1) through (6) in every sub-contract, including procurement of materials and leases of equipment, unless exempt by the regulations, or directives issued pursuant thereto. The Contractor shall take such action with respect to any sub-contract or procurement as the Engineer, the WVDOH, or the FHWA may direct as a means of enforcing such provisions including sanctions for non-compliance; provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a sub-contractor or supplier as a result of such direction, the Contractor may request the Engineer or the WVDOH to enter into such litigation to protect the interest of the State, and in addition, the Contractor may request the United States to enter into such litigation to protect the interest of the United States.

These provisions shall be fully and effectively enforced, and failure to comply therewith shall be regarded as a material breach of this agreement.

Date

Signature

BORINGS AND ALL RELATED WORK

STATE PROJECT:

FEDERAL PROJECT:

COUNTY:

WEST VIRGINIA

CONTRACT

1. THIS AGREEMENT, Made and entered into this ____ day of _____, 20 _____, by and between _____ hereinafter called the Engineer, party of the first part and _____ hereinafter called the Contractor, party of the second part.

2. WHEREAS, The said Engineer did invite proposals for Borings and All Related Work as described in the "Notice to Bidders" and attachments thereto, for State Project _____, _____ County, West Virginia.

AND WHEREAS, Pursuant to said invitation, the said Contractor submitted in writing the Proposal and Bid hereto attached for Borings and All Related Work according to said Notice to Bidders and attachments thereto.

3. NOW, THEREFORE, THIS AGREEMENT WITNESSETH: That the said Contractor has agreed and by these presents does agree with the said Engineer for the consideration of the prices set forth in the said Proposal mentioned, to furnish at his own proper cost and expense, all labor, tools, materials, supplies, equipment, machinery, and transportation to do all work necessary to complete the borings and all related work according to and in the manner provided by the said Notice to Bidders and attachments thereto, which have been examined by the said Contractor the date and date hereinbefore and in said Proposal mentioned.

4. The Contractor agrees that he is fully informed as to all conditions affecting the work to be done, as well as to the labor and materials to be furnished for the completion of this contract and that such information was secured by personal investigation and research and not wholly from the plan of the Engineer; and that he will make no claim against the said Engineer by reason of estimates, tests, or representations heretofore made by any officer or agent of said Engineer.

5. The work to be done under this contract shall be performed in accordance with the true intent and meaning hereof and by said Notice to Bidders and attachments thereto which are hereby referred to and made a part of this contract, without expense of any nature whatsoever to said Engineer, other than the consideration named in this contract.

6. The work to be performed under this Contract shall be commenced not later than seven (7) calendar days after notice to proceed and shall be completed in _____ after commencement of work.

7. On the faithful performance of the work herein embraced as set forth in said Notice to Bidders and Attachments thereto, which are part hereof and upon certification by the Engineer, the Engineer agrees to pay the Contractor partial payments and final payments according to the schedule set forth in the Specifications at the amounts named in the Proposal hereto attached and made a part of this Contract.

8. It is understood and agreed that the Notice to Bidders, and attachments thereto, copies of which are hereto attached are each made a part of this Contract, and that for each and every provision thereof not herein specifically set forth shall be considered as binding upon the parties hereto as though same were herein written.

9. IN WITNESS WHEREOF, The said _____ has caused this instrument to be signed, and the said party of the second part has hereunto set its hand and seal this the ____ day of _____. 20 ____ .

Party of the First Part: _____
BY _____ (Seal)

Party of the Second Part: _____
BY _____ (Seal)

STATE OF _____
TO-wit:

COUNTY OF _____

I, _____, a notary public in and for said County and State, do certify that _____ whose name _____ signed to the foregoing writing bearing date the ____ day of _____, 20____, has this day acknowledged that same before me and in my said County.

Given under my hand this ____ day of _____, 20____ .

NOTARY PUBLIC

CONTRACT BOND

KNOW ALL MEN BY THESE PRESENTS, That we, _____

hereinafter called the "Principal" and _____

a corporation incorporated under the laws of the State of _____,

hereinafter called the "Surety" are held and firmly bound unto _____

_____ hereinafter called "Engineer," in the full and just sum of

_____ dollars (\$ _____), lawful money of the United States of America,

to be paid to _____ ,

(Engineer)

which payment will and truly to be made and done, we bind ourselves, our heirs, executors, administrators, and successors jointly and severally firmly by these presents.

Sealed with our respective seals and dated this ___ day of _____, 20__.

The Condition of this obligation is such that, whereas, the "principal" has entered into a contract dated ___ day of _____, 20__, with _____ (Engineer)

for the performance of a subsurface investigation described as follows:

_____.

WHEREAS, It was one of the conditions of the award of _____,
(Engineer)
pursuant to which said contract was entered into, that these presents should be
executed.

NOW, THEREFORE, if the above "Principal" as Contractor, shall in all respects
comply with the terms of the contract and conditions of said contract, and his,
their, or its obligations thereunder, including the specifications therein referred
to and made part thereof, and such alterations as may be made in such
specifications as herein provided for, and shall well and truly, and in a manner
satisfactory to _____,
(Engineer)
contracted for, including without limitation any recall work required by the
"Engineer" within six (6) months after the initial mobilization has been terminated,
and shall save harmless the "Engineer" and the State of West Virginia from any
expense incurred through the failure of said Contractor to complete the work as
specified, or for any damages growing out of the carelessness of said Contractor
or his, their, or its servants, or for any liability for payment of wages due to
material furnished said Contractor, and shall well and truly pay all and every
person furnishing material and performing labor in and about the Subsurface
Investigation of said _____ all and every sum or sums
of money due him, them, or any of them, for all such labor and materials for
which the Contractor is liable.

And also shall save and keep harmless the said "Engineer" and the State of West Virginia against and from all losses to it from any cause whatever, including patent, trade-mark, and copyright infringements in the manner of performing subsurface investigation of said _____ ; then this obligation to be void or otherwise to be and remain in full force and virtue.

Contractor (Seal)

(Seal)

(Seal)

Surety Company (Seal)

By _____

Title

POST OFFICE ADDRESS

WITNESS

Countersigned at _____, West Virginia

this ____ day of _____, 20____.

By _____
Resident Agent

STANDARD SPECIFICATIONS
FOR
SUB-SURFACE INVESTIGATIONS

DIVISION 100
GENERAL PROVISIONS

SECTION 101

DEFINITION OF TERMS

- 101.1 AASHTO:** American Association of State Highway and Transportation Officials.
- 101.2 AWARD:** The acceptance by the Engineer of a bid.
- 101.3 BIDDER:** An individual firm, corporation or combination thereof, acting directly or through a duly authorized representative, and qualified according to the requirements and provisions of the Contract, submitting a bid for the proposed work.
- 101.4 CALENDAR DAY:** Every day shown on the calendar.
- 101.5 CHANGE ORDER:** A general term referring to force account work orders, supplemental agreements and work orders, of the Contract.
- 101.6 COMMISSIONER:** West Virginia Commissioner of Highways.
- 101.7 CONTRACT:** The written agreement between the Engineer and the Contractor covering the performance of the work, the furnishing of labor, equipment, and materials and the basis of payment. The Contract includes the invitation for bids, proposal, specifications, special provisions, plans, notice to proceed, any change orders and supplemental agreements that are required to complete the construction of the work in an acceptable manner, including authorized extensions thereof, all of which constitutes one instrument.
- 101.8 CONTRACT BOND:** The approved form of security executed by the Contractor and his surety guaranteeing completion of the work and payment of all legal debts pertaining to completion of the project.
- 101.9 CONTRACT PERIOD:** The period from the specified date of commencement of work to the specified date of completion of the work, both dates inclusive, as is specified in the Contract.
- 101.10 CONTRACT TIME:** The number of work or calendar days specified in the proposal, indicating the time allowed for the completion of the work contemplated, including authorized time extensions. In case a calendar date of completion is specified in the proposal, the work shall be complete by that date, or any approved extension thereof.

- 101.11 CONTRACTOR:** The individual, firm or corporation, party of the second part to the Contract, acting directly or through his or their agents, employees, or subcontractors.
- 101.12 COUNTY:** The County or Counties of West Virginia in which the work is to be done.
- 101.13 DEPARTMENT:** West Virginia Department of Transportation (WVDOT).
- 101.14 DIVISION:** West Virginia Division of Highways (WVDOH).
- 101.15 EASEMENT:** A right acquired by one party to use land belonging to another party for a specified purpose.
- 101.16 EMPLOYEE:** Any person working on behalf of the project who is under the direction of the contractor or any subcontractor.
- 101.17 ENGINEER:** The Engineer is the Consulting Engineer awarding the Contract or his duly authorized representative; or the WVDOH when the Division awards the Contract.
- 101.18 EQUIPMENT:** All machinery and equipment, together with the necessary supplies for upkeep and maintenance, and also tools and apparatus necessary for the proper performance and acceptable completion of the work.
- 101.19 ESTIMATES:** The official written itemization of the value of materials in place and work performed.
- 101.20 HIGHWAY:** The entire improvement comprising the entire right of way. See 101.36.
- 101.21 NOTICE TO BIDDERS:** The notice to Contractors containing all necessary information as to provisions, requirements, date and time of submitting Proposals.
- 101.22 INTERPRETATIONS:** In order to avoid cumbersome and confusing repetition of expressions in these specifications, it is provided that whenever anything is, or is to be done, if, as, or, when, or where "contemplated, required, determined, directed, specified, authorized, ordered, given, designated, indicated, considered necessary, deemed necessary, permitted, reserved, suspended, established, approval, approved, disapproved, acceptable, unacceptable, suitable, accepted,

satisfactory, unsatisfactory, sufficient, insufficient, rejected, or condemned," it shall be understood as if the expression were followed by the words "by the Engineer" or "to the Engineer."

- 101.23 INVITATION FOR BIDS:** The advertisement for bids, as required by law, inviting bids for work to be performed or material to be furnished.
- 101.24 ITEM:** A specifically described unit of work for which a price is provided in the Contract.
- 101.25 MAJOR AND MINOR CONTRACT ITEMS:** Any item having a contract value of 10% or more of the original contract amount shall be considered as a major item. All other items shall be considered minor items.
- 101.26 NOTICE TO PROCEED:** Written notice to the Contractor to proceed with the contract work including, when applicable, the date of beginning of contract time.
- 101.27 PLANS:** Working drawings, or exact reproductions thereof, which show the location, character, dimensions, and details of the work to be done.
- 101.28 QUALIFICATION STATEMENT:** The statement in which the Contractor furnishes information as to his ability to perform work, his experience, manpower, equipment, and financial condition.
- 101.29 PROJECT:** The specific section of the highway or designated area on which work is to be performed under the Contract.
- 101.30 PROPOSAL:** The offer of a bidder, on the prescribed form to perform the work at the prices quoted.
- 101.31 PROPOSAL FORM:** The approved form on which the Engineer requires a bid to be prepared and submitted for the work.
- 101.32 PROPOSAL GUARANTY:** The security furnished with a bid to guarantee that the bidder will enter into the contract if his bid is accepted.
- 101.33 RECALL:** It is anticipated that all work on this project will be done at one time. It is possible, however, that borings may be necessary after the equipment has left the project. If this occurs, it will be necessary to mobilize equipment at a later date to perform the additional borings. The Contractor shall mobilize the required equipment, labor, and materials to perform the additional work within 15 calendar days after

notification to proceed. The bid item "Mobilization Recall" is to compensate the Contractor for this recall of equipment.

- 101.34 RIGHT OF WAY:** A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to a highway.
- 101.35 RIGHT OF ENTRY:** Permission to enter upon private or public properties for the purpose of gaining access to or performing borings or related work.
- 101.36 ROAD:** A general term denoting a public way for purposes of vehicular travel, including the entire area within the right of way, or needed for the maintenance of travel.
- 101.37 SPECIAL PROVISIONS:** Additions and revisions to the Standard and Supplemental Specifications covering conditions peculiar to an individual project.
- 101.38 SPECIFICATIONS:** A general term applied to all directives, provisions, and requirements pertaining to performance of the work.
- 101.39 STATE:** The State of West Virginia
- 101.40 STRUCTURES:** Bridges, culverts, retaining walls, cribbing, or buildings.
- 101.41 SUBCONTRACTOR:** An individual, firm, or corporation to whom the Contractor sublets part of the Contract.
- 101.42 SUBSTRUCTURE:** All of the structure below the bearings of simple and continuous spans, skewbacks of arches and tops of footing of rigid frames, together with the back walls, wingwalls, and wing protection railings.
- 101.43 SUPERINTENDENT:** The Contractor's authorized representative in responsible charge of the work.
- 101.44 SURETY:** The corporation, partnership, or individual other than the Contractor, executing a bond furnished by the Contractor.
- 101.45 TITLES:** The titles or headings of the sections and subsections herein are intended for convenience of reference and shall not be considered as having any bearing on this interpretation except those titles and headings used in conjunction with the definition of terms.

101.46 UTILITIES: Electric power, water, and fuel production and transmission companies, T.V. cables, or others.

101.47 WORK: Work shall mean the furnishing of all labor, materials, equipment, and other incidentals necessary or convenient to the successful completion of the project and the carrying out of all duties and obligations imposed by the Contractor.

101.48 WORK ORDER: A written order, signed by the Engineer, requiring certain performance by the Contractor without negotiation. Such order shall not change quantities of major items beyond the twenty-five percent (25%) limitations, shall not create new items, nor make revisions to item prices.

SECTION 102

PROPOSAL REQUIREMENTS

AND CONDITIONS

102.1 CONTENTS OF PROPOSAL FORMS: Upon request, the Engineer will furnish bidders, or their authorized representatives, with proposal forms. The proposal forms will show the location of the various quantities of work to be performed or materials to be furnished, the amount of the proposal guaranty, the number of calendar days or date on which the work is to be completed, and the date, time, and place of opening of proposals. The form will also include any special provisions or requirements not contained in these Specifications. All papers bound with or attached to the proposal form are considered a part thereof and must not be detached or altered. The Plans, Specifications, and other documents designated in the proposal are considered a part of the proposal form whether attached or not.

102.2 INTERPRETATION OF APPROXIMATE ESTIMATES: The quantities appearing in the proposal form are approximate only and are prepared for the comparison of bids. Payment to the Contractor will be made only for the actual quantities of work performed and materials furnished in accordance with the Contract. If upon completion of the work the actual quantities shown either increase or decrease the unit bid prices offered in the proposal will prevail except as further provided herein.

102.3 EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS, AND SITE OF WORK: The bidder is required to examine carefully the Plans, Specifications, Supplemental Specifications, Special Provisions, Contract form, and the site of the work contemplated. The submission of a bid shall be considered prima facie evidence that the bidder has made such examination, and has judged for and satisfied himself as to the character, quality, and quantity of work to be performed and material required to be furnished under the Contract.

102.4 PREPARATION OF PROPOSAL: The bidder must submit his proposal on the form furnished by the Engineer. The proposal must be filled in for each and every time for which a quantity is given. The bidder must fill in prices in ink or typewriting. The Proposal must be signed in ink by the bidder or his qualified and authorized agent; by one or more bidders or officers of each firm represented in a joint venture; by one or more officers of a corporation duly qualified and authorized to act for, and on behalf of the corporation; or by one of the partners or an authorized agent for a partnership.

The Proposal must contain the name and post office address of an individual bidder, the name and post office address for each individual or firm represented in a joint venture; the name and business address of a corporation and its corporate officials; and the name and post office address of each member of a partnership.

102.5 REJECTION OF IRREGULAR PROPOSALS: Proposals may be rejected for irregularities which will be deemed to include but not limited to the following reasons:

1. If on a form other than that furnished by the Engineer;
2. If the form is altered or any part thereof detached;
3. If there are additions, reservations, conditions, or alternates not invited;
4. If the proposal does not contain a unit price for each pay item listed; and
5. If the proposal is unbalanced, indefinite, or otherwise incomplete.

102.6 PROPOSAL GUARANTY: No proposal will be considered unless accompanied by a guaranty in the form of a certified or cashier's check, or bid bond, in the amount specified in the proposal, made payable to the Engineer. Bid bonds will be accepted only if executed in the official form furnished by the Engineer, and any proposal accompanied by a bond executed on a copy, duplicate, or facsimile will be rejected.

102.7 DELIVERY OF PROPOSALS: Each proposal shall be submitted in a sealed envelope. The envelope shall be endorsed on the outside as follows:

Proposal for Test Borings and All Related Work
State Project _____
Federal Project _____
County _____, West Virginia

and shall have the name of the bidder thereon. Envelopes shall be addressed to the Engineer, and shall have the name and address of the bidder thereon. Proposals shall be deposited at the proper address prior to the hour set in the proposal for opening of bids. Proposals received after the time for opening of bids will be returned to the bidder unopened.

102.8 WITHDRAWAL OF PROPOSALS: At any time prior to the opening of proposals, bidders may withdraw proposals already deposited with the Engineer, provided the request is made in writing or by telegraph.

102.9 PUBLIC OPENING OF PROPOSALS: Proposals will be opened and read publicly at the time and place indicated in the proposal. Bidders, their authorized agents, and other interested parties are invited to be present.

102.10 DISQUALIFICATION OF BIDDERS: The submission of more than one (1) proposal from any individual firm, partnership, corporation, or association or combination thereof, under the same or different names will result in the rejection of all of its proposals for that project. Reasonable grounds for believing that a bidder is interested in more than one proposal for the work contemplated will cause the rejection of all proposals in which such bidder is interested. Proposals shall be rejected if there is evidence that collusion exists among the bidders, and persons or firms participating in such collusion shall not be permitted to bid in future proposals for the same work, and, at the discretion of the Engineer, may be disqualified from bidding on other work

Proposals in which the prices obviously are unbalanced may be rejected. No contract will be awarded except to a bidder considered by the Engineer to be capable of performing the class of work contemplated.

SECTION 103

AWARD AND EXECUTION OF CONTRACT

103.1 CONSIDERATION OF PROPOSALS: After proposals are opened and read, they will be compared on the basis of the summation of the products of the estimated quantities shown in the bid schedule by the unit bid prices. The results of such comparisons will be made immediately available to the public. In the event of discrepancy between unit bid prices and extensions, the unit bid price shall govern.

The right is reserved to reject any or all proposals, to waive technicalities, or to advertise for new proposals, if in the judgement of the Engineer. The best interests of the public will be promoted thereby.

103.2 AWARD OF CONTRACT: The award of contract, if it be awarded, will be made within 20 (twenty) calendar days after the opening of proposals to the lowest possible bidder. The Engineer may agree with the bidder to withhold award for any length of time. The successful bidder will be notified by letter, mailed to the address shown on his proposal, that his bid has been accepted and that he has been awarded the Contract.

103.3 CANCELLATION OF AWARD: The Engineer reserved the right to cancel the award of any Contract at any time before the execution of the said Contract by all parties without any liability against the Engineer.

103.4 RETURN OF PROPOSAL GUARANTY: All proposal guaranties, except those of the three lowest bidders, will be returned immediately following the opening and checking of the proposals. The retained proposal guaranty of the three lowest bidders will be returned within ten days after a contract bond has been furnished and the Contract has been executed with the successful bidder.

103.5 REQUIREMENT OF CONTRACT BOND: At the time of the execution of the Contract, the successful bidder shall execute and deliver to the Engineer a good and sufficient surety or collateral Bond payable to the Engineer in the amount of one hundred (100) percent of the contract price. As an alternate, the successful bidder may furnish cash bond, U.S. Government Bonds, or West Virginia Road Bonds in the amount of one hundred (100) percent of the Contract amount.

103.6 INSURANCE REQUIREMENTS: The Contractor shall be required, in addition to any other form of insurance or bonds required under the terms of the Contract and Specifications, to procure and maintain during the life of the Contract, the following types of insurance in the amounts set forth:

103.6.1 CONTRACTOR'S PUBLIC LIABILITY AND PROPERTY DAMAGE LIABILITY INSURANCE: The Contractor shall furnish evidence to the Engineer that, with respect to the operations he performs, he carries regular Contractor's Public Liability Insurance providing for a limit of not less than \$500,000 for all damages arising out of bodily injuries to or death of one person, and, subject to that limit for each person, a total limit of \$1,000,000 for all damages arising out of bodily injuries to or death of two or more persons in any one accident, and regular Contractor's Property Damage Liability Insurance providing for a limit of not less than \$100,000 for all damages arising out of injury to or destruction of property in any one accident and subject to that limit per accident, a total (or aggregate) limit of \$500,000 for all damages arising out of injury to or destruction of property during the life of the Contract. Policy shall be written or endorsed to cover the hazards of operation of mechanical equipment on streets and highways and collapse.

If any part of the work is sublet, it shall be the duty of the contractor to see that similar insurance is provided by or in behalf of the subcontractors to cover their operations.

103.6.2 CONTRACTOR'S PROTECTIVE PUBLIC LIABILITY AND PROPERTY DAMAGE LIABILITY INSURANCE: The Contractor shall furnish evidence to the Engineer that, with respect to the operations performed for him by subcontractors, he carried in his own behalf, regular Contractor's Protective Public Liability Insurance providing for a limit of not less than \$500,000 for all damages arising out of bodily injuries to or death of one person, and subject to that limit for each person, a total limit of \$1,000,000 for all damages arising out of bodily injuries to or death of two or more persons in any one accident, and regular Contractor's Protective Property Damage Liability Insurance providing for a limit of not less than \$100,000 for all damages arising out of injury to or destruction of property in any one accident and subject to that limit per accident, a total (or aggregate) limit of \$500,000 for all damages arising out of injury to or destruction of property during the life of the Contract. Policy shall be written or endorsed to cover the hazards of operation of mechanical equipment on streets or highways and collapse.

103.6.3 AUTOMOBILE INSURANCE: The Contractor shall furnish evidence to the State that, with respect to the operations he performs, he carries in his own behalf Automobile Insurance providing a limit of not less than \$100,000 for all damages arising out of bodily injuries to or

death of one person, and subject to that limit for each person, a total limit of \$300,000 for all damages arising out of bodily injuries to our death of two or more persons in any one accident and Property Damage Liability Insurance having a total (or aggregate) limit of \$100,000. This policy shall cover all owned, hired, or non-owned vehicles used on the project.

103.6.4 WORKMEN'S COMPENSATION ACT: It shall be the responsibility of the Contractor to furnish proof to the Engineer that he is in compliance with the requirements of the "Workmen's Compensation Act."

103.6.5 COUNTERSIGNATURE OF RESIDENT WEST VIRGINIA AGENT: The policy or policies of insurance herein required must be countersigned by a Resident Agent of the State of West Virginia in accordance with the applicable statute of the State of West Virginia.

103.7 SPECIAL BONDS AND INSURANCE: When the work is of such nature that special bond or insurance is required, the special requirements will be detailed and included in the proposal for the project.

103.8 EXECUTION OF CONTRACT: The Contract shall be executed by the bidder to whom the Contract has been awarded, the bond executed by the principal and the sureties, and the Contract and bond returned to the Engineer within ten (10) days after the date of the notice of the award.

103.9 FAILURE TO EXECUTE CONTRACT: Failure by the bidder to execute the contract and file acceptable bond within ten (10) days after notice of award shall be just cause for the annulment of the award; and it is understood by the bidder, in the event of such an annulment of award or of the contract, the amount of the guaranty deposited with the proposal shall be retained by the Engineer, not as a penalty, but as liquidated damages.

103.10 RAILROAD INSURANCE: If work is required to be performed on the property of a Railroad, insurance shall be procured and maintained as required by the Railroad.

SECTION 104

SCOPE OF WORK

104.1 INTENT OF CONTRACT: The intent of the Contract is to provide for the completion in detail of the work described, in full compliance with the Plans, Specifications, Supplemental Specifications, Special Provisions, Proposal, and Contract. Should any misunderstanding arise as to the intent or meaning of the Plans, Specifications, Supplemental Specifications, Special Provisions, Proposal, or Contract, or any discrepancy appear in any, the decision of the Engineer shall be final.

The Contractor shall perform all items of work covered and stipulated in the Contract and shall perform all altered and extra work, as described further therein, in accordance with the Plans, or as ordered by the Engineer; and shall provide all materials, implements, machinery, equipment, tools, supplies, transportation, labor, supervision, and incidentals necessary.

104.2 ALTERATIONS OF PLANS OR CHARACTER OF WORK: The Engineer reserves the right to make alterations in the Plans or in the quantities of work as may be necessary, either before or after the beginning of work under the Contract, to insure completion of the work. Such alterations shall not be considered as a waiver of any conditions of the Contract nor invalidate any of the provisions thereof, provided such alterations do not decrease or increase the total cost of the project more than twenty-five (25) percent, based on the original Contract quantities and the unit bid prices, and provided further that such alterations do not result in an increase or decrease of more than twenty-five (25) percent in quantity of any one major Contract item. When alterations are made in excess of those herein specified, then either party to the Contract, upon written demand, shall be entitled to a revised Contract consideration to be fixed and agreed upon in a written supplemental agreement, covering the necessary changes, executed between the contracting parties.

A major item shall be defined as any item whose total cost is equal to or greater than ten (10) percent of the total original Contract cost. Items appearing as minor items in the original proposal shall be construed as becoming major items when increased to the extent that the total cost of the item is equal to or greater than ten (10) percent of the total original cost.

The Engineer may omit any item or items in the Contract, provided that notice of intent to omit such item or items is given to the Contractor before any material has been purchased or labor involved has been performed, and such omission

shall not constitute grounds for any claim for damages or loss of anticipated profits. The Engineer may omit any item or items shown in the estimate, at any time, by agreeing to compensate the contractor for the reasonable expense already incurred.

104.3 SPECIAL PROVISIONS: Proposed work or requirements not covered by these Specifications will be covered by Special Provisions. The Special Provisions shall govern the work as though part of these Specifications, and shall take precedence whenever in conflict therewith.

104.4 MAINTENANCE OF LOCAL TRAFFIC: If the performance of the work in any way involves obstructing, or otherwise making impassable, with safety, the traveled surfaces of any existing public roads, the Contractor shall continuously, while any such condition exists, construct or otherwise provide and shall maintain in safe and passable conditions, such detours, by-passes, and temporary approaches, crossings, and structures as may be necessary to accommodate, without undue delay thereto, traffic which normally passes over such public roads. In all such cases, and in all other cases in which anything done in the performance of the work shall in any way impede traffic or endanger persons or property moving over public roads, the Contractor shall provide all such flagmen and warning signs and signals and all such other traffic and safety controls, as may be necessary for the adequate protection of the traveling public against all hazards created or involved.

104.5 FINAL CLEANUP: The Contractor shall maintain the site in a neat and orderly condition throughout the work. Upon completion of the work and before acceptance and final payment shall be made, the Contractor will be required to remove from the work site all mud, trash, temporary structures, and other debris and surplus materials which resulted from his operations. The Contractor will be further required to repair all lawns, fences, fields, buildings, or any other item which he removed or damaged in the process of doing the work, fill in all holes in accordance with Section 19 of 47 C.S.R. 60, and restoring the entire site to a clean and acceptable condition as determined by the Engineer.

SECTION 105

CONTROL OF WORK

105.1 AUTHORITY OF THE ENGINEER: The Engineer will decide all questions which may arise as to the quantity, quality, and acceptability of work performed and as to the rate of progress of the work; all questions which may arise as to the interpretation of the Plans and Specifications; and all questions as to the acceptable fulfillment of the Contract on the part of the Contractor. The decision of the Engineer shall be final.

The Engineer will have the authority to suspend the work wholly or in part due to the failure of the Contractor to correct conditions unsafe for the workmen or the general public; for failure to carry out provisions of the Contract; for failure to carry out orders; for such periods as he may deem necessary due to unsuitable weather; for conditions considered unsuitable for the prosecution of the work or for any other condition or reason deemed to be in the public interest.

105.2 COORDINATION OF CONTRACT DOCUMENTS: These Specifications and Supplemental Specifications, the Plans, Special Provisions, and all Supplementary Documents are essential parts of the Contract, and a requirement occurring in one is as binding as though occurring in all.

The Contractor shall take no advantage of any apparent error or omission in the Plans or Specifications. In the event the Contractor discovers such an error or omission, he shall immediately notify the Engineer. The Engineer will then make such corrections and interpretations as may be deemed necessary for fulfilling the intent of the Plans and Specifications.

105.3 COOPERATION BY CONTRACTOR: The Contractor shall give the work the constant attention necessary to facilitate the progress thereof, and shall cooperate with the Engineer, his inspectors, other contractors, and utilities in every way possible.

The Contractor shall have on the work at all times, as his agent, a competent Superintendent capable of reading and thoroughly understanding the Plans and Specifications, and thoroughly experienced in the type of work being performed, who shall receive instructions from the Engineer or his authorized representatives. The Superintendent shall have full authority to execute orders or directions of the Engineer without delay, and to promptly supply such materials, equipment, tools, labor, and incidentals as may be required. Such superintendence shall be furnished irrespective of the amount of work sublet.

The Contractor will furnish, to the Engineer, a list of addresses and telephone numbers of his personnel who may be reached in case of emergency during hours when no work is being performed. On weekends and during storms the Contractor shall alert certain members of his personnel to stand by and shall inform the Engineer of arrangements so made.

An acceptable schedule of work shall be submitted, indicating the order in which the Contractor proposes to carry out the work and the dates he will start and complete the work on the various items. Submission of the first progress estimate by the Engineer shall be contingent on acceptance by the Engineer of the Schedule of Work.

105.4 COOPERATION WITH UTILITIES: The locations of underground utilities shown on the plans have been obtained by diligent field checks and searches of available records. It is believed that they are essentially correct but there is no guarantee as to their exact locations. It is the Contractor's responsibility to verify the location and ownership of all underground facilities and to provide the necessary protection to avoid damage to the utilities.

105.5 LOCATION OF THE BORINGS: The Engineer will locate the proposed borings. The Engineer will provide all horizontal and vertical measurements necessary to control the work properly. Boring locations may only be changed with permission of the WVDOT. Requests to change boring locations for all work shall be obtained through the Engineering Division.

105.6 INSPECTION: All work and material shall be at times subject to inspection by the Engineer or by representatives of the Division. The Engineer or his representative has authority to suspend the work, until any questions and issues can be resolved.

105.7 LOAD RESTRICTION: The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads. A special permit will not relieve the Contractor of liability for damage which may result from the moving of equipment.

105.8 FINAL ACCEPTANCE: Upon due notice from the Contractor of presumptive completion of the entire project, the Engineer will make an inspection and if all work provided for and contemplated by the Contract is found completed to his satisfaction, that inspection shall constitute the final inspection and the Engineer will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the Engineer will give the Contractor the necessary instruction for correction of same, and the Contractor shall immediately comply with and execute such instructions. Upon correction of the work another inspection will be made which shall constitute the final inspection provided the work has been satisfactorily completed. In such event, the Engineer will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

SECTION 106

LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

106.1 LAWS TO BE OBSERVED: The Contractor shall keep fully informed of all Federal and State laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. He shall at all times observe and comply with all such laws, ordinances, regulations, orders and decrees; and shall protect and indemnify the Engineer and the WVDOH against any claim or liability arising from or based on the violation of any such laws, ordinances, regulations, orders, or decrees, whether by himself, his sub-contractor, or his employees.

106.2 PERMITS, LICENSES, AND TAXES: The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the work.

106.3 PATENTED DEVICES, MATERIALS, AND PROCESSES: If the Contractor employs any design, device, material, or process covered by letters of patent or copyright, he shall provide for such use by suitable legal agreement with the patentee or owner. The Contractor and the surety shall indemnify and save harmless the Engineer, the Department, any affected third party, or political subdivision from any claims for infringement by reason of the use of any mark or copyright, and shall indemnify the Engineer and the Department for any costs, expenses, and damages which it may be obliged to pay be reason of any infringement, at any time during the prosecution or after the completion of the work.

106.4 FEDERAL AID PROVISIONS: When the United States Government pays any portion of the cost of a project, the Federal laws and the rules and regulations made pursuant to such laws much be observed by the Contractor, and the work shall be subject to the inspection of the appropriate Federal agency.

Such inspection shall in no sense make the Federal Government a party to this contract and will in no way interfere with the rights of either party hereunder.

106.5 SANITARY PROVISIONS: The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of his employees as may be necessary to comply with the requirements of the State and local Boards of Health, or of other bodies or tribunals having jurisdiction. He shall not create, commit, or maintain a public nuisance.

106.6 PUBLIC CONVENIENCE AND SAFETY: The Contractor shall at all times so conduct his work as to assure the least possible obstruction to traffic. The safety and convenience of the general public and the residents along the highway and the protection of persons and property shall be provided for by the Contractor as specified under Subsection 104.4.

106.7 WORK ON NAVIGABLE WATERS: Core drilling operations on a navigable waterway are covered by a Nationwide Permit; however, the driller must send a letter to the Corps of Engineers of their intent to work in the waterway at least two weeks prior to commencing operations. This letter is to include location and starting and ending dates, as well as a contact person. The Corps of Engineers will issue a "Notice of Navigators" of the proposed work. This notice has to be issued a minimum of two weeks before work may proceed.

<u>RIVER</u>	<u>LENGTH FROM MOUTH</u>
Ohio River	Entire Length
Kanawha River	Entire Length
Big Sandy River	10.0 Miles
Elk River	4.5 Miles
Guyandotte River	1.0 Miles
Little Kanawha River	14.0 Miles

Letters notifying the Corps of Engineers of proposed core drilling within the limits of the above rivers are to be addressed as follows:

Chief, South Permit Section
 US Army Corps of Engineers
 Huntington District
 502 Eighth Street
 Huntington, West Virginia 25701-2070

The Pittsburgh Corps of Engineers District is to be notified of core drilling on the following navigable rivers:

<u>RIVERS</u>	<u>LENGTH FROM MOUTH</u>
Ohio River	Entire Length
Monongahela River	Entire Length
Tygart Valley River	3.0 Miles
West Fork River	2.0 Miles

Letters are to be addressed as follows:

Chief, Regulatory Functions Branch
US Army Corps of Engineers
Pittsburgh District
1000 Liberty Avenue
Pittsburgh, Pennsylvania 15222-4186

The dividing line between the Huntington and Pittsburgh Districts on the Ohio River is the most southern corporation line of New Martinsville.

106.8 BARRICADES AND WARNING SIGNS: The Contractor shall provide, erect, and maintain all necessary barricades, suitable and sufficient lights, danger signals, signs, and other traffic control devices and shall take all necessary precautions for the protection of the work and safety of the public. Highways closed to traffic shall be protected by effective barricades and obstructions shall be illuminated during hours of darkness. Suitable warning signs shall be provided to properly control and direct traffic.

The Contractor shall erect warning signs in advance of any place on the project where operations may interfere with the use of the road by traffic.

All barricades, warning lights, lights, temporary signals, and other protective devices must conform with the manual on Uniform Traffic Control Devices for Streets and Highways published by the Federal Highway Administration.

106.9 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE: The Contractor shall be responsible for the preservation of all public and private property and shall protect carefully from disturbance or damage all land monuments and property marks.

The Contractor shall be responsible for all damage or injury to property of any character, during the prosecution of the work, resulting from any act, omission, neglect, or misconduct in his manner or method of executing the work, or at any time due to defective work or materials, and said responsibility will not be released until the work shall have been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the nonexecution thereof by the Contractor, he shall restore, at his own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding, or otherwise restoring as may be directed, or he shall make good such damage or injury in an acceptable manner.

106.10 FOREST PROTECTION: In carrying out work within or adjacent to State or National Forests, the Contractor shall comply with all regulations of the State Fire Marshall, Division of Natural Resources, or any other authority having jurisdiction, governing the protection of forests and carrying out regulations with respect to the performance of work in forest areas. He shall keep the areas in an orderly condition, dispose of all refuse, obtain permits for the construction and maintenance of all refuse, obtain permits for the construction and maintenance of all construction camps, stores, warehouses, residences, latrines, cesspools, septic tanks, and other structures in accordance with the requirements of the Forest Supervisor.

The Contractor shall take all reasonable precaution to prevent and suppress forest fires and shall require his employees and subcontractors, both independently and at the request of forest officials, to do all reasonably within their power to prevent and suppress and to assist in preventing and suppressing forest fires and to make every possible effort to notify a forest official at the earliest possible moment of the location and extent of any fire seen by them.

106.11 RESPONSIBILITY FOR DAMAGE CLAIMS: The Contractor shall indemnify and save harmless the Engineer and the Department and their officers and employees from all suits, actions, or claims or liabilities of any character brought because of any injuries or damage received or sustained by any person, persons, or property damage received or sustained by any person, persons, or property on account of the operations of the said contractor; or on account of or in consequence of any neglect in safeguarding the work, or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements or patent, trademark, copyright; or from any claims or amounts arising or received under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree; and so much of the money due the said contractor under and by virtue of his contract as may be considered necessary by the Engineer for such purpose, may be retained for the use of the Engineer or, in case no money is due, his surety may be held until such suit or suits, action or actions, claim or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the Engineer; except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he is adequately protected by public liability and property damage insurance.

106.12 CONTRACTOR'S RESPONSIBILITY FOR WORK: Until final written acceptance of the work by the Engineer, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part thereof by the action of the elements, or from any other cause, whether arising

from the execution or from the nonexecution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God, of the public enemy or governmental authorities.

In case of suspension of work from any cause whatever, the Contractor shall be responsible for the project and shall take such precautions as may be necessary to prevent damage to the project, provide for normal drainage, and to erect any necessary temporary structures, signs, or other facilities at his expense.

106.13 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES: At points where the Contractor's operations are adjacent to properties of railway, telegraph, telephone, power, and gas and water companies, TV cable companies, fire alarm, etc., or are adjacent to other property, damage to which might result in considerable expense, loss, or inconvenience, the Contractor will inform the proper parties of the intended work and the work shall not be commenced until all arrangements necessary for the protection thereof have been made.

In the event of interruption to water or utility services as a result of accidental breakage, the Contractor shall promptly notify the Engineer and the proper authority and shall cooperate with the said authority in the restoration of services. If water service is interrupted, repair work shall be continuous until the service is restored. No work shall be undertaken around fire hydrants until provisions for continued service have been approved by the local fire authority.

The Contractor will be required to obtain all permits required for work on or crossing required of Railroad property and will observe all pertinent safety regulations. Cost of railroad flagmen will be borne by the Contractor.

106.14 WORK ON PRIVATE PROPERTY: It shall be the responsibility of the Engineer to make arrangements with the owners of the property upon which borings are located or over which access to the boring location is necessary, with respect to any work thereon. It shall be the responsibility of the Contractor to make final detailed arrangements with the owner of the property upon which boring are located or over which access to the boring location is necessary, with respect to any work thereon. The Contractor shall be responsible for any related damages and reclamation of the property.

If the Contractor is denied access to enter a property, he shall immediately notify the Engineer. Immediate notification should be verbal and followed in writing with 48 hours. The Engineer shall contact the property owners to determine the reason for denial of access. If the Engineer cannot obtain access from the property owner, the Engineer should contact the WVDOH to obtain the right-of-entry.

106.15 WORK ON PUBLIC THOROUGHFARES: It will be the responsibility of the Contractor to make the necessary arrangements with the appropriate governmental agency to avoid undue hazard, obstruction, and interference with pedestrian and vehicular traffic at these locations.

106.16 PERSONAL LIABILITY OF PUBLIC OFFICIALS: In carrying out any of the provisions to these specifications, or in exercising any power or authority granted to them by or within the scope of the contract, there shall be no liability upon the Commissioner or his authorized representatives, either personally or as officials of the State, it being understood that in all such matters they act solely as agents and representatives of the Division.

106.17 POLLUTION: The Contractor shall exercise every reasonable precaution throughout the life of the Project to prevent pollution of rivers, streams, or impoundments. Pollutants such as chemicals, fuels, lubricants, bitumens, raw sewage, and other harmful waste shall not be discharged into or alongside of rivers, streams, impoundments, or into natural or manmade channels leading thereto. The Contractor shall also comply with the applicable regulations of the Division of Natural Resources, Division of Environmental Protection, and other statutes relating to the prevention and abatement of pollution. In addition, the Contractor shall follow the WVDOH's Erosion and Sediment Control Manual as well as the applicable sections within the latest edition of the "**BEST MANAGEMENT PRACTICE GUIDELINES FOR CONTROLLING SOIL EROSION AND WATER SILTATION FROM LOGGING OPERATIONS IN WEST VIRGINIA**", (WVDOF-TR-96-3).

SECTION 107

PROSECUTION AND PROGRESS

107.1 SUBLETTING OF CONTRACT: The Contractor shall not sublet, sell, transfer, assign, or otherwise dispose of the Contract or Contracts or any portion thereof, or of his right, title, or interest therein without written consent of the Engineer. In case such consent is given, the Contractor will be permitted to sublet a portion thereof, but shall perform with his own organization, a work amounting to not less than 50 percent of the total contract cost, except that any items designated in the Contract as "specialty items" may be performed by subcontract and the cost of any such specialty items so performed by subcontract may be deducted from the total cost before computing the amount of work required to be performed by the Contractor with his own organization. No subcontracts, or transfer of contract, shall in any case release the Contractor of his liability under the Contract and Bonds.

107.2 NOTICE TO PROCEED: The "Notice to Proceed" will stipulate the date on which it is expected the Contractor will begin and from which date contract time will be charged. Commencement of work by the Contractor may be deemed and taken as a waiver on his part of this notice.

107.3 PROSECUTION AND PROGRESS: The Contractor, when required, shall furnish the Engineer with a "Progress Schedule" for his approval. The Progress Schedule may be used as the basis for establishing operations and as a check on the progress of the work. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the Project in accordance with the Plans and Specifications within the time set forth in the proposal. Should the prosecution of the work for any reason be discontinued, the Contractor shall notify the Engineer at least twenty-four (24) hours in advance of resuming operations.

107.4 CHARACTER OF WORKMEN, METHODS, AND EQUIPMENT: The Contractor shall at all times employ sufficient labor and equipment for prosecuting the several classes of work to full completion in the manner and time required by these Specifications.

All workmen shall have sufficient skill and experience to perform properly, the work assigned to them. Workmen engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform all work properly and satisfactorily.

Any person, who, in the opinion of the Engineer, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the request of the Engineer, be removed forthwith. Any Contractor or his subcontractor employing such persons shall not reemploy such persons on the project without the written approval of the Engineer.

Should a Contractor fail to remove such person or persons as required above, or fail to furnish suitable and sufficient personnel for the proper prosecution of the work, the Engineer may suspend the work by written notice until such order is complied with.

All equipment which is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the project shall be such that no injury to the roadway, adjacent property, or other highways will result from its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the Contract, the Contractor is free to use any methods or equipment that he demonstrates to the satisfaction of the Engineer will accomplish the Contract work in conformity with the requirements of the Contract.

When the Contract specifies that the work is to be performed by the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the Engineer. Should the Contractor desire to use a method or type of equipment other than specified in the contract, he may request authority from the Engineer to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed to be used and an explanation of the reasons for desiring to make the change. If approval is given, it will be on the condition that the contractor will be fully responsible for producing work in conformity with the contract requirements. If, after trial use of the substituted methods or equipment, the Engineer determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods or equipment.

107.5 DETERMINATION AND EXTENSION OF CONTRACT TIME: The number of days allowed for the completion of the work included in the contract will be stated in the Proposal and Contract, and will be known as the "Contract Time."

The Contract time shall be on a calendar day basis and it shall consist of the number of calendar days stated in the contract counting from the effective date of the Engineer's order to commence work, including all Sundays, legal holidays, and non-work days. All calendar days elapsing between the effective dates of any orders of the Engineer to suspend work and to resume work for suspensions not the fault of the Contractor shall be excluded.

The number of days for performance allowed in the contract awarded is based on the original quantities as defined in Subsection 102.2. If satisfactory fulfillment of the contract requires performance of work in greater quantities than those set forth in the proposal, the contract time allowed for performance shall be increased on a basis commensurate with the amount and difficulty of the added work.

If the Contractor finds it impossible for reasons beyond his control to complete the work within the contract time as specified or as extended in accordance with the provisions of the subsection, he may, at any time prior to the expiration of the contract time as extended, make a written request to the Engineer for an extension of time setting forth therein the reasons which he believes will justify the granting of his request. The Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the Engineer finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, he may extend the time for completion in such amounts as the conditions justify. The extended time for completion shall then be in full force and effect the same as though it were the original time for completion.

When final acceptance has been duly made by the Engineer as prescribed in Subsection 105.16, the daily time charge will cease.

107.6 FAILURE TO COMPLETE ON TIME: For each calendar day, as specified, that any work shall remain uncompleted, after the contract time specified for the completion of the work provided for in the contract, the sum specified in the contract will be charged to the contractor not as a penalty but as liquidated damages, provided, however, that due account shall be taken of any adjustment of the contract time for completion of the work granted under the provisions of subsection 107.5. The liquidated damages shall be retained by the Engineer.

Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended will in no way operate as a waiver on the part of the Engineer of any of its rights under the Contract.

107.7 LIQUIDATED DAMAGES AGREEMENT: Work and calculation of working time for the Project will begin as stipulated elsewhere in the specifications.

The parties hereto expressly stipulated and agreed that time is of the essence of the contract, therefore, it is important that the work be vigorously prosecuted until completion.

It is also expressly stipulated and agreed that it would be impracticable to estimate and ascertain the actual damage sustained by the Engineer when the contract is not completed by the Contractor within the number of calendar days specified.

Therefore, for each day that any work shall remain incomplete after the expiration of the contract time specified herein, or within such extensions of the contract time as any allowed by subsection 107.5, the sum per calendar day, given in the Schedule of Liquidated Damages shown below, shall be deducted from any money due the Contractor, not as a penalty, but as liquidated damages, the said sum being specifically agreed upon as a measure of damage to the Engineer by reason of delay in the completion of the work.

The daily charge schedule to be used will be in the same unit (or calendar days) as the contract time shown on the last sheet of the contractor's proposal for each project.

**SCHEDULE OF DEDUCTIONS FOR EACH
DAY OF OVERRUN IN CONTRACT TIME**

<u>ORIGINAL CONTRACT AMOUNT</u>		<u>DAILY CHARGE</u>
<u>FROM</u>	<u>TO AND</u>	<u>CALENDAR DAY</u>
<u>MORE THAN</u>	<u>INCLUDING</u>	
\$ 0	\$ 25,000	\$ 500.00
\$ 25,000	\$ 50,000	\$ 1000.00
\$ 50,000	\$ 100,000	\$ 1500.00
\$ 100,000		\$ 2000.00

107.8 DEFAULT AND TERMINATION OF CONTRACT: If the Contractor:

1. Fails to begin the work under the Contract within the time specified in the "Notice to Proceed";
2. Fails to perform the work with sufficient workmen and equipment or with sufficient materials to assure the prompt completion of said work;

3. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable;
4. Discontinues the prosecution of the work;
5. Fails to resume work, which has been discontinued, within a reasonable time after notice to do so;
6. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency;
7. Allows any final judgement to stand against him unsatisfied for a period of ten days;
8. Makes an assignment for the benefit of creditors; or
9. For any other cause whatsoever, fails to carry out the contract terms in an acceptable manner, the Engineer will give notice in writing to the Contractor and his surety of such delay, neglect, or default.

If the Contractor or Surety, within a period of ten days after such notice, shall not proceed in accordance therewith, then the Engineer will have full power and authority without violating the contract, to take the prosecution of the work out of the hands of the said contractor. The Engineer may appropriate or use any or all materials and equipment on the ground as may be suitable and acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the Engineer will be required for the completion of said contract in an acceptable manner.

All cost charges incurred by the Engineer, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due said contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the Surety shall be liable and shall pay to the Engineer the amount of such excess.

107.9 TERMINATION OF CONTRACT FOR CONVENIENCE OF THE STATE:

The performance of work under a contract may be terminated by the State in whole, or from time to time in part whenever the Commissioner with the approval of the Federal Highway Administration, where applicable, shall determine that such termination is in the best interest of the State. Any such termination shall be affected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of work under the contract is terminated and the date upon which such termination becomes effective.

When contracts, or any portion thereof, are terminated before completion of all items of work in the Contract, payment will be made for the actual number of units or items of work completed at the contract unit price, or as mutually agreed for items of work partially completed or not started. No claim for loss of anticipated profits will be considered.

Reimbursement for organization of the work, when not otherwise included in the Contract, and moving equipment to and from the job will be considered where the volume of work completed is too small to compensate the Contractor for these expenses under the contract unit prices, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials obtained by the Contractor for the work that have been inspected, tested, and accepted by the Engineer, and that are not incorporated in the work may, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the Engineer.

Termination of a Contract or a portion thereof shall not relieve the Contractor of his responsibilities for the completed work, nor shall it relieve his surety of its obligation for and concerning any just claims arising out of the work performed.

107.10 ACCESS TO RECORDS: The Engineer, the WVDOT, and the FHWA shall at all times have access to the work for the purpose of inspection, accounting, and auditing; and the Contractor shall provide facilities to effect access in order to accomplish such inspection.

The Contractor and his sub-contractor are to maintain all books, documents, papers, accounting records, and other evidence pertaining to cost incurred and to make such material available at their respective offices at all reasonable times during the contract period and for three years from the date of final payment under the contract, for inspection by the Engineer, the Department, the FHWA, or any authorized representative of the Federal Government, and copies thereof shall be furnished if requested.

DIVISION 200
OPERATIONAL DETAILS

SECTION 201

DRILLING

201.1 EQUIPMENT: All equipment and tools shall be subject to the approval of the Engineer. They shall be modern, in condition of good repair, and capable of doing the work herein described. Approval of the equipment by the Engineer shall not be construed as justification for measurement and payment for borings abandoned or lost before reaching the depth specified by the Engineer.

201.2 CORE BORINGS: Those borings designated core boring in these specifications shall include investigation of both the soil and rock portions within a specified boring and shall be accomplished as follows:

201.2.1 SOIL PORTION: Soil borings shall be made for the purpose of ascertaining the nature and elevation of each stratum of material encountered above rock. Test samples shall be collected at as outlined in AASHTO Designation T-206. Unless otherwise specified or directed, sampling will be of the Standard Penetration Method. The soil boring may be advanced by Rotary Drill. If required to maintain an open hole and facilitate sampling, Rotary Drill Mud Method or Rotary Drill Cased Boring, which are described below, may be used:

201.2.1.1 ROTARY DRILL - MUD METHOD: Any method which demonstrates to the satisfaction of the Engineer successful advancement of the boring maintaining an open hole and permitting the securing of disturbed and undisturbed samples shall be permitted. The method described in Bulletin 35, Waterways Experiment Station, Corps of Engineers, U.S. Army, Vicksburg, Mississippi, is a satisfactory method.

201.2.1.2 ROTARY DRILL - CASED BORING METHOD: This method shall be considered satisfactory for advancing the boring, maintaining an open hole and securing disturbed and undisturbed samples. The hole shall be advanced by driving steel casing of such inside diameter to accommodate the sampling equipment herein described. The casing shall be driven without the use of wash water, but the soil within the casing and from the hole below the casing may be removed by wash method to the depth at which a sample is to be taken.

201.2.2 ROCK PORTION: When rock is encountered within the specified boring depth, core drilling shall be accomplished in accordance with AASHTO Designation T-225 except that only drills with hydraulically or mechanically activated feeds or thrusts will be permitted and only double tube core barrels will be allowed. Only NX size core shall be recovered unless otherwise stated or by approval of the Engineer.

201.3 POWER AUGER BORINGS: Those borings designated "Power Auger" shall be accomplished in general accordance with AASHTO Designation T-203 and T-251 except that only machine driven continuous flight helical augers are capable of securing disturbed and undisturbed samples for the full depth of the boring shall be permitted. Drills designed to be hand held will not be permitted.

SECTION 202

SAMPLE COLLECTION & PREPARATION

202.1 SAMPLE TYPES: The following listed sample types may be required. Each sample shall be clearly and permanently identified by project, hole number, station, offset, and depth of material sampled. Facilities for temporary storage of samples shall be provided by the Contractor. All samples will be kept from freezing until the Engineer has observed and evaluated the sample. Under no circumstances will samples selected for testing be permitted to freeze.

202.1.1 THIN WALL TUBE SAMPLES: Thin wall tube samples with a minimum diameter of 3 inches shall be recovered at the locations indicated in the proposal or as directed by the Engineer. Advancement of the boring to the elevation at which the sample is to be taken will be as described in 201.2 or in the Special Provisions. The apparatus, collection, and preparation of the sample shall be in accordance with AASHTO Designation T-207.

202.1.2 STANDARD PENETRATION TEST & SPLIT-BARREL SAMPLES: Standard penetration samples required in the normal advancement of borings described in 201.2, or at locations and elevation directed by the Engineer shall be obtained in accordance with AASHTO Designation T-206.

202.1.3 ROCK CORE SAMPLES: When rock is encountered, a continuous core of rock shall be recovered to the depth specified or directed by the Engineer. When a rock core is to be retained for reasons other than photographing as directed by the Engineer, the contractor shall provide wooden or other durable material boxes to retain the core in the manner described in AASHTO Designation T-225. Rock core from more than one boring shall not be packed in a single box. The boxes shall have approximate inside dimensions of 48 inches by 12 inches by 2.5 inches. A minimum of one box shall be provided for the use of the Engineer for the purpose of photographing the cores.

202.1.4 CLASSIFICATION SAMPLES: As called for in these specifications or as directed by the Engineer, representative samples of material shall be placed immediately in tightly capped glass jars. The jars will be of a size which can be stored in standard core boxes (approximately 2.5 inches by 5 inches). They shall be of clear glass, round, large mouthed and have one piece screw top with a rubberized gasket seal. The

jar samples shall be properly identified and boxed in core boxes or containers with individual jar compartments.

202.1.5 BAG SAMPLES: At locations indicated in these specifications or as directed by the Engineer, bag samples will be required. These samples shall be placed in a tightly woven plastic lined cloth bag with identifying sample sheets placed inside the bag and attached to the outside. In addition, for field moisture determination, a small sample bearing the same identification shall be placed in a waxed or hermetically sealed metal can and included inside the bag.

The quantity required per bag sample shall be not less than 80 lbs.

SECTION 203

REPORTING

203.1 BORING LOG: Within 72 hours after completion of a boring, one copy of the field boring log exactly as recorded by the driller shall be submitted to the office of the Engineer. The driller's log shall contain the following information:

203.1.1 HEADING: This heading of each boring log shall contain the following information:

- A. Project identification, and bridge number, if applicable, as designated on the location plan.
- B. Boring number, if applicable, as designated on the location plan.
- C. Location, referenced to centerline of survey stationing, and offset measured to the nearest foot.
- D. Method of drilling and sampling employed.
- E. Diameter of borings.
- F. Date of start and date of completion of borings.
- G. Name of driller.
- H. Ground surface elevation of boring. Elevation of top of water and elevation of ground/stream bed in water boring.
- I. Sheet number and total number of log sheets for each boring.
- J. Weather.

203.1.2 SUB-SURFACE CONDITIONS: The boring log of subsurface conditions encountered and samples secured shall include:

- A. Depth of layer boundaries.
- B. A description of each layer encountered; including information pertaining to the color, strength, composition, moisture content, plasticity, structure, and degree of compactness of material.

- C. Field number of each sample taken and depth at which taken.
- D. Depth of water seepage planes encountered, and elevation of water table (generally measured after 24 hours).
- E. Depth at which obstacles were encountered in advancing the boring; such as boulders, squeezing ground or carving material.
- F. Number of blows required to drive casing per foot where applicable.
- G. Depth to which casings was driven.
- H. Length of drive for soil samples and length of sample recovered.
- I. Number of blows required to drive sampler when Standard Penetration Test is used and hammer size and length of drop.
- J. Length of each run for rock core and footage of core recovered by each run.
- K. Record of color of drilling fluid and type of cuttings flushed to surface in advancing the boring.
- L. Interval of depth where drilling fluid return circulation was lost.
- M. Record of changes occurring in rate of advance of bit when coring rock.
- N. Thickness of sod cover to nearest 0.1 foot and depth of humus or top soil zone to nearest 0.1 foot.
- O. Reason for abandoning the boring in the event that specified depth was not reached.
- P. Any unusual conditions encountered in advancing the boring and in sampling.
- Q. Rock Quality Designation (RQD) - The RQD percentage is to be recorded for each core run. RQD is defined in as the total length of recovered core pieces 4 inches or greater in length expressed as a percentage of the core drilled. Generally, RQD should be based on consistent 5 foot or 10 foot core runs.

R. HARDNESS AND (ESTIMATED) COMPRESSIVE STRENGTH INDEX OF THE ROCK (HCSI) - The HCSI of the rock will be indicated by a number (0 through 6). The HCSI number will be recorded for each bedrock type. The determination of this number will be in accordance with the following table:

HARDNESS AND (ESTIMATED) UNCONFINED
COMPRESSIVE STRENGTH INDEX (HCSI)

INDEX	HARDNESS	FIELD IDENTIFICATION	TONS/FT²	psi
0	Extremely Soft Rock	Indented by Thumb Nail	2.0-7.0	28-100
1	Very Soft Rock	Crumble under firm blows with point of geological pick. Can be peeled by a pocket knife.	7.0-70	100-1000
2	Soft Rock	Can be peeled by a pocket knife with difficulty. Shallow indentations made by firm blow of geological pick.	70-280	1000-4000
3	Average Rock	Cannot be scraped or peeled with a pocket knife. Specimen can be fractured with single firm blow of hammer end of geological pick.	280-560	4000-8000
4	Hard Rock	Specimen requires more than one blow with hammer end of geological pick to fracture it.	560-1120	8000-16,000
5	Very Hard Rock	Specimen requires many blows of hammer end of geological pick to fracture it.	1120-2240	16,000-32,000
6	Extremely Hard Rock	Specimen can only be chipped with geological pick.	Over 2240	Over 32,000

Table 203 (R)

S. ADDITIONAL DESCRIPTION OF MATERIAL: The material encountered in the boring shall have the following additional descriptions as is appropriate.

RESISTANCE

Granular Soils (Sandy or Gravelly)

Description	Blows per foot AASHTO Designation - T-206 Standard Penetration
VS - Very Soft	0 - 4
L - Loose	5 - 10
MD - Medium Dense	11 - 24
D - Dense	25 - 50
VD - Very Dense	Over 50

Cohesive Soils (Clayey)

Description	Blows per foot AASHTO Designation T-206 Standard Penetration	Hand Manipulation
VS - Very Soft	0 - 1	Easily penetrated by fist.
S - Soft	2 - 4	Easily penetrated by thumb.
Mst. - Medium Stiff	5 - 8	Penetrated by thumb w/moderate effort.
St. - Stiff	9 - 15	Readily indented by thumb but no penetration.
Vst. - Very stiff	16 - 30	Readily indented by thumb nail.
H - Hard	31 - 60	Indented w/difficulty w/thumb nail.
VH - Very Hard	Over 60	

T. COLOR: The color should be described as Brown (Be.), Gray (Gr.), Black (Bl.), etc. If a major color appears to be modified by a secondary color, the modified color shall precede the major color such as Gray Brown (Gr. Be.). Colors may be either light (lt) or dark (dk).

U. TYPE OF MATERIAL:

Primary Description

Rock: Siltstone, shale, sandstone, limestone, claystone, coal, and conglomerate.

Soil: Gravel, sandy gravel, gravelly sand, sand, silty sand, clayey sand, sandy silt, clayey silt, silty clay, sandy clay, and clay.

Secondary Description

List other material such as sand, gravel, boulder, and organic material as follows:

Trace - 0 - 10%
 Little - 11 - 20%
 Some - 21 - 35%
 and - 36 - 50%

The following soil components and sizes shall be used to describe the soil:

Component	Size (mm)	(inches)	US Standard Sieve No.
Boulders	305	12 (and above)	
Cobbles	76 - 305	3 - 12	
Coarse Gravel	19 - 76	$\frac{3}{4}$ - 3	
Fine Gravel	5 - 19	$\frac{3}{16}$ - $\frac{3}{4}$	
Coarse Sand	2 - 5	$\frac{3}{32}$ - $\frac{3}{16}$	10 - 4
Medium Sand	0.42 - 2		40 - 10
Fine Sand	0.074 - 0.42		200 - 40
Silt	0.002 - 0.074		
Clay	0.002 (and below)		

Visual differentiation between silts and clays shall be made by manipulation as follows:

Silt: When subjected to shaking in the palm of the hand, a part of saturated inorganic silt expels enough water to give a glossy appearance to the surface and when then bent or slightly squeezed between the fingers, the surface of the part will become dull. The part upon working in the hand loses moisture, becomes brittle, breaks easily, and tends to dust.

Clay: Clay, at high water content, is sticky, is plastic over a wide range of water content, and can be rolled into a fine thread without breaking, and upon drying becomes hard and will not dust off.

Rock shall be described in accordance with the following:

In the examination and description of rock, the following terminology and factors shall be considered and employed:

- (1) color,
- (2) bedding,
- (3) RQD,
- (4) HCSI,
- (5) type of rock,
- (6) condition, and
- (7) other qualifying factors.

Shale shall be further distinguished as clay shale, limey shale, carbonaceous shale, or sandy shale. The term limey shall be used if the rock is calcareous or contains calcium carbonate. If silica is present, the term sandy shall be used.

The term carbonaceous shall apply to shale containing material of organic origin. The term clay shale shall be used where the shale is argillaceous.

Rocks comprised of various degrees or organic content shall be classified as carbonaceous shall, coaly shale, or coal.

The relative firmness of the rock shall be defined as:

- extremely soft - 0;
- very soft - 1;
- soft - 2;
- average - 3;
- hard - 4;
- very hard - 5; or
- extremely hard - 6.

The condition of the rock shall be further defined as: weathered, broken, shattered, jointed, cavernous, or as containing slicken sides.

In describing sandstone, the size of the sand grains shall be described as very fine, fine, medium, or coarse. Information concerning type cementation shall be given. Cross bedding shall be noted when occurring.

In describing a conglomerate, information shall be included concerning the kind and size of pebbles, cobbles, or boulders contained and the type and firmness of cementation.

Condition

Rock: Weathered, broken, jointed, shattered, cavernous, slickensides, etc.

Soil: Damp - below the plastic limit
NPL - near the plastic limit
+PL - beyond the plastic limit
NLL - near the liquid limit
+NL - beyond the liquid limit

203.2 PROGRESS REPORT: Within 72 hours after the end of each work week, the Contractor shall submit to the Engineer a summary of work completed during the week. The summary shall show:

- A. Date of report;
- B. Period represented by report;
- C. Summary of borings, showing for each boring the name of the driller, the "as drilled" location, depth of boring, depth of overburden, depth of rock drilled, and the number of samples taken; and
- D. Number of fully manned and equipped drill rigs in operation.

SECTION 204

PROCEDURE FOR EVALUATING AND DISPOSING OF BEDROCK CORE

204.1 PURPOSE: The purpose of this procedure is to establish a method for handling, evaluating, and disposing of rock core and associated split spoon soil samples.

204.2 SCOPE: This procedure will apply to all organizations taking bedrock core and split spoon soil samples, and to all projects where soil and bedrock core samples are obtained.

204.3 REFERENCES: AASHTO T 206
AASHTO T 225

204.4 CORE HANDLING AND CHARACTERISTICS: Rock core shall be handled with care so as not to cause breakage, disturbance, or loss of material when transferring the core from the barrel to the box. The core shall be placed in the box as described in AASHTO T 225 for purposes of determining the percent recovery, rock quality designation (RQD), estimated hardness, and compressive strength and for photographs.

Soil obtained with the split spoon sampler in accordance with AASHTO T 206 that is to be tested shall be sealed in a metal or glass container and properly labeled with hole number, station and offset, depth of top and bottom of sample, date, and the project number. The soil samples shall be delivered to the location specified in the drilling documents.

If laboratory tests for the unconfined compressive strength of the bedrock core at specific elevations are required, each core sample selected should have a minimum length 2 to 2½ times the diameter of the core. In no case will the length of the core be less than the diameter. Each sample of core is to be immediately sealed in a plastic bag and protected against shock and freezing during storage at the drilling site and during transportation to the testing facility. The core will be delivered to the location specified on the drilling documents.

Each sample is to be properly labeled with hole number, date, station and offset, depth of top and bottom sample, and the project number.

When the drilling documents require the core to be photographed, it shall be placed in a core box as directed in 204.4.1. The core is to be delivered to the agency requesting the photography or as specified in the boring documents.

When core is to be retained in boxes for photographing in inspection, it will be boxed as follows:

- A. Core from only one boring will be stored in a single box. However, one boring may require more than one box.
- B. All boxes will have the lid and bottom properly secured so that the material being stored is not lost in handling. All lids will be secured with hinges and screws or all screws.
- C. Each box will be identified with a weather proof label indicating hole number, station and offset, date, depth of top and bottom of run in box, and number of boxes for each boring.

204.5 STORAGE: Soil and bedrock core will not normally be stored by the WVDOH.

If a District, Division, or other agency requests that core from a specific project is to be saved, a location for delivery must be specified. The WVDOH will not deliver core outside of West Virginia. It will be the responsibility of the organization requesting retention of the core to store and to dispose of the core when storage is no longer necessary.

SECTION 205

MEASUREMENT AND PAYMENT

205.1 BASIS OF PAYMENT: All work performed under the terms of this contract shall be incorporated into the unit prices bid for the pay items listed in the proposal. Measurement and payment for the individual items shall be as indicated below or in the Special Provisions.

205.1.1 MOBILIZATION AND DEMOBILIZATION: The Contractor shall be paid a lump sum for the first mobilization of equipment to the project. This lump sum shall also constitute payment for all work necessary for final cleanup and the removal of equipment from the project.

205.1.2 CORE BORINGS: This work shall be paid for at the contract unit price per foot for core borings without regard for the type of material encountered in the boring. The price shall include all material, tools, labor, supplies, and work incident thereto including records, drawings, and any other expenses of the Contractor incurred in complying with all the requirements of the Contract Documents.

Payment will be made for the actual number of lineal feet of borings accepted by the Engineer.

For land borings, the depth paid for will be taken from the elevation of the surface of the ground at the boring to the lowest elevation penetrated.

For water borings, the depth paid for will be taken from the elevation of the stream bed at the boring to the lowest elevation penetrated.

205.1.3 POWER AUGER BORINGS: This work shall be paid for at the contract unit price per lineal foot for Power Auger Boring and shall include all materials, tools, labor, supplies, and work incident thereto, including records, drawings, and any other expenses of the contractor incurred in complying with all the requirements of the contract documents.

Payment will be made for the actual number of lineal foot of borings accepted by the Engineer.

205.1.4 ABANDONED BORINGS: Core Borings and Power Auger Borings shall be made to the depth specified by the Engineer through whatever type of material is encountered, including boulders, fill, and other types of obstructions. No measurement or payment will be made for borings

abandoned or lost before reaching the specified depth except as otherwise provided hereinafter for false starts. The Contractor shall not abandon or complete any boring or remove any casing or drilling equipment from the boring without first obtaining approval of the Engineer.

205.1.4.1 False Starts: If the Contractor is unable to complete any boring due to encountering underground pipes, cables, conduits, or other underground utilities or structures, the existence and location of which were not previously known through no fault of the Contractor, or because obstacles or obstructions are encountered which are considered by the Engineer to be of an unusual nature and that failure to penetrate them is not the fault of the Contractor's methods or equipment, the boring will be considered a "false start" for which payment will be made. The length of the false start will be measured and paid for at the Contract unit price per lineal foot for the type of test boring applicable.

205.1.5 THIN WALL TUBE SAMPLES: This work shall be paid for at the contract unit price for thin wall tube samples. The price shall include all equipment and work incident to collection, preparation, and disposition of these samples. Payment will be made for the actual number of such samples accepted by the Engineer. In addition, payment will be made based on feet drilled when additional borings are required at a given boring location in order to obtain thin wall tube samples.

205.1.6 BAG SAMPLES: This item shall be paid for at the contract unit price for bag samples. The price shall include all equipment and work incident to collection, preparation, and disposition of these samples. Payment will be made for the actual number of such samples accepted by the Engineer.

205.1.7 RECALL: The Contractor may be subject to recall to perform work that may be added or to complete work which would not be accurately located by the Engineer during the initial mobilization. The Contractor shall be paid a lump sum per drill rig.

The Contractor will be required to perform the work necessary for the recall at the bid prices bid during a period of six months after work done under the initial mobilization has been terminated. After the six month period, consideration will be given to adjustment of the bid prices.

205.2 SCOPE OF PAYMENT: The Contractor shall accept the compensation as provided herein, as full payment for furnishing all materials, labor, tools, and equipment necessary to the completed work, and for performing all work contemplated, embraced, and performed under the contract; also, for all loss and damage arising from the nature of the work, action of the elements, and all other unforeseen difficulties, also for all expenses incurred in consequence of the

suspension or discontinuities of the work as herein specified, and for all warranties, guaranties, and indemnities furnished by the contractor hereunder, and for completing the work according to the plans and specifications.

205.3 PARTIAL PAYMENTS: Payment may be made monthly, based on Progress Reports submitted by the Contractor. Upon receipt, review, and approval of properly documented invoices, the Engineer will make partial payments of the compensation specified in the agreement. Payment will be made in the amount of sums earned less previous partial payments and less an established retainage. Retainage shall be 10% of the sums earned. If work is suspended and recall is necessary, retainage will be released for that portion of the work which has been accepted.

205.4 ACCEPTANCE AND FINAL PAYMENT: Upon the final acceptance (Section 105.8) of all the work required under the contract, the Contractor shall certify to the Owner in writing the total amount of work performed and earned compensation. The Contractor shall be paid the full amount of the compensation earned less the total of all partial payments previously made; however, before receiving final payment, the Contractor will be required to furnish satisfactory evidence that he and his subcontractors have paid all payrolls, bills, expenses, and costs of every type and nature whatsoever connected with the performance of the contract. The Contractor's acceptance of final payment shall operate as a release to the Engineer and the WVDOT from all claim and liabilities of every type and nature owing to the Contractor in connection with the performance of the contract. The date of the approval of the aforesaid certificate, will be the date of acceptance of the work.