

WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS
AND RECLAMATION

COUNTY

OF

TAYLOR

NAME OF PROJECT

GRAFTON #4 REFUSE AND HIGHWALL

NOTICE

ALL PAPERS BOUND WITH OR ATTACHED TO
THE BID FORM ARE A NECESSARY PART
THEREOF AND MUST NOT BE DETACHED

PROJECT SPECIFICATION BOOK

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ARTICLE I - DEFINITIONS

ARTICLE I - DEFINITIONS

- 1.0 **"Bidder" refers to the person, firm, or company offering to furnish the work called for by the specifications herein.**
- 2.0 **"Chief" shall mean the Chief of the West Virginia Department of Environmental Protection's, Office of Abandoned Mine Lands & Reclamation.**
- 3.0 **"Construction Administrator" refers to the head of the Construction Group of the Office of Abandoned Mine Lands & Reclamation of the West Virginia Department of Environmental Protection.**
- 4.0 **"Construction Supervisor" refers to the regional supervisor of the West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands & Reclamation Construction Inspectors.**
- 5.0 **"Contract" refers to a purchase order placed by the West Virginia Department of Administration on behalf of the Department of Environmental Protection and accepted by the Contractor together with these specifications and all other documents incorporated therein by reference.**
- 6.0 **"Contract Documents" consist of all of the articles, sections, and attachments to the contract, including Information for Bidders, General Conditions, General Requirements, Special Conditions, drawings, specifications, all addenda issued prior to execution of the contract, and change orders and other written modifications issued after execution of the contract and executed by both parties to the contract.**
- 7.0 **"Contractor" refers to the person, firm or company contracting with the West Virginia Department of Environmental Protection to furnish the work called for in the contract.**
- 8.0 **"Director" refers to the Director of the West Virginia Department of Environmental Protection.**
- 9.0 **"DEP" means the West Virginia Department of Environmental Protection.**
- 10.0 **"Engineer" shall mean the representative of the Office of Abandoned Mine Lands & Reclamation's Engineering Section or the Architect/Engineering consulting firm, whichever designed the project.**
- 11.0 **"Inspector" shall refer to DEP's Inspector, who monitors all construction operations at the project site.**
- 12.0 **"Project" shall mean the Abandoned Mine Lands Project described and referred to by the specifications herein.**
- 13.0 **"Sub-contractor" refers to the person, firm or company contracting directly with the Contractor and not with DEP to furnish the Contractor with any portion of the work called for by the contract.**

ARTICLE I - DEFINITIONS

14.0 "Work" shall be understood to mean and include any and all of the labor, supervision, services, materials, machinery, equipment, tools, supplies and facilities called for by and required to complete the contract.

ARTICLE II - BIDDING INFORMATION

ARTICLE II - BIDDING INFORMATION

Sections Included:

- 1.0 Receipt & Opening of Bids.**
- 2.0 Eligibility Requirement of Bidders.**
- 3.0 Preparation of Bid.**
- 4.0 Method of Bidding.**
- 5.0 Qualifications of Bidders.**
- 6.0 Sub-Contracts.**
- 7.0 Forfeiture of Bid Security For Failure to Enter Into Contract.**
- 8.0 Time of Completion & Liquidated Damages.**
- 9.0 Addenda & Interpretations.**
- 10.0 Conditions of Work.**
- 11.0 Obligations of Bidders.**
- 12.0 Method of Award.**

ARTICLE II - BIDDING INFORMATION

1.0 RECEIPT & OPENING OF BIDS

- 1.1 BIDS SHOULD BE SUBMITTED ON FORMS PROVIDED BY THE STATE PURCHASING DIVISION. ANY BID RECEIVED AFTER DATE AND TIME OF THE BID OPENING WILL NOT BE CONSIDERED.**
- 1.2 Purchasing may consider informal any bid not prepared and submitted in accordance with the above procedure and may waive any informalities in or reject any and all bids.**
- 1.3 Bid proposals containing any omission, alterations of forms, additions or conditions not called for, conditional or alternate bids (unless called for), or incomplete bid proposals may be rejected. DEP reserves the right to waive any technicalities as to changes, alterations, omissions or reservations, to the extent allowed by State Purchasing law, and recommend the award in the best interests of DEP.**

2.0 ELIGIBILITY REQUIREMENT OF BIDDERS

In order for any bids to be considered or to be eligible for consideration, the bidder should first file a Vendor Registration and Disclosure Statement Form, and obtain a Vendor's Registration Number prior to award of a Purchase Order. The subject Form may be obtained from the State Purchasing Division at the above address, or by calling 304/558-2311.

3.0 PREPARATION OF BID

- 3.1 Each bid should be submitted on the required form and in accordance with the Purchasing Division's requirements. All blank spaces for bid prices should be completed, in ink or typewritten figures.**

4.0 METHOD OF BIDDING

DEP invites the bid as indicated in the package furnished by the Purchasing Division of the West Virginia Department of Administration.

5.0 QUALIFICATIONS OF BIDDERS

DEP may make such investigations as it deems necessary to determine the bidder's ability to perform the work, and the bidder shall furnish to DEP all such information and data for this purpose as DEP may request. DEP reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy DEP that such bidder is properly qualified to carry out the obligations of the contract and complete the work contemplated therein. Conditional bids will not be accepted.

6.0 SUB-CONTRACTS

Any person, firm or other party whom the Contractor proposes to award a sub-contract under this contract must be acceptable to DEP.

7.0 FORFEITURE OF BID SECURITY FOR FAILURE TO ENTER INTO CONTRACT

Should the apparent successful bidder fail or refuse to execute and deliver its required bonds for any reason within fourteen (14) days after receiving notice of the acceptance of its bid, the security deposited with its bid shall be forfeited.

8.0 TIME OF COMPLETION & LIQUIDATED DAMAGES

The successful bidder agrees to schedule with the DEP a Pre-Construction Conference within twenty-one (21) calendar days of the purchase order date. The successful bidder agrees to commence work on a date specified in a "Notice to Proceed" issued by the DEP and to fully complete the project within 365 calendar days from said date. Said date shall be set within ten (10) calendar days of the Pre-Construction Conference date. The Contractor must contact the DEP within 10 days of receiving the Purchase Order in order to schedule the Pre-Construction Conference. A Notice to Proceed may be delayed due to adverse weather conditions with written approval from the Construction Administrator. If the contractor fails to complete the work within the time specified in the contract, or any extension thereof, Contractor shall pay to DEP as liquidated damages the sum of two hundred and fifty dollars (\$250) for each day of delay.

ARTICLE II - BIDDING INFORMATION

9.0 ADDENDA & INTERPRETATIONS

9.1 No interpretation of the meaning of the plans, drawings, specifications or other pre-bid documents will be made to any bidder orally.

9.2 All addenda will be issued by the State Purchasing Division in writing to attendees of the mandatory Pre-Bid Conference. The changes contained therein are the only binding changes to the plans and/or specifications of this project.

10.0 CONDITIONS OF WORK

Each bidder must inspect the conditions relating to the project and the employment of labor thereon. Failure to do so will not relieve the successful bidder of any obligation to furnish all material and labor necessary to carry out the provisions of the contract. Insofar as possible, the Contractor in carrying out its work must employ such methods or means as will not cause any interruption of or interference with the work of any other contractor.

11.0 OBLIGATIONS OF BIDDERS

At the time of the opening of bids, each bidder will have inspected the project job site, and will have read and will be thoroughly familiarized with all of the contract documents, including addenda. The failure or omission of any bidder to examine any form, instrument or document shall in no way relieve any bidder of any obligation with respect to its bid.

12.0 METHOD OF AWARD

The contract shall be awarded to the lowest responsible bidder, in accordance with West Virginia Code Section 5A-3-14.

AML CONTRACTOR INFORMATION FORM

You must complete this form for your AML contracting officer to request an eligibility evaluation from the Office of Surface Mining to determine if you are eligible to receive an AML contract. This requirement applies to contractors and their sub-contractors and is found under OSM's regulations at 30 CFR 874.16. When possible, please type your information onto this form to reduce errors on our end. NOTE: Signature and date this form is signed must be recent (within the last month) to be considered for a current bid

Part A: General Information

Business Name: _____ Tax Payer ID No.: _____
Address: _____
City: _____ State: _____ Zip Code: _____ Phone: _____
Fax No.: _____ E-mail address: _____

Part B: Legal Structure

Corporation Sole Proprietorship Partnership LLC
 Other (please specify) _____

Part C: Certifying and updating information in the Applicant/Violator System (AVS). Select only one of the following options, follow the instructions for that option, and sign below.

I, _____, *have the express authority to certify that:*
(print name)

1. _____ Information on the **attached** Entity Organizational Family Tree (OFT) from AVS is accurate, complete, and up-to-date. If you select this option, you **must** attach an Entity OFT from AVS to this form. Sign and date below and do not complete Part D.
2. _____ Part of the information on the **attached** Entity OFT from AVS is missing or incorrect and must be updated. If you select this option, you **must** attach an Entity OFT from AVS to this form. Use Part D to provide the missing or corrected information. Sign and date below and complete Part D.
3. _____ Our business currently is not listed in AVS. If you select this option, you must provide all information required in Part D. Sign and date below and complete Part D.

_____ _____ _____
Date Signature Title
IMPORTANT! In order to certify in Part C to the accuracy of existing information in AVS, you must obtain a copy of your business' Entity OFT. To obtain an Entity OFT, contact the AVS Office, toll-free, at 800-643-9748 or from the AVS website at <https://avss.osmre.gov>.

Part D.

Contractor's Business Name: _____

If the current Entity OFT information for your business is incomplete or incorrect in AVS, or if there is no information in AVS for your business, you must provide all of the following information as it applies to your business. Please make as many copies of this page as you require.

- Every officer (President, Vice President, Secretary, Treasurer, etc.);
- All Directors;
- All persons performing a function similar to a Director;
- Every person or business that owns 10% or more of the voting stock in your business;
- Every partner, if your business is a partnership;
- Every member and manager, if your business is a limited liability company; and
- Any other person(s) who has the ability to determine the manner in which the AML reclamation project is being conducted.

Name	_____	Position/Title	_____
Address	_____	Telephone #	_____
	_____	% of Ownership	_____
Begin Date:	_____	Ending Date:	_____

Name	_____	Position/Title	_____
Address	_____	Telephone #	_____
	_____	% of Ownership	_____
Begin Date:	_____	Ending Date:	_____

Name	_____	Position/Title	_____
Address	_____	Telephone #	_____
	_____	% of Ownership	_____
Begin Date:	_____	Ending Date:	_____

Name	_____	Position/Title	_____
Address	_____	Telephone #	_____
	_____	% of Ownership	_____
Begin Date:	_____	Ending Date:	_____

PAPERWORK REDUCTION STATEMENT

The Paperwork Reduction Act of 1995 (44 U.S.C. 3501) requires us to inform you that: Federal Agencies may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. This information is necessary for all successful bidders prior to the distribution of AML funds, and is required to obtain a benefit.

Public reporting burden for this form is estimated to range from 15 minutes to 1 hour, with an average of 22 minutes per response, including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. You may direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Office of Surface Mining Reclamation and Enforcement, Room 202 SIB, Constitution Ave., NW, Washington, D.C. 20240.

ARTICLE III - GENERAL CONDITIONS

ARTICLE III - GENERAL CONDITIONS

Sections Included:

- 1.0 Enumeration of Contract Documents**
- 2.0 Correlation of Documents**
- 3.0 Examination of Premises**
- 4.0 Materials & Workmanship**
- 5.0 Guarantee & Maintenance**
- 6.0 Supervision & Construction Procedures**
- 7.0 Permits, Laws, Regulations, & Rights of Entry**
- 8.0 Safety Requirements**
- 9.0 Protection of Persons & Property**
- 10.0 Insurance & Worker's Compensation**
- 11.0 Labor Laws, Ordinances, Wages & Other Conditions**
- 12.0 Subcontractors**
- 13.0 Time**
- 14.0 Payments & Completion**
- 15.0 Surety Bonds**
- 16.0 Changes in the Work**
- 17.0 Uncovering & Correction of Work**
- 18.0 Assignment of Contract**

ARTICLE III - GENERAL CONDITIONS

1.0 ENUMERATION OF CONTRACT DOCUMENTS

1.1 Drawings

Construction drawings (44 sheets) for the reclamation of the project as prepared by for the West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation, 601 57th Street, SE, Charleston, West Virginia 25304-2345, Telephone (304) 926-0485.

1.2 Specifications

See Index

1.3 Addenda

No. _____	Date _____
No. _____	Date _____
No. _____	Date _____
No. _____	Date _____

2.0 CORRELATION OF DOCUMENTS

- 2.1 The intent of the contract documents is to include all labor, materials, equipment, operations and transportation necessary for the proper execution and completion of the work. The contract documents are complementary and what is required by one is required by all.**
- 2.2 The Contractor shall carefully study and compare the contract documents and shall at once report to DEP any error, inconsistency or omission it may discover. Contractor shall not proceed with the work affected by such error, inconsistency, or omission until resolved to the satisfaction of itself and DEP.**
- 2.3 The drawings and specifications are correlative and shall be accepted and used as a whole and not separately. Should any item be omitted from the drawings and be included in the specifications, and be required to complete the work under the contract, it shall be executed as if shown on both and contained in both; except that it is not intended that items or work not applicable or required be provided unless it is consistent therewith and reasonably inferable therefrom as being necessary to produce the intended results.**
- 2.4 In case of disagreement or conflict between drawings and specifications, or inconsistencies, errors, or if omissions be discovered in the drawings and specifications, or if in any part the meaning of either or both shall be considered obscure or uncertain, the Director or his/her authorized**

ARTICLE III - GENERAL CONDITIONS

representative shall be immediately notified thereof. No work so affected by such circumstances shall proceed until the Director or his/her authorized representative renders a decision and/or interpretation thereon. Large scale drawing details shall take precedence over drawings of lesser scale. Words and abbreviations which have well known technical or trade meanings are used in the contract documents in accordance with such recognized meanings.

3.0 EXAMINATION OF PREMISES

- 3.1** Before submitting proposals for the work, each bidder will be held to have examined the premises and satisfied itself as to the existing conditions under which it will be obliged to operate, or that will in any manner affect the work under the contract. Bidders shall have become familiar with the drawings and specifications and have compared them with existent conditions.
- 3.2** By executing the contract, Contractor represents that it has visited the site, familiarized itself with the local conditions under which the work is to be performed, and correlated its observations with the contract documents. No allowance will subsequently be made by reason of neglect or error on the part of the Contractor for failing to inform itself of the requirements and conditions contained herein.

4.0 MATERIALS & WORKMANSHIP

- 4.1** All installed materials and equipment shall be new, and all materials, equipment, and workmanship shall be of kind and type specified, and in all cases, be of good quality. Contractor shall, if required, furnish satisfactory evidence as to kind and quality of its materials, equipment and workmanship.
- 4.2** The Contractor shall provide and pay for all labor, materials, equipment operations, tools, construction equipment, and machinery, transportation, water, heat, utilities, and other facilities and services necessary for the proper execution and completion of the work. The Contractor at all times shall supply sufficient skilled and other labor necessary to adequately fulfill the requirements of the drawings and specifications, and provide for expeditious and practicable execution of the work to its completion.
- 4.3** The installation or application of all devices and materials shall be in accordance with the manufacturer's installation application data, shop drawings and instructions, unless otherwise provided herein.

5.0 GUARANTEE & MAINTENANCE

- 5.1** The materials and workmanship affected by the Contractor are subject to the guarantee established by custom of the respective trades. In the absence

ARTICLE III - GENERAL CONDITIONS

of a trade guarantee custom or a special guarantee provision, the work, both as to the materials and workmanship, shall upon acceptance of final payment by the Contractor be considered guaranteed by the Contractor for one (1) year from the date of the acceptance of the work. Neither the final acceptance nor the final payment shall relieve the Contractor of responsibility for negligence or faulty materials, and for defects appearing within the guarantee period shall be remedied at the expense of the Contractor upon written notice.

- 5.2 During the one-year guarantee period, the Contractor will maintain the project to the conditions existing at the date of the acceptance of the work. Any failures due to the negligence or workmanship of the Contractor in any of the work which develop during the guarantee period shall be corrected by the Contractor at its expense.
- 5.3 The one-year guarantee period shall not be construed as being an extension of the performance time allotted for work under the contract.
- 5.4 Guarantees concerning revegetation may be further defined in the technical specifications contained herein.

6.0 SUPERVISION & CONSTRUCTION PROCEDURES

- 6.1 The Contractor shall supervise and direct the work, using its best skill and attention. It shall be responsible for all construction means, methods, techniques, and procedures, coordinating all portions of the work, and for cooperating with appropriate DEP personnel and with other contractors in every way possible.
- 6.2 The Contractor shall be responsible to DEP for the acts and omissions of its employees, its subcontractors and their agents or employees, and other persons performing any of the work under a contract with the Contractor.
- 6.3 The Contractor will be supplied with five (5) copies of the plans and specifications. It shall have available on the work site at all times one (1) copy of said plans and specifications. Additional copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

7.0 PERMITS, LAWS, REGULATIONS, & RIGHTS OF ENTRY

- 7.1 As indicated in Section 13 of the Special Provisions, the WVDEP-AML has obtained a Construction Storm Water General Permit for this project from WVDEP Division of Water and Waste Management (WVDEP DWWM). The registration for this reclamation project will be modified to include the Contractor as Co-Applicant #1, with the WVDEP-AML being Co-Applicant #2. As such, the Contractor shall assume responsibility for compliance with the terms and conditions of the permit including modifications and any future correspondence such as registration renewal invoices, inspection reports, and notices of violation shall be forwarded to the Contractor. Upon award of the contract, the Contractor shall complete a Co-Applicant #1 signature page and submit the completed form to WVDEP-AML prior to scheduling a Pre-Construction Conference.

Upon receipt of the completed form, WVDEP-AML will request the WVDEP DWWM to modify the existing NPDES registration for this project to make the Contractor the Co-Applicant #1 to the permit.

ARTICLE III - GENERAL CONDITIONS

The WVDEP DWWM will notify the Contractor and WVDEP-AML when the successful transfer of registration under WV/NPDES Storm Water Construction General Permit (No.WV0115924) is completed. A Notice to Proceed will not be issued until the successful transfer of registration has been completed. Once the transfer has been completed, the WVDEP will continue to be responsible for any modification fees and annual renewal fees incurred up until the date of the final inspection of the project that occurs after completion of construction activities at the site. The Contractor shall be responsible for any and all costs associated with violations and fines assessed against the project that are a result of the Contractor's negligence, carelessness, or failure to install permanent controls as part of the work as scheduled.

The Contractor shall apply for a Notice of Termination (NOT) from WVDEP DWWM via the Construction Storm Water website <http://www.dep.wv.gov/Programs/stormwater/csw/Documents/Construction> upon completion of construction activities at the site. The NOT shall be issued by WVDEP DWWM upon completion of the project. The Contractor will continue to be bound by the terms and conditions of the permit until the NOT has been approved by WVDEP DWWM. Once the project is complete, the Contractor will still bear responsibility for the NPDES registration until a NOT is received from the WVDEP DWWM.

- 7.2 The Contractor shall comply with all laws, ordinances, rules, orders and regulations relating to the performance of the work, the protection of adjacent property, the maintaining of passageways, guard fences, or other protective facilities.
- 7.3 All applicable Federal and State laws and regulations, municipal ordinances, and the rules and regulations of all public authorities having jurisdiction over construction of the project shall apply to the contract throughout, and are incorporated herein by reference.
- 7.4 DEP shall be responsible for obtaining all construction rights of entry for the project unless otherwise provided for in the Construction Specifications.
- 7.5 The Contractor agrees to indemnify and hold harmless the DEP from all liability and/or damages resulting from the Contractor's use of property for which the Contractor was to obtain rights of entry for borrow, disposal, access or other purposes. Said indemnification shall include, but is not limited to, liability and damages resulting from the Contractor's failure to obtain any or not all the right of entry; failure to utilize appropriate language in the right of entry agreements; or failure to obtain the permission and signatures of all persons or entities holding a legal interest in the subject property(ies) covered by the rights of entry.
- 7.6 All right of entry agreements the Contractor obtains for borrow, disposal, access or other purposes for this project shall include a provision requiring the property owner to indemnify and hold harmless the DEP for the Contractor's actions and any injury or damages whatsoever resulting from the Contractor's use of the property.

ARTICLE III - GENERAL CONDITIONS

8.0 SAFETY REQUIREMENTS

- 8.1 Particular attention is directed to the "West Virginia Safety Code for Building Construction" as published by the West Virginia Department of Labor. Observance of and compliance with said laws, regulations and codes shall be solely with and without qualification the responsibility of the Contractor.
- 8.2 The Contractor, subcontractors, other contractors and all employees and workers shall comply with the provisions of the Occupational Safety and Health Act of 1970, Public Law 91-596. The Contractor shall be held liable to DEP for any health and safety infractions, on the Contractor's part, which cause DEP to receive a citation and/or fine from any local, State or Federal agency. Actual costs involved will be paid by the Contractor to the satisfaction of DEP.

9.0 PROTECTION OF PERSONS & PROPERTY

- 9.1 The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work.
- 9.2 Safety of Persons and Property: The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection, preventing damage, injury, or loss to:
- (a) All employees on the work, and all other persons who may be affected thereby;
 - (b) All the work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the Contractor, or any of its subcontractors or their employees or subcontractors; and
 - (c) Other property on the site or adjacent thereto, including, but not limited to, paving, roadways, structures, utilities and permanent property boundaries, monuments or markers not designated for removal, or relocation, or replacement in the course of construction. Any damage to these items shall be repaired or replaced at the expense of the Contractor and to the satisfaction of DEP.



Co-Applicant #1:

**Co-Applicant #1
 Signature Page**

**New NPDES Storm Water
 Construction**

Project Name:

BY COMPLETING AND SUBMITTING THIS APPLICATION, I HAVE REVIEWED AND UNDERSTAND AND AGREE TO THE TERMS AND CONDITIONS OF THE GENERAL PERMIT ISSUED ON DECEMBER 5, 2012. I UNDERSTAND THAT PROVISIONS OF THE PERMIT ARE ENFORCEABLE BY LAW. VIOLATION OF ANY TERM AND CONDITION OF THE GENERAL PERMIT AND/OR OTHER APPLICABLE LAW OR REGULATIONS CAN LEAD TO ENFORCEMENT ACTION.

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED ON THIS FORM AND ALL ATTACHMENTS AND THAT, BASED ON MY INQUIRING OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.

 (CO-APPLICANT #1 SIGNATURE)

Print Name: _____
 Print Title: _____
 Date: _____

PRIOR TO FILING THIS APPLICATION, YOU MAY WISH TO OBTAIN A COPY OF THE LEGISLATIVE RULES OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, TITLE 47, SERIES 26, WATER POLLUTION CONTROL PERMIT FEE SCHEDULE IN ORDER TO DETERMINE THE APPROPRIATE PERMIT APPLICATION FEE REQUIRED TO ACCOMPANY YOUR SUBMISSION OF THIS APPLICATION. YOU CAN OBTAIN A COPY OF THE REGULATION FROM THE SECRETARY OF STATE'S OFFICE, STATE CAPITOL BUILDING, CHARLESTON, WV 25305. HOWEVER, YOU MAY WISH TO USE THE TABLE FOUND IN ITEM V. OF THE ATTACHED INSTRUCTIONS.

ALL SPILLS OR ACCIDENTAL DISCHARGES ARE REQUIRED TO BE REPORTED IMMEDIATELY TO THE EMERGENCY RESPONSE SPILL ALERT SYSTEM TOLL FREE TELEPHONE NUMBER 1-800-642-3074. CALLS FROM OUT OF STATE SHOULD BE MADE TO 304-348-8899.

ARTICLE III - GENERAL CONDITIONS

- 9.3 The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations, and lawful orders of any public authority, bearing on the safety of persons or property, or their protection from damage, injury, or loss.
- 9.4 The Contractor shall erect and maintain, as required by existing conditions and progress of the work, all reasonable and adequate safeguards for safety and protection. It shall post danger signs and provide other warnings as required against hazards and dangers to persons and property.
- 9.5 In case of an emergency which threatens injury, loss of life and/or damage to property, the Contractor will be permitted to act, without prior instruction from the Construction Administrator, in a diligent manner. It shall notify the Construction Supervisor immediately thereafter. Any claim for compensation by the Contractor due to such extra work shall be promptly submitted to the Construction Supervisor for verification and approval by the Construction Administrator.

Where the Contractor has not taken action, but has notified the Construction Administrator of an emergency threatening injury to persons or damage to the work or any adjoining property, it shall act as instructed or authorized by the Construction Administrator.

The amount of reimbursement claimed by the Contractor for work arising out of any emergency situation shall be determined by the Director or his/her authorized representative.

- 9.6 The Contractor shall be responsible for the verification of existing utilities that may be affected by its work in the project area. It shall be held responsible for any damage to and for maintenance and protection of existing utilities and structures during the performance of the work.

10.0 INSURANCE & WORKER'S COMPENSATION

10.1 Contractor's and Subcontractor's Public Liability, Vehicle Liability and Property Damage Insurance.

The Contractor shall maintain insurance as follows:

- (a) Contractor's Public Liability Insurance and Comprehensive Vehicle Liability Insurance shall be in an amount not less than \$2,000,000.00 for bodily injury and property damage for each occurrence and not less than \$2,000,000.00 aggregate.

The required insurance must be written by a company or companies licensed to do business in West Virginia at the time the policy is issued and the policy must be countersigned by a licensed resident agent.

- (b) Contractor shall either (1) require each of the subcontractors to procure and to maintain, during the life of its subcontract, subcontractor's Public Liability and Property Damage Insurance of the type and in the same amounts as specified in paragraph (a) above, or (2) insure the activities of its subcontractors in its own policy.

ARTICLE III - GENERAL CONDITIONS

Contractor agrees to indemnify and hold harmless DEP from all liability for personal injury, including death resulting therefrom, and against all liability for property damage sustained by any person or persons, including persons employed by Contractor or subcontractors, which is caused in whole or in part by an act or omission, negligent or otherwise, of the Contractor, its agents, servants, or employees, and to assume the defense of any action brought by such persons to recover damages, and to pay all costs and expenses, including attorney's fees, incurred by DEP as result thereof.

Each party to the contract shall promptly notify the other of the assertion of any claim against which such party is held harmless pursuant to this Section, shall give such other party the opportunity to defend any such claim, and shall not settle any such claim without approval of the indemnifying party.

10.2 Proof of Carriage of Insurance.

The Contractor shall provide DEP, before work commences, with certificates issued by the insurance company or companies issuing the insurance policies required by this Section. The certificates shall show the type, amount, class of operations covered, effective dates, and dates of expiration of such policies. Such certificates shall provide that written notice shall be given to DEP prior to expiration, cancellation, or modification of any such policy, and shall contain substantially the following representation: "The insurance covered by this certificate will not be canceled, or materially modified or altered, except after ten (10) days written notice has been verified as received by the West Virginia Department of Environmental Protection".

10.3 Worker's Compensation Insurance.

All employees of the Contractor, and of subcontractors engaged in the work of this contract, shall be covered by West Virginia Worker's Compensation Insurance. Certificates shall be provided to DEP by the Contractor and subcontractors showing compliance with the Worker's Compensation Laws of West Virginia.

RTICLE III - GENERAL CONDITIONS

11.0 LABOR LAWS, ORDINANCES, WAGES, AND OTHER CONDITIONS

11.1 The Contractor shall obey and abide by all laws of the State of West Virginia, particularly with respect to the carrying out of public improvements.

The Contractor shall not pay less than the established prevailing minimum wage rate for each particular class of employment in the county in which the work is being performed.

ARTICLE III - GENERAL CONDITIONS

11.2 During the performance of this contract, the Contractor agrees as follows:

- (a) **The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notice, to be provided by the contracting officer, setting forth the provisions of this nondiscrimination clause.**
- (b) **Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color or national origin.**
- (c) **Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, a notice, to be provided by the agency contracting officer, advising the labor union or worker's representative of the Contractor's commitments under Section 202 of Presidential Executive Order #11246 of September 24, 1965 (hereinafter "Executive Order #11246"), as amended by Presidential Executive Order #11375 and supplemented by U.S. Department of Labor regulations 41 CFR Part 60 and shall post copies of the notice in conspicuous places available to employees and applicants for employment.**
- (d) **Contractor will comply with all provisions of Executive Order #11246, and with all of the applicable rules, regulations, and relevant orders of the U.S. Secretary of Labor (hereinafter "Secretary of Labor").**
- (e) **Contractor will furnish all information and reports required by Executive Order #11246, and by the applicable rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and will permit access to its books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders. These provisions shall also apply to DEP or employees of the Federal Government or their designated representatives for the purpose of making audits, examinations, excerpts, or transcriptions.**
- (f) **In the event of the Contractor's noncompliance with these nondiscrimination clauses, this contract may be canceled, terminated, or suspended, in whole or in part, and the Contractor may be declared ineligible for further government contracts in accordance with procedures authorized in Executive Order #11246, and such other sanctions may be imposed and remedies invoked as provided in Executive Order #11246, or by rules, regulations, or orders of the Secretary of Labor, or as otherwise provided by law.**

ARTICLE III - GENERAL CONDITIONS

- (g) **The Contractor will include the provisions of these paragraphs (a) through (g) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order #11246, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontractor or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event the Contractor becomes involved in, or is threatened with litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request DEP to enter into such litigation to protect the interests of DEP.**
- (h) **Copeland "Anti-Kickback" Act. Contractor or Subcontractor shall comply with the Copeland "Anti-Kickback" Act (18 USC 874) as supplemented in U.S. Department of Labor regulations (29 CFR Part 3). Said Act provides that each Contractor or subcontractor shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public works, to give up any part of the compensation to which it is otherwise entitled. The Contractor shall report all suspected or reported violations to DEP.**
- (i) **Clean Air & Water Acts. Should the amount of this contract exceed one-hundred thousand dollars (\$100,000.00), compliance will be required with all applicable standards, orders, or requirements issued under Section 306 of the Clean Air Act (42 USC 1857[h]), Section 508 of the Clean Water Act (33 USC 1368), Presidential Executive Order #11738, and Federal Environmental Protection Agency regulations (40 CFR Part 15), which prohibit the use under non-exempt Federal contracts, grants or loans of facilities included on the EPA List of Violating Facilities. Contractor shall report violations to DEP and to the U.S. EPA Assistant Administrator for Enforcement (EN-329).**
- (j) **Energy Policy & Conservation Act. The Contractor shall comply with mandatory standards and policies relating to energy efficiency which are contained in the State energy conservation plan issued in compliance with the Energy Policy and Conservation Act, Public Law 94-163.**
- (k) **Access to Records. DEP, the U.S. Department of Interior's Office of Surface Mining Reclamation & Enforcement, and the U.S. Comptroller General or their duly authorized representatives shall have access to any books, papers, and records of the Contractor which are directly pertinent to that specific contract, for the purpose of making audits, examinations, excerpts, and transcriptions.**
- (l) **Maintenance of Records. The Contractor shall maintain all required records for three (3) years after DEP processes final payments and all other pending matters are closed.**
- (m) **Termination of Contract by DEP. This contract may be cancelled in whole or in part in writing by the Director of Purchasing, without prejudice to any other right or remedy it may have, provided that the contractor is given not less than thirty (30) calendar days written notice, (delivered by certified mail, return receipt requested) of intent to terminate.**

ARTICLE III - GENERAL CONDITIONS

- (n) **Legal Remedies.** Unless otherwise provided by law or elsewhere in this contract, all claims, counter-claims, disputes and other matters in question between DEP and the Contractor arising out of, or relating to, this contract or the breach of it will be decided by arbitration if the parties mutually agree, or in a court of competent jurisdiction within the State of West Virginia.

11.3 **Wages.**

Attention is called to the prevailing rates of wages to be paid for labor on public improvements in Taylor County, West Virginia, as determined by the West Virginia Department of Labor. A copy of wage rates shall be posted in a conspicuous location on the job site. Copies of the wage rates are included herein, however, it is the responsibility of the Contractor to pay the wage rate in effect when the project was bid. The Contractor is to maintain and have available for inspection by DEP, upon request, certified copies of its payrolls.

The contractor/subcontractors shall pay the higher of the U.S. Department of Labor Davis-Bacon Act or the WV Prevailing wage rate as established for various county, pursuant to West Virginia Code 21-5A, Et, Seq. and 42CSR7 Rules & Regulations for the WV Prevailing Wage Act. For prevailing wage rates, please refer to <http://www.sos.wv.gov>

12.0 **SUBCONTRACTORS**

- 12.1 Unless otherwise required by the contract documents, the Contractor, as soon as practicable after award of the contract, shall furnish DEP in writing the names of subcontractors (including those who are to furnish materials or equipment fabricated to special design) proposed for performing portions of the work.
- 12.2 DEP reserves the right to disapprove any proposed subcontractor whose record of performance does not establish its experience, competence, and financial ability to perform the work for which it is proposed. Nothing contained in the contract documents shall create any contractual relation between any subcontractor and DEP.

13.0 **TIME**

- 13.1 The date of commencement of work is the date established in a written "Notice to Proceed" issued by DEP to the Contractor. The date of completion shall be the date that DEP finds the work acceptable under the contract documents and the contract fully performed.

ARTICLE III - GENERAL CONDITIONS

13.2 Delays & Extensions of Time.

- (a) It is agreed that if the Contractor should be unavoidably delayed in fulfilling its obligations under this contract by acts of Providence or general strikes, or by Court injunctions, or by stopping of the work by DEP because of any Contractor toward final completion of the work hereunder, DEP may require the Contractor to prepare an itemized estimate of the amount of work performed, and material and equipment stored under the contract since the date of the last preceding estimate and Application for Payment. DEP may request that the Contractor submit such estimate along with supporting documentation in the form of certified payrolls, material invoices, weight slips, and Applications for Payment. Contractor is to maintain and have available such records for inspection by DEP upon request.
- (b) Upon approval by DEP of the Application and Certificate for Payment, DEP shall, as soon thereafter as practicable, process for the Contractor as a progress payment a sum equal to the contract value of the work performed since the last preceding estimate and Application for Payment in accordance with Paragraphs 14.4 and 14.5 of this Section, less the aggregate of previous payments.
- (c) No Certificate for a progress payment, nor any progress payment, shall constitute acceptance or be deemed or construed as acceptance of any part of the work not in accordance with the contract documents.
- (d) The Contractor warrants and guarantees that title to all work, materials, and equipment covered by an Application for Payment, whether incorporated in the project or not, will pass to DEP upon the receipt of such payment by the Contractor, free and clear of all liens.

13.3 Progress Schedule.

The Contractor, immediately after being awarded the contract, shall prepare and submit, for DEP's information, an estimated progress schedule for the work. Such progress schedule shall be related to the entire project to the extent required by the contract documents, and shall provide for expeditious and practicable execution dates of the various stages of construction and may be revised as required by conditions of work, subject to DEP's approval.

14.0 PAYMENTS & COMPLETION

14.1 Contract Sum.

The contract sum as stated in the Contractor's executed Contract Acceptance Form, including any authorized adjustment(s) thereto, is the total amount payable by DEP to the Contractor for the performance of the work under the contract documents.

ARTICLE III - GENERAL CONDITIONS

14.2 Schedule of Values.

Before submitting its first Application for Payment, the Contractor shall submit to DEP a schedule of values allocated to the various portions of the work, prepared in such form and supported by such data to substantiate its accuracy, as DEP may require. This schedule shall be used only as a basis for the Contractor's Applications for Payment.

14.3 Progress Estimates, Applications for Payment.

- (a) On the fifteenth (15th) and thirtieth (30th) day of each month during which progress has been made on the work under the contract by the Contractor toward final completion of the work hereunder, DEP may require the Contractor to prepare an itemized estimate of the amount of work performed since the date of the last preceding estimate and Application for Payment. DEP may request that the Contractor submit such estimate along with supporting documentation in the form of certified payrolls (not to include social security numbers), material invoices, weight slips, and Applications for Payment. Contractor is to maintain and have available such records for inspection by DEP upon request.**
- (b) Upon approval by DEP of the Application and Certificate for Payment, DEP shall, as soon thereafter as practicable, process for the Contractor as a progress payment a sum equal to the contract value of the work performed since the last preceding estimate and Application for Payment, in accordance with Paragraphs 14.4 and 14.5 of this Section, less the aggregate of previous payments.**
- (c) No Certificate for a progress payment, nor any progress payment, shall constitute acceptance or be deemed or construed as acceptance of any part of the work not in accordance with the contract documents.**
- (d) The Contractor warrants and guarantees that title to all work, materials, and equipment covered by an Application for Payment, whether incorporated in the project or not, will pass to DEP upon the receipt of such payment by the Contractor, free and clear of all liens, claims, security interests or encumbrances, and that no work, materials, or equipment covered by an Application for Payment will have been acquired by the Contractor or by any other person performing the work at the site or furnishing materials and equipment for the project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the Contractor or otherwise imposed by the Contractor or such other person.**

ARTICLE III - GENERAL CONDITIONS

14.4 Payments Withheld.

The Director may decline to approve an estimate or Application for Payment, to the extent necessary to protect DEP from loss because of:

- (i) Unsatisfactory, unrepresentative, and unverified amounts and items included in progress estimates of Paragraph 14.3(a) above.
- (ii) Unfulfilled provisions of Paragraphs 14.3(d) above.
- (iii) Defective work not remedied.
- (iv) Unsatisfactory performance of the work by the Contractor.
- (v) Failure of the Contractor to make payments properly to subcontractors, or for labor, materials, or equipment.
- (vi) Reasonable doubt that the remaining work can be completed for the unpaid balance of the contract sum.
- (vii) Reasonable indication that the work will not be completed within the contract time for completion.
- (viii) Third party claims filed, or reasonable evidence indicating probable filing of such claims.
- (ix) Damage to another contractor.

When the above grounds under 14.4 (i)-(ix) are removed, payment shall be approved for the amounts that were withheld because of them.

14.5 Final Completion & Final Payment.

- (a) Upon notice from the Contractor that the work is ready for final inspection, the Construction Supervisor will promptly make such inspection. If the Construction Supervisor upon his/her inspection finds the work acceptable under the contract documents and the contract fully performed, the Contractor shall submit a Final Estimate Application and Certificate for Payment to DEP for processing. Also, final quantity calculations shall be submitted to DEP at the final inspection conference by the Contractor.
- (b) Final payment to the Contractor will be processed by DEP upon fulfillment of the provisions of the contract documents and the conditions thereof.

ARTICLE III - GENERAL CONDITIONS

- (c) **The processing of final payment and the processing of payment of retained percentage shall constitute a waiver of all claims by DEP except those arising from:**
 - (i) **Unsettled liens.**
 - (ii) **Faulty or defective work appearing after final completion.**
 - (iii) **Failure of the work to comply with requirements of the contract documents.**
 - (iv) **Terms of any special warranties required by the contract documents.**
- (d) **The acceptance of final payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of the final Application for Payment. No payment, however, final or otherwise, shall operate to release the Contractor or its sureties from any obligation under the contract documents, or the Performance Bond, and the Labor and Material Payment Bond. (See 15.1 below.)**

14.6 Application for Payment Forms.

Bound herewith on the following pages are sample Application and Certificate for Payment forms which the Contractor shall use in the submittal of progress estimate Applications for Payment to DEP.

APPLICATION AND CERTIFICATE FOR PAYMENT

Page 1 of pages

Project Name: _____

Application No: _____

Contractor: _____

Application Date: _____

Address: _____

Performance Period From: _____ To: _____

ATTN (AML&R Inspector): _____

CHANGE ORDER SUMMARY

Change Order Number	Approved (date)	Additions \$+	Deductions \$-

Application is made for payment, as shown below, in connection with contract. Continuation

Sheet is attached. The present status of the account for this contract is as follows:

ORIGINAL CONTRACT SUM \$ _____

Net Change by Change Orders \$ _____

CONTRACT SUM TO DATE \$ _____

TOTAL COMPLETED & STORED TO DATE \$ _____

(Column "G" on Continuation Sheet)

LESS PREVIOUS CERTIFICATES FOR PAYMENT \$ _____

CURRENT PAYMENT DUE \$ _____

Items listed hereon conform to specification, were received & are approved for payment.

Date: _____ Signed: _____, Inspector

PO#: _____

P#: _____ Office/App

FEIN/SS#: _____ Date

FIMS Vendor # _____

FUND	FY	ORG	ACT	OBJ CODE	GRANT#	PROJECT #
8708	20		130	830		

Total Completed & Stored to Date
% COMPLETE:----- x 100 = _____

Contract Sum to Date

Contractor: _____

Original Signature (Blue Ink)

ARTICLE III - GENERAL CONDITIONS

15.0 SURETY BONDS

15.1 The Contractor shall provide and deliver to DEP's Buyer at the Purchasing Division of the Department of Administration at the time of execution of the contract, and prior to the performance of the work, satisfactory surety bonds in an amount of not less than one hundred percent (100%) of the contract sum which shall include a Performance Bond and Labor and Material Payment

Bond, with sureties acceptable to DEP's Buyer, for the faithful fulfillment of the contract within the time specified. Said bonds shall also save and hold harmless DEP from all liens and claims arising out of the work. The Contractor shall pay for the bonds.

15.2 In the event that the surety on any contract or payment bond given by the Contractor becomes insolvent, or is placed in the hands of a receiver, or has its right to do business in this State revoked as provided by law, the Director may at his/her election, withhold payment or any estimate until the Contractor shall give a good and sufficient bond in lieu of the bond so executed by such surety.

15.3 Power of Attorney.

Attorneys-in-Fact who execute surety bonds issued pursuant to this Section must provide with each such bond a certified and properly executed Power of Attorney.

15.4 Bond Release.

All performance bonds shall be in effect throughout the one-year guarantee period set out in Section 5.0 above. Bonds will be released upon completion of the guarantee period and acceptance of the project by DEP.

16.0 CHANGES IN THE WORK

16.1 Change Orders.

(a) DEP, without invalidating the contract, may order or the Contractor may request changes in the work within the general scope of the contract consisting of additions, deletions, or other revisions, the contract sum and the contract time being adjusted accordingly. All such changes in the work shall be authorized by change order, and shall be executed under the applicable conditions of the contract documents.

(b) A change order is a written order to the Contractor, properly executed as to form, issued after the execution of the contract, authorizing a change in the work or an adjustment in the contract sum or contract time. The contract sum or contract time may be changed only by a change order. A change order issued to the Contractor indicates its agreement therewith, including the adjustment in the contract sum or contract time set forth therein.

ARTICLE III - GENERAL CONDITIONS

- (c) **The cost or credit to DEP resulting from a change in the work shall be determined in one or both of the following ways:**

 - (i) **By mutual acceptance of a lump sum properly itemized.**
 - (ii) **By unit prices stated in the contract documents or subsequently agreed upon.**

- (d) **If none of the methods set forth in 16.1(c) above is agreed upon, or the work to be performed is agreed by DEP and Contractor to be of such nature that it cannot be estimated in advance with sufficient exactness for mutual agreement, then DEP may direct the Contractor to perform the work by change order in accordance with the following provisions, and the Contractor shall promptly proceed with the work:**

 - (i) **The work shall then be performed for an amount equal to the actual and necessary net cost to the Contractor for material and labor cost necessarily used therein, including all taxes and delivery costs for materials, all required extra costs on labor, plus cost for superintendents, power, use of tools, equipment, plant, plus the Contractor's normal charge under the contract for overhead and profit. The Contractor shall keep and present to DEP for inclusion in the change order complete itemized accounting for all materials, complete identified time and payment records for all employees, and workmen actually performing the work covered by the change order, the cost accounting of work performed by subcontractors for work covered by the change order. DEP reserves the right to require verifications of all costs covered under the change order.**
 - (ii) **The amount of credit to be allowed by the Contractor to DEP for any deletion or change which results in a net decrease in the contract sum will be the actual net cost. When both additions and credits covering related work or substitutions are involved in one change, the allowance for overhead and profit shall be figured only on the basis of the increase, if any, with respect to that change.**

- 16.2 The Director is the only individual who can execute a change order committing DEP to the expenditure of public funds. No person other than the Director or his/her authorized representative can make any changes to the terms, conditions, contract clauses, or other stipulations of this contract.**

The Contractor shall not accept any instructions issued by any person other than the Director or his/her authorized representative regarding changes in the work under the contract which affect the contract sum and/or contract time. No information, other than that which may be contained in an authorized modification to this contract, duly issued by the Director or his/her authorized representative, which may be received from any person employed by DEP or otherwise, shall be considered grounds for deviation from any stipulation of the contract.

ARTICLE III - GENERAL CONDITIONS

16.3 Minor Changes in the Work.

Notwithstanding the requirements of Section 16.2 above, the Director or his/her authorized representative shall have authority to order minor changes in the work not involving an adjustment in the contract sum or an extension of the contract time and not inconsistent with the intent of the contract documents. Such changes may be affected by field order or by other written order. Such changes shall be binding on DEP and the Contractor. The Contractor shall carry out such written orders promptly.

16.4 Omissions.

DEP may omit any item or items in the contract, provided that the 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 of any claim for damages or loss of anticipated profits. DEP may omit any item or items shown the estimate, at any time, by agreeing to compensate the Contractor for the reasonable expense already incurred and to take over at actual cost any unused material purchased in good faith for use for the item or items omitted.

17.0 UNCOVERING & CORRECTION OF WORK

17.1 Uncovering of Work.

- (a) If any work should be covered contrary to the request of DEP, it must, if required by DEP, be uncovered for its observation and be replaced at the Contractor's expense.
- (b) If any other work has been covered which DEP has not specifically requested to observe prior to being covered, DEP may request to see such work and it shall be uncovered by the Contractor. If such work is found to be in accordance with the contract documents, the cost of uncovering and replacement shall, by appropriate change order, be charged to DEP. If such work is found not to be in accordance with the contract documents, the Contractor shall pay such costs unless it is found that such condition was caused by a separate contractor employed by DEP and in that event DEP shall be responsible for the payment of such costs.

17.2 Correction of Work.

The Contractor shall promptly correct all work rejected by DEP as defective or as failing to conform to the contract documents whether observed before or after final completion and whether or not fabricated, installed or completed. The Contractor shall bear all cost of correcting such rejected work. All such defective or

ARTICLE III - GENERAL CONDITIONS

non-conforming work shall be removed from the site if necessary, and the work shall be corrected to comply with the contract documents at no cost to DEP. If the Contractor fails to correct such defective or non-conforming work, DEP may correct it in accordance with Section 17.3 below or Section 11.2(m) of these General Conditions.

17.3 Acceptance of Non-Conforming Work.

If DEP prefers to accept non-conforming work, it may do so instead of requiring its removal and correction, in which case a change order will be issued to reflect an appropriate reduction in the contract sum, or, if the amount is determined after final payment, it shall be paid by the Contractor.

18.0 ASSIGNMENT OF CONTRACT

Contractor shall not assign or transfer this contract or sublet it as a whole without having first obtained the written consent of DEP to do so; and it is likewise agreed that the Contractor shall not assign legally or equitably any of the moneys payable to it under the contract, or its claim thereto, without having first obtained the written consent of DEP to do so.

ARTICLE IV - GENERAL REQUIREMENTS

ARTICLE IV - GENERAL REQUIREMENTS

Sections Included:

- 1.0 Summary of the Work**
- 2.0 Quality Standards, Approvals**
- 3.0 Superintendents, Coordination**
- 4.0 Project Meetings**
- 5.0 Authority & Duties of Inspectors**
- 6.0 Shop Drawings, Product Data, Samples**
- 7.0 Measurements, Manufacturer's Directions**
- 8.0 Lines, Levels, Grades, Layout**
- 9.0 Documents, Shop Drawings, Etc., at Site**
- 10.0 Storage of Materials**
- 11.0 Protection of Work, Damages**
- 12.0 Temporary Facilities**
- 13.0 Construction Sign**
- 14.0 Cleaning and Final Clean-Up**
- 15.0 Testing**
- 16.0 Project Completion - Certificates**

ARTICLE IV - GENERAL REQUIREMENTS

1.0 SUMMARY OF THE WORK

This Article briefly outlines and describes the work to be performed and is not intended to limit the faithful execution of the contract documents.

1.1 Work Included.

The scope of the work for this project, without attempting to restrict or limit the contractor's responsibility, consists of furnishing all plant, labor, materials, and equipment to construct abandoned mine drainage control structures described in the drawings and these specifications. The work shall include, but not be limited to, the following:

The three sites of the project encompass an old mine site that exhibits collapsed/draining portals with AMD seepage, standing water, vertical openings, old sediment ponds, subsidence features, strip mine highwalls mine spoil, and refuse. Remediation for the sites shall be governed by the contract documents. Other work shall include sediment and erosion control measures, maintenance and repair of existing roads and construction of temporary access roads.

ARTICLE IV - GENERAL REQUIREMENTS

2.0 QUALITY STANDARDS, APPROVALS

2.1 Notwithstanding reference in the specifications or on the drawings to any article, item, product, material, equipment, or system by name, brand, make, or manufacturer, such reference shall be intended and interpreted as establishing a standard of quality, and shall not be taken, regarded, or construed as limiting competition.

2.2 Any article, item, product, material, equipment, or system which will perform adequately and satisfactorily the duties imposed by the general design will be considered equally acceptable to that specified or referenced, providing the article, item, product, material, equipment, or system so proposed is equal in quality, substance, design, manufacture, function and performance as that specified or referenced, and adjudged and determined to be so in the opinion of the Construction Supervisor and is approved by him/her. The approval of the Construction Administrator is required before purchase and installation.

2.3 Approvals.

Where the term "of approved manufacture" appears in the specifications, or an "approved" or "approved as equal" article or item is referred to, it shall mean that the article, item, workmanship, or material must meet the approval of the Construction Supervisor.

3.0 SUPERINTENDENTS, COORDINATION

3.1 Superintendents.

The Contractor shall employ and keep a competent superintendent and assistants who shall be capable of effective communication as required on the job at all times and who shall give efficient supervision to the work, using his/her best skill and attention, and shall have knowledge and control of all trades. The superintendent shall be acceptable to the Construction Supervisor and shall not be changed without the Construction Supervisor's knowledge and consent. The Contractor also shall see that each respective sub-contractor provides a competent foreman for each trade.

3.2 Coordination.

The Contractor and each sub-contractor shall coordinate the work and operations and shall cooperate with and assist each other on the job for the successful execution of the work within trade jurisdictional rulings. Each shall study all drawings and specifications and shall perform all work which properly comes under jurisdiction of the trade he/she represents.

4.0 PROJECT MEETINGS AND CONFERENCES

4.1 The following meetings shall be scheduled and held prior to commencement of the project and during execution of the work. DEP will schedule such

ARTICLE IV - GENERAL REQUIREMENTS

meetings and advise all parties concerned by written notice of the date, time, and location of such meetings.

- (a) **Pre-Bid Conference.** Conference with Engineer, bidders and appropriate DEP personnel as necessary, and others directly concerned for explanation of bidding and contract documents, project site familiarization as required, and for answering questions pertinent to the project. **Attendance by bidders is mandatory in order to be eligible to bid on the project.**

A date and time will be set for the on-site mandatory Prebid Conference. All interested parties are required to attend this meeting. Failure to attend the mandatory pre-bid shall result in disqualification of the bid. No one person may represent more than one bidder.

An attendance sheet will be made available for all potential bidders to complete. This will serve as the official document verifying attendance at the mandatory pre-bid. Failure to provide your company and representative name on the attendance sheet will result in disqualification of the bid. The State will not accept any other documentation to verify attendance. The bidder is responsible for ensuring they have completed the information required on the attendance sheet. The Purchasing Division and the state agency will not assume any responsibility for a bidder's failure to complete the pre-bid attendance sheet. In addition, we request that all potential bidders include their e-mail address and fax number.

All potential bidders are requested to arrive prior to the starting time for the pre-bid. Bidders who arrive late, but prior to the dismissal of the technical portion of the pre-bid will be permitted to sign in. Bidders who arrive after conclusion of the technical portion of the pre-bid, but during any subsequent part of the pre-bid will not be permitted to sign the attendance sheet.

- (b) **Pre-Construction Conference.** Conference with Engineer, appropriate DEP personnel, Contractor, Sub-Contractors, and others directly concerned, after award of the contract and prior to commencement of construction, for discussion of the project, contract documents, scheduling, and for resolving questions concerning project execution and administration as required.

- (c) **Project Meetings.** Meetings shall be held at periodic intervals throughout the construction contract period for discussion of matters pertinent to the execution and administration of the project. The Construction Administrator, Engineer, Construction Supervisor, Inspector, Contractor and/or its Superintendent, Subcontractors, Project Foremen, as required, and others directly concerned, as necessary, shall attend the meetings.

5.0 AUTHORITY & DUTIES OF INSPECTORS

- 5.1** The Inspector, as the Director's authorized representative, is authorized to make minor field changes to the plans and specifications that do not involve an increase or decrease in the contract sum or an increase or decrease in the contract time. The Inspector shall be authorized to inspect all work done, all material furnished, payroll records of personnel, material invoices and relevant data and records of the work, and the preparation, fabrication, or manufacture of the materials to be used. The Inspector is not authorized to revoke, alter, or waive any requirements of the plans and specifications that result in an increase or decrease in the amount of compensation due the Contractor or an increase or decrease in the contract time. The Inspector is authorized to call to the attention of the Contractor any failure of the work or materials to conform to the plans and specifications. The Inspector shall have the authority to reject materials or suspend the work until any questions at issue can be referred to and decided by the Construction Administrator.
- 5.2** The Inspector shall in no case act as foreman or perform other duties for the Contractor, nor interfere with the management of the work by the Contractor. Any advice which the Inspector may give the Contractor shall in no way be construed as binding the Construction Administrator in any way, or releasing the Contractor from fulfilling all of the terms of the contract.

ARTICLE IV - GENERAL REQUIREMENTS

5.3 If the Contractor refuses to suspend operations on verbal order, the Inspector shall issue a written order giving the reason for ordering the work to stop. After placing the order in the hands of the person in charge, the Inspector shall immediately leave the job, and the Contractor shall cease all operations.

6.0 SHOP DRAWINGS, PRODUCT DATA, SAMPLES

6.1 Definitions.

- (a) "Shop drawings" are drawings, diagrams, schedules, and other data, prepared for the project by the Contractor, Sub-contractor, manufacturer, or supplier, to illustrate and/or install some portion of the work.
- (b) "Product data" are illustrative data, brochures, schedules, catalog cuts, charts, informative material and specifications to illustrate materials, articles, items, or products for use in some portion of the work.
- (c) "Samples" are physical examples which show and illustrate materials, finishes, equipment or workmanship of products proposed for use in some portion of the work.

6.2 Submittals.

- (a) The Contractor shall review, approve, and submit to the Construction Administrator with reasonable promptness, and in such sequence to cause no delay in the work, all shop drawings, product data, and samples required by the contract documents.
- (b) No shop drawings, product data, or samples shall be submitted to the Construction Administrator except by the Contractor, who shall, before submission, verify all materials, check all details, measurements, verify all field measurements and field construction conditions, and other job coordination requirements. Upon review, check, and approval by the Contractor, the Contractor shall place its stamp of approval thereon before submitting to the Construction Administrator.
- (c) The Contractor shall not be relieved of responsibility for any deviation from the requirements of the contract documents by the Construction Administrator's approval of shop drawings, product data, or samples, nor shall it be relieved of responsibility for errors or omissions therein.
- (d) Shop drawings, product data, and samples shall be submitted in sufficient number for all approvals, with a minimum of two (2) copies or samples being retained by the Construction Administrator, and a number of copies and samples being retained by the Contractor as required for the execution of its work.

ARTICLE IV - GENERAL REQUIREMENTS

- (e) No portion of the work requiring submission of a shop drawing, product data, or sample shall be commenced until the submittal has been approved by the Construction Administrator. All such portions of the work shall be in accordance with approved submittals.
- (f) Shop drawings, product data, and samples shall be submitted for work, systems, articles, items, and equipment as specified. Other additional shop drawings, product data, and samples as may be requested for the work by the Construction Administrator shall be submitted to him/her for approval.

7.0 MEASUREMENTS, MANUFACTURER'S DIRECTIONS

7.1 Measurements.

Before ordering any material, product, article, or doing any work, the Contractor shall take all necessary measurements at the project and shall be responsible for the correctness of same. No extra charge or compensation will be allowed on account of differences between actual dimensions and the dimensions indicated on the drawings. The Construction Administrator shall be notified of any differences found and work shall not proceed thereon until the Construction Administrator has rendered a decision.

7.2 Manufacturers' Directions.

All manufactured articles, items, products, material, and equipment shall be applied, installed, connected, erected, used, cleaned, conditioned and put into operation or use as directed by the manufacturer's printed instructions, unless specified otherwise herein. The Contractor shall be responsible for obtaining all such instructions.

7.3 Measurement of Quantities.

The Contractor shall be responsible for providing all necessary volumetric and weight measurement equipment necessary to measure quantities accurately for payment of contract unit items, and said equipment shall be subject to the Construction Administrator's approval. Volume and weight measurements shall be submitted to the Construction Administrator for approval.

8.0 LINES, LEVELS, GRADES, LAYOUT

8.1 Lines, Levels, Grades.

- (a) Control points have been established in the field and are shown on the plans whereby the Contractor can properly control the work contracted for under these specifications. Such stakes and markings which the Engineer may have set for either his/her own guidance shall be scrupulously preserved by the Contractor, or its employees. If any

ARTICLE IV - GENERAL REQUIREMENTS

action by the Contractor should result in the destruction of such stakes or markings, an amount equal to the cost of replacing same may be deducted from subsequent estimates due the Contractor at the discretion of the Construction Supervisor. The Contractor shall satisfy itself as to the accuracy of all measurements before constructing any permanent structure and shall not take advantage of any errors which may have been made in laying out the work. Should any discrepancies become evident between the plans and the Contractor's field survey, the Contractor shall immediately notify the Inspector. If these discrepancies will create a change in any item in the Contractor's accepted final bid, the DEP reserves the right to re-design or negotiate. Should the Contractor fail to make notification of these discrepancies, DEP will not be held liable for any changes in the original quantities.

- (b) The Contractor shall make all field measurements necessary for its work and shall be responsible for the accuracy of all dimensions, lines, levels, and grades. If a survey is required, it shall be performed at the expense of the Contractor. All survey work shall be performed by a West Virginia Registered Civil Professional Engineer or Licensed Land Surveyor who shall certify as to the accuracy of the survey to DEP.

9.0 DOCUMENTS, SHOP DRAWINGS, ETC., AT THE SITE

- 9.1 The Contractor shall maintain at the project site for DEP one (1) record copy of all drawings, specifications, addenda, change orders, and other modifications, in good order, marked currently to record all changes made during construction, and all approved shop drawings, product data, and samples, properly filed and referenced. All such documents and samples shall be delivered to the Construction Supervisor upon completion of the work.
- 9.2 The Contractor shall furnish the Inspector in writing two (2) sets of daily reports showing all personnel (by classification), equipment, and tools engaged in the work, for use in accounting records.
- 9.3 The Contractor shall be responsible for submitting a daily activity summary which shall be used to report progress of the various construction activities performed at the subject site. The summary report shall be submitted to the Inspector on a weekly basis on the prescribed forms. Processing invoices may be delayed if summary reports are not submitted.

10.0 STORAGE OF MATERIALS

- 10.1 The Contractor, under and with the approval, supervision, and direction of DEP, shall assume full charge of the area or areas of the project premises allocated for the storage of materials and equipment as required, allocating the necessary site space to any sub-contractor(s) for storage sheds and space for the storage of materials and equipment. Such arrangement of storage facilities

ARTICLE IV - GENERAL REQUIREMENTS

shall be orderly, convenient, shall not obstruct movement on the site, the work of others, or construction operations. All storage sheds, enclosures, and facilities shall fully protect the stored materials. The Contractor shall arrange with appropriate landowner(s) for any storage areas located outside of the project limits and such storage areas shall also be subject to DEP's approval.

- 10.2 All materials subject to damage by moisture, water, or weather shall be fully protected. All flammable, toxic, and explosive materials shall be safely stored in conformity with applicable safety requirements of State and Federal regulations and safety standards of the National Fire Protection Association.

11.0 PROTECTION OF WORK; DAMAGES

11.1 Protection and Replacement of Work.

- (a) The Contractor shall protect its work from damage of any kind until completion of construction. Each contractor or sub-contractor shall adequately protect all preceding work from damage caused by it or its work. Should any part of the construction be subject to freezing or exposure to the elements, the same shall be fully protected to prevent damage.
- (b) The Contractor and each sub-contractor shall provide protection against weather, frost, freezing, storms, and heat, to maintain all work, materials, installations, and equipment safe from injury and damage. The Contractor shall provide temporary covering and closures in the construction as required to protect it from damage by weather, until permanent construction provides such protection.
- (c) Damaged or defective work must be replaced; all other work injured or damaged in the replacing of such work or in any way incidental thereto must be brought back to its original condition or replaced by the Contractor performing the work, without additional cost to DEP.

11.2 Damages to Existing Work.

All masonry damage, glass breakage, and other damage caused to existing buildings and appurtenances by the Contractor or by other contractors in the performance of work shall be properly replaced or repaired at the option of DEP, without additional cost to DEP.

12.0 TEMPORARY FACILITIES

12.1 Job Utilities.

- (a) General. All concerned with providing temporary utilities for use on the project are advised to determine locations of sources of supply and the conditions under which services can be brought to points of use on the site.

ARTICLE IV - GENERAL REQUIREMENTS

- (b) **Drinking Water.** The Contractor shall arrange for drinking water and containers to be provided on the site.
- (c) **Utility Connections.** The Contractor is to furnish power, gas, compressed air and any other utilities required for its own use during construction. The Contractor shall remove all temporary wiring, switches, lights, piping and connections to service facilities used during construction. Such connections shall not be made without approval of the Inspector.
- (d) **Temporary Supports.** The Contractor shall provide such temporary supports as may be required during construction, including those necessary to ensure the stability of the proposed excavation.
- (e) **Equipment.** The Contractor shall furnish all special apparatuses, welding machines, air compressors, hoisting equipment, tools, implements, cartage, scaffolding, ladders, planks, acetylene gas, oxygen gas, expendable materials, temporary light and heat, construction materials, shims and all other materials that may be required for the proper execution of the work.
- (f) **Temporary Buildings.** The Contractor will furnish, place, and equip, at its own expense, and as it deems necessary, any portable construction building(s) such as a trailer, storage sheds or chemical sanitary facilities. These portable facilities must be within the designated project limits; otherwise, the Contractor is solely responsible for making necessary arrangements with the proper landowner when the buildings are set up outside of the project limits. The type and number of buildings are subject to the approval of the Inspector. All written instructions, orders, and other communication delivered to the temporary construction office set up on the site shall be considered as having been delivered to the Contractor itself. The Contractor shall provide and pay for its own fire protection, watchman, temporary utility hookups, etc. The Contractor will promptly remove from the project any office facilities, equipment or materials when so instructed by the Inspector.
- (g) **Sanitation Facilities.** The Contractor shall provide and pay for adequate temporary toilet facilities for personnel during the project construction period. Toilets shall be of types approved by DEP and the State Division of Health, and situated only in approved locations. The Contractor shall be responsible for operation and sanitary maintenance of the temporary toilets and shall have them removed upon completion of construction.

ARTICLE IV - GENERAL REQUIREMENTS

13.0 CONSTRUCTION SIGN

13.1 Work Required.

The work to be performed under this Section consists of providing all labor, material and equipment necessary to install a project sign as indicated on the detail included herein and as specified herein.

13.2 Materials.

- (a) Paint. Paint for the project sign shall be one (1) coat Exterior-Grade Wood Primer-Sealer, and two (2) coats Exterior Grade Low-Sheen Enamel by Glidden or another approved manufacturer.
- (b) Wood. Sign face shall be 3/4" Marine Exterior plywood, and posts and cross-brace shall be No. 2 Grade Pine or Fir, kiln dried and treated.
- (c) Hardware:
 - (1) All hardware shall be manufactured from good, commercial-quality material and meet all applicable ASTM standards.
 - (2) Spikes and nails shall be common wire-type and shall meet AISI steel specifications 1010 or 1020.
 - (3) All hardware shall be hot-dip galvanized in accordance with ASTM A-153.

13.3 Execution.

- (a) Project Sign. The sign board shall be cut to the dimensions shown on the detail herein. The sign shall be painted with one (1) coat of primer and two (2) coats of white enamel. All exterior cut edges shall be smooth sanded prior to painting. All edges shall be double primed. The letters, border and strips shall be painted as shown on the detail drawing. Posts and cross-brace shall be painted with two (2) finished coats of brown enamel.

The Contractor shall bolt the sign to posts and provide required cross-bracing. The posts and sign shall be erected and posts set in gravel base, as shown on the drawings. One (1) sign is required and is to be located at the discretion of the Inspector.

- (b) Payment. Payment for the work which shall include installation of the project sign shall be part of the lump-sum bid for "Mobilization".



STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Office of Abandoned Mine Lands & Reclamation

Earl Ray Tomblin
Governor



Randy C. Huffman
Cabinet Secretary

AML

Robert Rice
Chief

Project Cost: \$XXX,XXX.00

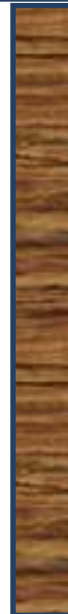
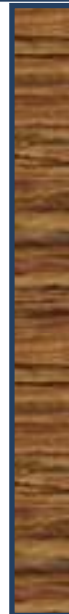
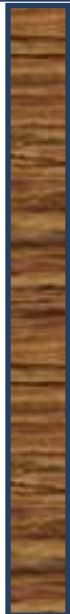
Funding: US Department of the Interior – OSM with fees paid by the Coal Industry

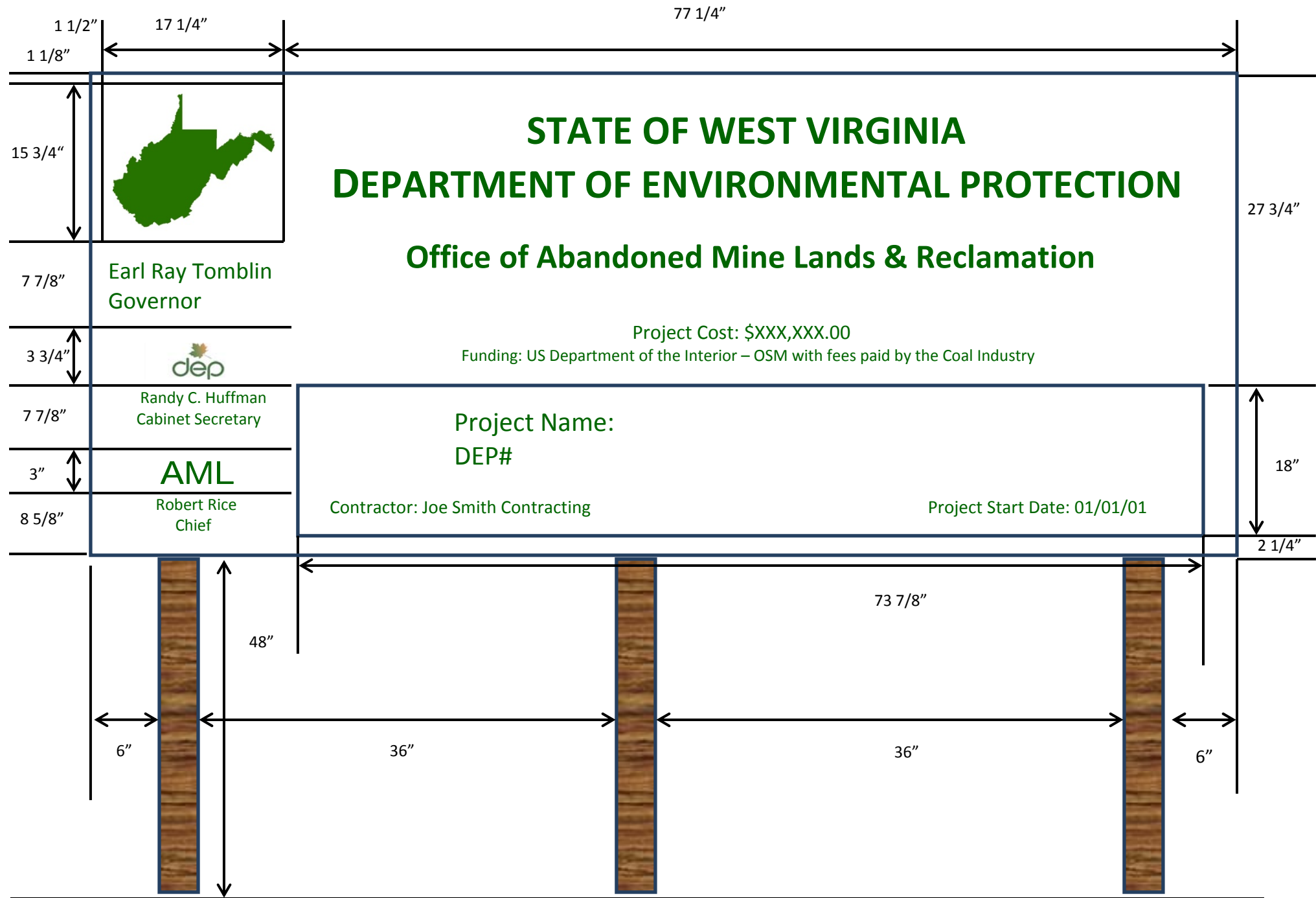
Project Name:

DEP#

Contractor: Joe Smith Contracting

Project Start Date: 01/01/01





96"



STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Office of Abandoned Mine Lands & Reclamation

Earl Ray Tomblin
Governor

Project Cost: \$XXX,XXX.00

Funding: US Department of the Interior – OSM with fees paid by the Coal Industry



Randy C. Huffman
Cabinet Secretary

<p>Project Name: DEP#</p>	<p>Project Start Date: 01/01/01</p>
<p>Contractor: Joe Smith Contracting</p>	

AML

Robert Ride
Chief

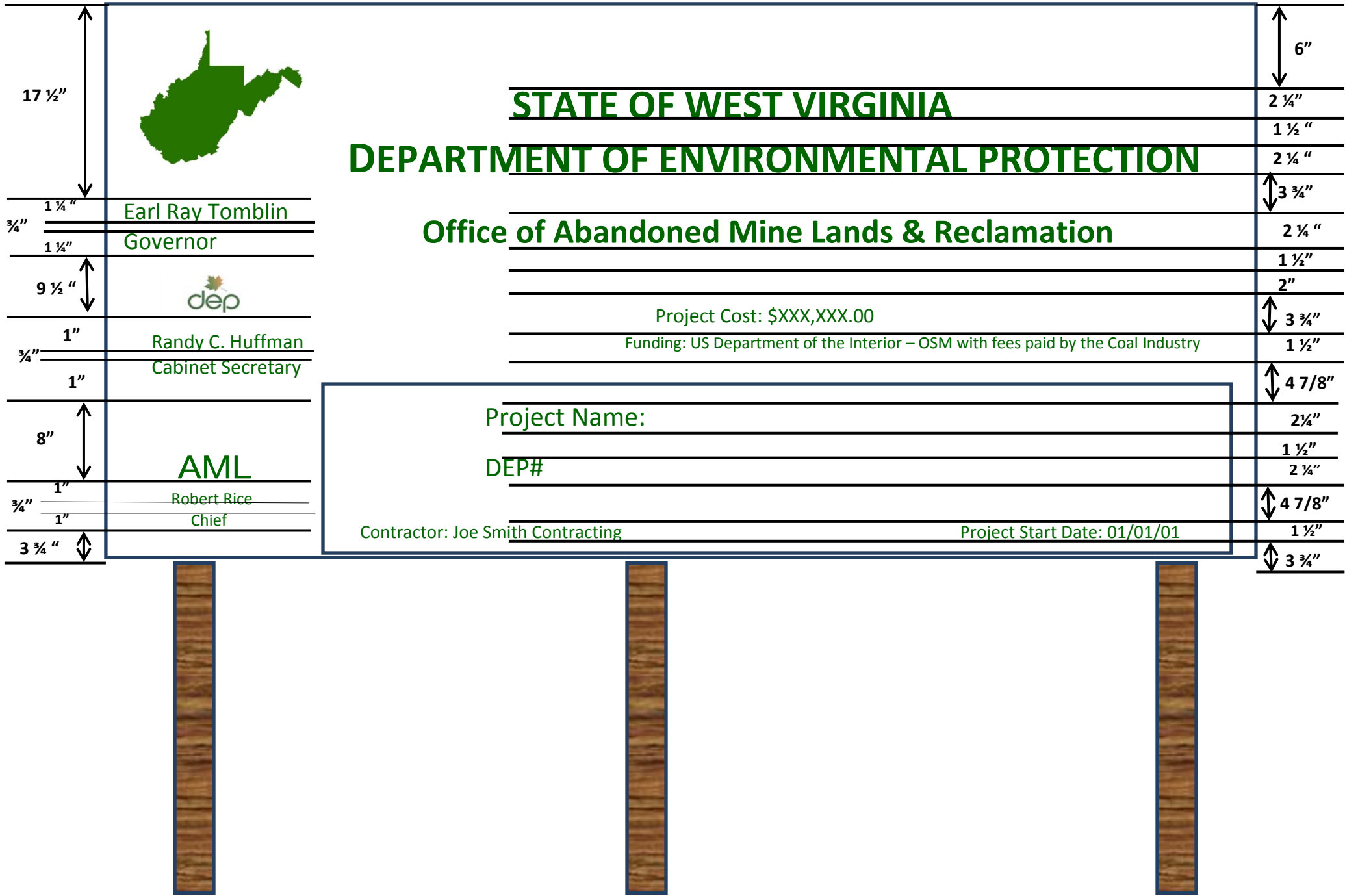
48"

5 1/4"

7 7/8"

9 3/8"

81 3/8"



17 1/2"



STATE OF WEST VIRGINIA

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Office of Abandoned Mine Lands & Reclamation

Earl Ray Tomblin
Governor



Randy C. Huffman
Cabinet Secretary

AML

Robert Rice
Chief

Project Cost: \$XXX,XXX.00

Funding: US Department of the Interior – OSM with fees paid by the Coal Industry

Project Name:

DEP#

Contractor: Joe Smith Contracting

Project Start Date: 01/01/01

6"

2 1/4"

1 1/2"

2 1/4"

3 3/4"

2 1/4"

1 1/2"

2"

3 3/4"

1 1/2"

4 7/8"

2 1/4"

1 1/2"

2 1/4"

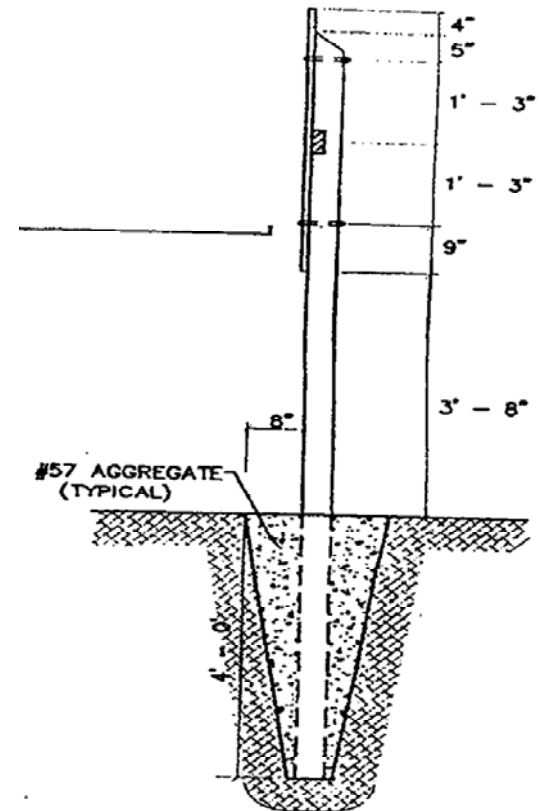
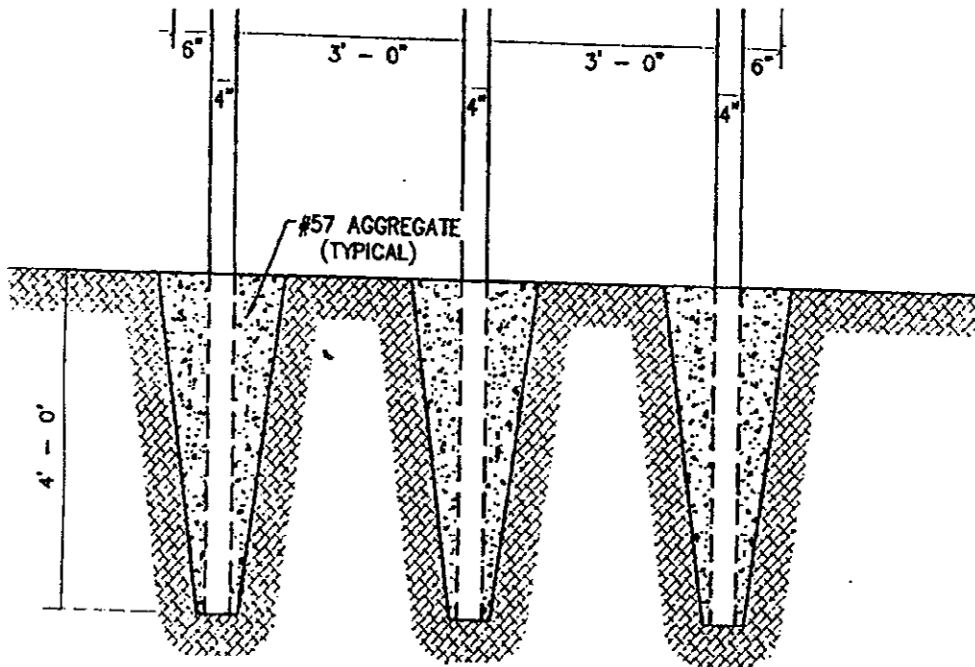
4 7/8"

1 1/2"

3 3/4"

Notes:

1. Sign board to be $\frac{3}{4}$ " by 4'X 8' marine plywood.
2. Sign board color is to be white and letter colors are to be dark green and sized as shown on the detail.
3. 2"X 4" treated cross brace let into posts.
4. Mount sign to posts using $\frac{3}{8}$ "X 5" galvanized carriage bolt.
5. Posts are to be treated 4"X 4"X 12' and panted brown.
6. Location determined by WVDEP.



ARTICLE IV - GENERAL REQUIREMENTS

14.0 CLEANING & FINAL CLEAN-UP

14.1 Housekeeping - Periodic Cleaning.

The Contractor shall at all times keep the construction site free of accumulations of waste materials and rubbish caused by its operations. Periodically during the progress of the work, and also when directed to do so by DEP, the Contractor shall remove, or cause to be removed by sub-contractors responsible, accumulated waste materials, rubbish, and debris, and leave the construction area in good order.

14.2 Final Clean-Up.

The Contractor at all times shall dispose of all debris and waste resulting from work at the Contractor's dump site. The Contractor shall not put or spill any materials into any drainage system which would pollute area streams or waterways. The Contractor shall be liable for any stream pollution caused directly or indirectly by its own employees or those of its sub-contractors.

14.3 DEP's Right to Clean-Up.

Should disputes arise between Contractor and separate contractors, or sub-contractors as to responsibilities for cleaning-up, and refusals to do so result therefrom, DEP may perform the clean-up and charge the cost thereof to the Contractor, the contractors, or sub-contractors responsible therefor, as DEP shall determine fair and just.

15.0 TESTING.

15.1 When Testing Required.

Testing shall be performed as required by the specifications or ordered by the Construction Administrator in writing. The Construction Administrator will determine the need, location, extent, and time of any testing herein specified, or in addition to that which is herein specified.

15.2 Payment for Testing.

The Contractor shall select an independent testing laboratory or utilize a laboratory run by the Contractor, to perform all testing for compaction, concrete, and soils as specified herein. All laboratory reports must be signed by a registered professional engineer. The Contractor shall be responsible for testing payments as an incidental to the various items of the bid schedule. If the Contractor allows work to proceed beyond a testing point resulting in the disassembly of structures or the uncovering of work for testing, payment for such will be the responsibility of the Contractor at no extra cost to DEP.

ARTICLE IV - GENERAL REQUIREMENTS

16.0 PROJECT COMPLETION - CERTIFICATES

- 16.1 All certificates of testing, quality, compliance, and performance, as required, requested, and/or specified, shall be delivered to DEP upon delivery or completion of the work covered by the certificates.
- 16.2 All certificates of approval, compliance, and completion as required by codes, inspection and regulatory agencies, and local, State and Federal governmental authorities, shall be delivered to DEP upon completion of the work and inspections covered by such certificates.
- 16.3 The contractor shall submit to the WVDEP as built drawings certified by a Registered Professional Engineer identifying all changes occurring on the project. The drawings shall be of professional quality. Unsuitable drawings will be returned for revisions. These drawings shall be approved by WVDEP prior to scheduling a Final Inspection.

**DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MILE LANDS & RECLAMATION**

Report for Week Ending: _____ Project Name: _____
By: _____ Location: _____
Title: _____ Contractor: _____

Daily Activity Summary

Sunday	
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	

**DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MILE LANDS & RECLAMATION**

Weekly Quantity Summary

Report By: _____

For Week Ending: _____

Pay Item	Units	Quantity Performed

Attach any sheets applicable to this weeks work and check appropriate box.

Change Orders	<input type="checkbox"/>	Field Changes	<input type="checkbox"/>
Test Results	<input type="checkbox"/>	Explanation of work stoppages not due to weather	<input type="checkbox"/>
Other (explain)	<input type="checkbox"/>		

ARTICLE V - SPECIAL CONDITIONS

ARTICLE V - SPECIAL CONDITIONS

Sections Included:

- 1.0 Use of Minority, Women's, & Small Business Enterprises**
- 2.0 Erosion & Sediment Control**
- 3.0 Debarment and Suspension Requirements**
- 4.0 Certification Regarding Lobbying**

ARTICLE V - SPECIAL CONDITIONS

1.0 USE OF MINORITY, WOMEN'S, & SMALL BUSINESS ENTERPRISES

- 1.1 Should the Contractor intend to sublet a portion of the work on this project, it shall seek out and consider minority, women's, and small business enterprises as potential sub-contractors. The Contractor shall contact minority, women's, and small businesses to solicit their interest, capability, and prices, and shall retain proper documentation to substantiate such contacts.**
- 1.2 The Contractor will sign and provide the enclosed Minority, Women's and Small Business Affirmative Action Certification to DEP along with the name(s) of any subcontractor(s) it submits for approval.**

**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
CONSTRUCTION CONTRACTOR'S
MINORITY, WOMEN'S AND SMALL BUSINESS
AFFIRMATIVE ACTION CERTIFICATION**

We, _____, the undersigned, Construction Contractor on the Abandoned Mine Lands & Reclamation construction contract herein, intending to sub-contract a part of our contract work under Requisition No. _____, hereby certify as follows:

- 1) We will include qualified small, minority and women's businesses on solicitation lists;
- 2) We will assure that small, minority and women's businesses are solicited whenever they are potential sources;
- 3) We will, when economically feasible, divide total requirements into smaller tasks or quantities so as to permit maximum small, minority and women's business participation.
- 4) Where our requirements permit, we will establish delivery schedules which will encourage participation by small, minority and women's businesses.
- 5) We will utilize the services and assistance of the Small Business Administration, the Office of Minority Business Enterprise of the Department of Commerce and the Community Services Administration as required.

We understand that we may obtain the information required under the foregoing provisions from the Governor's Office of Community & Industrial Development's Small Business Development Center, 1115 Virginia Street, East, Charleston, West Virginia 25301, Phone 304/348-2960.

- 6) We will submit this certification to the Construction Supervisor when we submit proposed subcontractors for approval.
- 7) We agree that all documentation relative to affirmative action taken by us to seek out and consider the use of minority, women's and small business enterprises as sub-contractors shall be made available for inspection by representatives of the West Virginia Department of Environmental Protection and the U.S. Office of Surface Mining Reclamation and Enforcement;
- 8) This certification is an integral part of our proposal for the construction contract.

Signed this ____ day of _____, 20__.

Signature of Authorized Representative

Title

ARTICLE V - SPECIAL CONDITIONS

2.0 EROSION & SEDIMENT CONTROL

The manual entitled "West Virginia Department of Natural Resources Technical Handbook of Standards and Specifications for Erosion and Sediment Control", 1981, is incorporated herein by reference as a guide for erosion and sediment control, except that where any provision of said manual is in conflict with any special erosion and sediment control provision set out and contained in this specification book and/or in the plans for this project, the specification book and/or plans shall prevail and be followed.

**ASSURANCE REQUIREMENT REGARDING EQUAL EMPLOYMENT OPPORTUNITY
FOR VENDORS, SUPPLIERS AND CONTRACTORS ENGAGED IN
COMMERCIAL TRANSACTIONS WITH
THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION**

We, _____, the undersigned, desiring to avail ourselves of the benefits of engaging in commercial transactions with the West Virginia Department of Environmental Protection, hereby agree that:

- 1) All employment and personnel practices under this contract, Requisition No. _____, will be conducted without regard to race, sex, religion or national origin;
- 2) We will include in all recruitment advertisements the following wording:
"An Equal Opportunity Employer"; and
- 3) We will provide the Director of the Abandoned Mine Lands and Reclamation Division or his/her authorized representative, upon request, documentation that will enable him/her to judge the extent of our compliance with the requirements of Governor's Executive Order No. 4-65, of December 15, 1965.

Signed this ____ day of _____, 20 ____.

Signature of Authorized Representative

Title

ARTICLE V - SPECIAL CONDITIONS

3.0 GOVERNMENT-WIDE DEBARMENT & SUSPENSION REQUIREMENTS

U. S. Department of the Interior

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion

Lower Tier Covered Transactions

- 1.** By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.
- 2.** The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
- 3.** The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- 4.** The terms "covered transaction," "debarred", "suspended", "ineligible", "lower tier covered transaction", "participant", "person", "primary covered transaction", "principal", "proposal", and "voluntarily excluded", as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
- 5.** The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction originated.
- 6.** The prospective lower tier participant further agrees by submitting this proposal, that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
- 7.** A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Non procurement List (Tel.#).
- 8.** Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- 9.** Except for transactions authorized under paragraph 6 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

U. S. Department of the Interior
Certification Regarding
Debarment, Suspension, Ineligibility and
Voluntary Exclusion
Lower Tier Covered Transactions

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 43 CFR Part 12, Section 12.510, Participants' responsibilities. The regulations were published as Part VII of the May 26, 1988 Federal Register (pages 19160-19211). For assistance in obtaining a copy of the regulations, contact the U.S. Department of the Interior, Acquisition and Assistance Division, Office of Acquisition and Property Management, 18th and C Streets, N.W., Washington D.C. 20240.

(1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

(2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Name and Title of Authorized Representative

Signature

Date

ARTICLE V - SPECIAL CONDITIONS
Instructions for Certification Regarding Lobbying

- 1. This certification and a disclosure form should be filed by each person as required, with each submission that initiates agency consideration of such person for: (1) award of a Federal contract, grant, or cooperative agreement exceeding \$100,000 or (2) an award of a Federal loan or a commitment providing for the United States to insure or guarantee a loan exceeding \$150,000.**
- 2. This certification and a disclosure form should be filed by each person as required, upon receipt by such person of (1) a Federal contract, grant, or cooperative agreement exceeding \$100,000, or (2) a Federal loan or a commitment providing for the United States to insure or guarantee a loan exceeding \$150,000, unless such person previously filed a certification, and a disclosure form, if required, at the time agency consideration was initiated.**
- 3. Any person who requests or receives from a person referred to in paragraphs (1) and (2) above: (1) a subcontract exceeding \$100,000 at any tier under a Federal contract; (2) a subgrant, contract, or subcontract exceeding \$100,000 at any tier under a Federal grant; (3) a contract or subcontract exceeding \$100,000 at any tier under a Federal loan exceeding \$150,000; or (4) a contract or subcontract exceeding \$100,000 at any tier under a Federal cooperative agreement, shall file a certification, and a disclosure form, as required, to the next tier above.**
- 4. All disclosure forms, but not certifications, shall be forwarded from tier to tier until received by the person referred to in paragraphs(1) or (2) above. That person shall forward all disclosure forms to the appropriate Bureau/Office within the Department of the Interior.**
- 5. Any certification or disclosure form filed under paragraph (4) above shall be treated as a material representation of fact upon which all receiving tiers shall rely. All liability arising from an erroneous representation shall be borne solely by the tier filing that representation and shall not be shared by any tier to which the erroneous representation is forwarded. Submitting an erroneous certification or disclosure constitutes a failure to file the required certification or disclosure, respectively. If a person fails to file a required certification or disclosure, the United States may pursue all available remedies, including those authorized by Section 1352, title 31, U.S. Code.**

**U. S. Department of the Interior
CERTIFICATION REGARDING LOBBYING**

This certification is required by Section 1352, title 31, U. S. Code, entitled "Limitation on use of appropriated funds to influence certain Federal contracting and financial transactions."

(BEFORE COMPLETING CERTIFICATION, READ INSTRUCTIONS ON REVERSE)

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.**
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions. To obtain a Standard Form LLL, contact DEP or the U.S. Office of Surface Mining, 603 Morris Street, Charleston, WV 25301, phone number 347-7158.**
- (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify accordingly.**

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Signature _____ Date _____

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352

Approved by OMB

0348-0046

(See reverse for public burden disclosure.)

1. Type of Federal Action: <input type="checkbox"/> a. contract <input type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance	2. Status of Federal Action: <input type="checkbox"/> a. bid/offer/application <input type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award	3. Report Type: <input type="checkbox"/> a. initial filing <input type="checkbox"/> b. material change For Material Change Only: year _____ quarter _____ date of last report _____
4. Name and Address of Reporting Entity: <input type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier _____, if known: Congressional District, if known: ^{4c}	5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime: Congressional District, if known:	
6. Federal Department/Agency:	7. Federal Program Name/Description: CFDA Number, if applicable: _____	
8. Federal Action Number, if known:	9. Award Amount, if known: \$ _____	
10. a. Name and Address of Lobbying Registrant (if individual, last name, first name, MI):	b. Individuals Performing Services (including address if different from No. 10a) (last name, first name, MI):	
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.	Signature: _____ Print Name: _____ Title: _____ Telephone No.: _____ Date: _____	
Federal Use Only:		Authorized for Local Reproduction Standard Form LLL (Rev. 7-97)

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a followup report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in item 4 checks "Subawardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitation for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, State and zip code of the lobbying registrant under the Lobbying Disclosure Act of 1995 engaged by the reporting entity identified in item 4 to influence the covered Federal action.

(b) Enter the full names of the individual(s) performing services, and include full address if different from 10 (a). Enter Last Name, First Name, and Middle Initial (MI).
11. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, DC 20503.

WAGE AND HOUR INFORMATION

PREVAILING WAGE RATES

can be obtained by contacting:

**WV Division of Labor
Capitol Complex
Bldg. 6, Room 749B
Charleston, WV 25305**

Phone: (304) 558-7890

Website: www.sos.wv.gov

CONSTRUCTION SPECIFICATIONS

CONSTRUCTION SPECIFICATIONS
GRAFTON #4 REFUSE & HIGHWALL
TAYLOR COUNTY, WEST VIRGINIA

SUBMITTED TO:

Mr. Gregory Smith, PE
WVDEP-AML
101 Cambridge Place
Bridgeport, West Virginia 26330

SUBMITTED BY:

CIVIL TECH ENGINEERING INC.
300A Prestige Drive
Hurricane, WV 25526
Phone: 304-757-8094
Fax: 304-757-8095
Email: civiltech1@frontier.com

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**GRAFTON # 4 REFUSE & HIGHWALL PROJECT
I. SPECIAL PROVISIONS**

1. LOCATION / SITE DESCRIPTION

The project originally consisted of four sites (Sites 1-4). Site 3 was eliminated from the design documents on December 20, 2013. Therefore, there are now only three sites (Sites 1, 2, and 4). However, for clarity, the sites were not renumbered. Therefore, any reference to Site 3 contained in the design documents should be ignored. Site 1 is located on an unnamed tributary to Gabe Fork, a tributary of Right Fork Simpson Creek. Site 2 and 4 are located on the eastern branch of Gabe Fork. The three sites of the project encompass an old mine site that exhibits collapsed/drainage portals with AMD seepage, standing water, vertical openings, old sediment ponds, subsidence features, strip mine highwalls, mine spoil, and refuse.

The general scope of work includes;

- construction of permanent drainage channels,
- construction of low water crossings,
- dewatering and treatment of mine discharge,
- installation of wet or modified mine seals,
- installation of one (1) dry bat gate mine seal,
- reclamation of highwall,
- sediment pond dewatering and removal,
- installation of underdrain,
- repair and remediation of subsidence areas,
- placement of rip rap armoring in existing drainage channels,
- gas line relocation,
- placement of soil cover,
- and re-vegetation of disturbed areas.

Drainage structures proposed will include; vegetated channels with erosion control matting, rip rap, and grouted rip rap lined channels necessary to convey mine drainage and surface water to existing drainage features. Existing channels and erosion features will also be armored.

Other work will include; temporary erosion and sediment control measures, maintenance and repair of existing roads and construction of temporary roads for access, dewatering of the mine reservoirs, and treatment of mine drainage before release.

No private residences are located adjacent to or near the sites. However, access to the sites will be through several different landowners' property. Access to Site 1 will be through property owned by Robert Spencer. Existing mining and farm roads will be used for access. Access to Site 2 will be through property owned by Mark Stout and the Beckwith Lumber Company.

Existing mining and farm roads will be used for access. A gas line passes through Highwall 2 at Site 1 in a north/south direction. This line is owned by Petroleum Development Corporation. As stated 340 LF of this gas line will need to be relocated as part of the highwall reclamation portion of the project.

Directions to site:

From Philippi, take US 119 north towards Webster in Taylor County.

Turn left (east) on Simpson Road (CR 13) and travel 3.6 miles.

Turn left on Bosley/Gabe Fork Road, CR 13/5, and travel 0.85 miles to a red metal barn and farm road on the right.

Follow this farm road (to the north of Robert Spencer's residence) northwest through a field to a bench for about 0.3 miles. Collapsed and draining portals begin here.

Coordinate Location: N39° 15' 23" -- W80° 06' 25"

A County Highway Map with the site location follows on the next page.

2. REFERENCE SPECIFICATIONS / DEFINITIONS

All references to "Owner" in these Specifications shall mean West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation (WVDEP).

All reference to "Engineer" in these Specifications shall mean the Owner's Engineer or authorized representative.

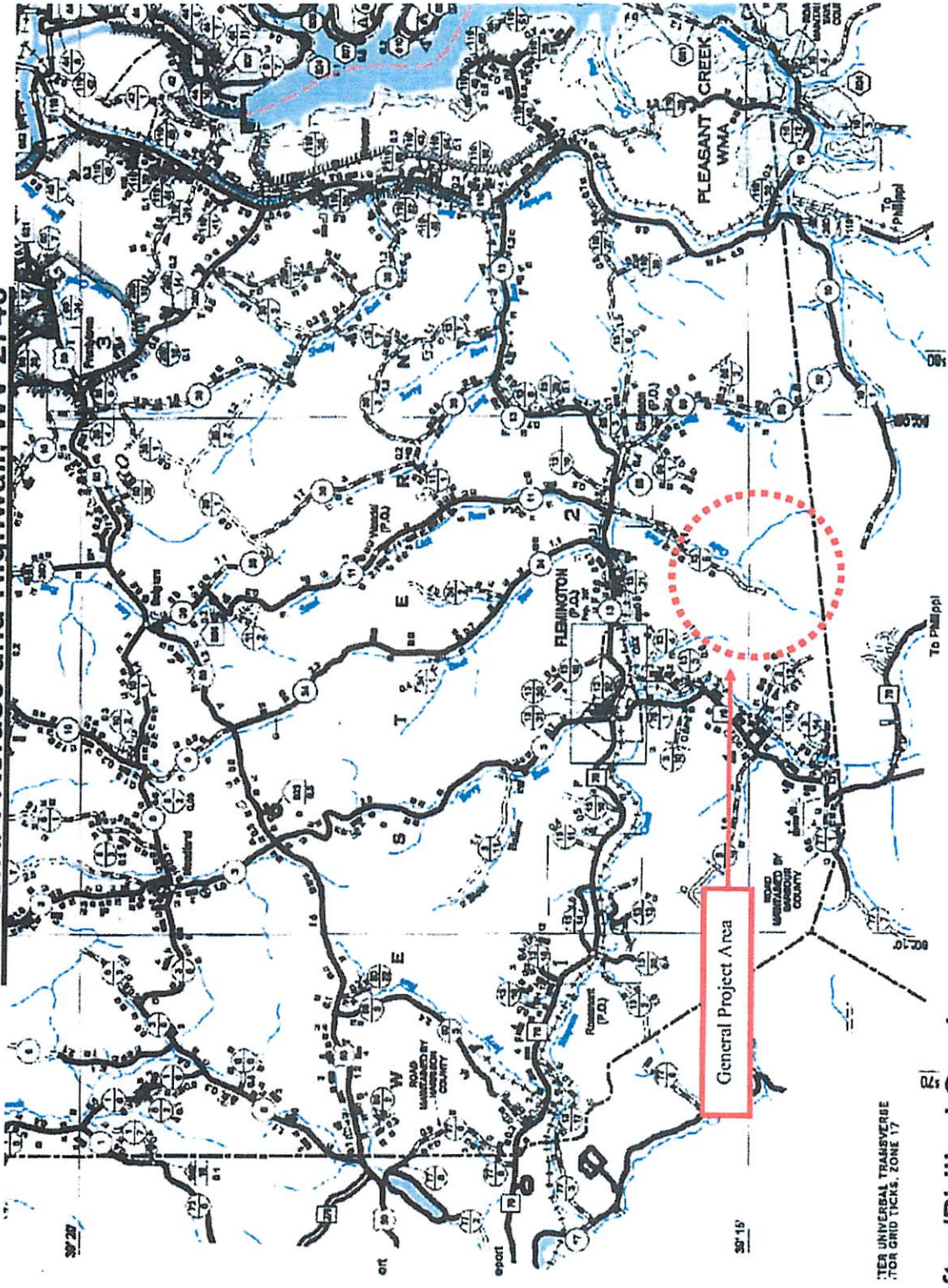
All reference to "ASTM" shall mean the American Society of Testing and Material Specifications, Latest Edition unless otherwise noted.

All reference to "AASHTO Specifications" shall mean the Standard Specifications for Transportation Materials and Methods of Sampling and testing by the American Association of State Highway and Transportation Officials, latest edition, and all subsequent addenda thereto.

All reference to "WVDOH Standard Specifications" shall mean State of West Virginia Department of Transportation, Division of Highways Standard Specifications for Roads and Bridges, adopted 2010, and all-subsequent addenda thereto.

All references to the "Contractor" shall be understood to mean the successful bidder and or firm or corporation undertaking the execution of the work under the terms of these Specifications.

Highway Map
Grafton #4 Refuse and Highway: WV-2746



Taylor County
Longitude: 80° 06' 25"

Grafton/Philippi Quads
Latitude: 39° 15' 23"

UTM UNIVERSAL TRANSVERSE
MERCATOR GRID TICKS, ZONE 17

General Project Area

To Philippi

All reference to “OSHA” shall be understood to mean The Occupational Safety and Health Administration and the standards set in the Occupational Safety and Health Act of 1970.

All reference to “refuse” and/or “mine spoil” shall be understood to mean all coal refuse, shale, sandstone and other rock fragments that were generated and disposed of as such within the project area during mining and processing of coal.

All reference to “AMD” shall be understood to mean all acid mine drainage discharges from the project site.

All reference to “OSM” shall be understood to mean Office of Surface Mining.

3. SCOPE OF WORK

The work covered by the Special Provisions and Technical Specifications consists of furnishing all labor, plant, power, equipment and supplies, and performing all operations necessary for the completion of the project. The Contractor shall perform all operations necessary for:

- Mobilization/Demobilization of necessary and sufficient sized equipment to the project areas to complete the project within the stated time frames.
- Survey and construction layout of grading, facilities, constructions, and appurtenances shown on the Plans.
- Quality control.
- Erosion and sediment control during construction in accordance with the approved Construction Stormwater Permit and Plans.
- Clearing and grubbing of the site and, removal of debris, trash, junk, tree roots, and associated materials.
- Stripping and stockpiling topsoil for use as soil cover.
- Dewatering the mine reservoir(s) and treatment of the same before discharge.
- Control of groundwater springs, normal runoff and mine drainage, and storm drainage during construction so that work can be performed in the dry.
- Excavation, backfill, fill placement as required to construct the project complete.
- Construction of mine seals and bat gates.
- Construction of surface drainage control channels and a subsurface drain as identified on the Plans.
- Repair and remediation of subsidence areas.

- Disposal of excess material (regardless of character or composition) from excavation.
- Placement of soil cover and re-vegetation of disturbed areas.
- Gas line relocation.

The Contractor also shall be responsible for surveying, including establishing construction baseline, measuring and developing all completed quantities on the job, and for ordering, purchase and delivery of any and all materials required for construction or required for development of support areas. The Contractor shall perform all other operations as incidental to the program as specified herein.

4. BIDDERS TO EXAMINE LOCATION

A subsurface investigation consisting of four (4) borings was performed to determine the coal floor elevation, head within the mine workings, and nature/depth of the coal refuse piles onsite. Borings were also drilled to determine the depth and nature of the mine spoil and as an aid in planning grading work to reclaim the highwall and obtain borrow needed for use as cover soil onsite. The boring locations are shown on the Plans and logs from the borings are included as an Appendix to these specifications. A boring summary is also provided on the plans. Subsurface information is submitted for information only and should not be interpreted as a warranty or guarantee of actual subsurface conditions. The WVDEP will not be responsible for the Contractor's interpretation of the test boring results. Prospective bidders are required to examine the locations of the proposed work and to determine, each in their own way, the site and subsurface conditions and difficulties which may be encountered in the execution of the same. The submission of a bid shall be prima facie evidence that such examination and determinations have been made by the Bidder. No claims for additional compensation will be considered by the Owner based on obstruction or conditions at the location of the work, which may add to the difficulties or costs of construction, even though such obstructions or conditions are not shown on the contract plans or indicated in the other construction documents. Prospective bidders are advised that should they deem it necessary to obtain any subsurface samples or test borings etc., at the site, they should obtain their own permission from the landowners.

5. SCHEDULE OF WORK

Before commencing work on this project, the Contractor shall prepare and submit a schedule of construction activities for approval by the Owner.

The Contractor shall provide adequate supervision, labor, tools, equipment, and materials to execute the work energetically and complete the work within the time specified.

It is the intention not to delay the work for the checking of lines or grades, but if necessary, working operations shall be suspended for such reasonable time as the WVDEP may require for the purpose. No special compensation shall be paid for the cost to the Contractor for any of the work or delay occasioned by checking lines and grades, by making other necessary measurements, or by inspection.

The Contractor's work hours for this project shall be 7:00 am to 7:00 pm Monday thru Saturday. Work on Sunday or major holidays, as defined by the WVDEP, will not be allowed on this project.

6. MEASUREMENT OF QUANTITIES

The Contractor shall be responsible for providing all necessary volumetric, dimension, and weight measurement equipment necessary to execute the work as shown on the Construction Drawings and to accurately determine quantities for payment of Contract Bid Items as approved by the WVDEP. Such measurements and equipment shall be subject to the approval of the WVDEP for use in this project.

7. BORROW (DISPOSAL) AREAS

It is the intent of this project to balance the excavation and fill required to construct the project in accordance with the Plans. Unsuitable and excess material generated by the excavation will be disposed of as waste in the highwall fill area as directed by the WVDEP. It is the intent of the project to balance the excavation with the fill required. The cut fill/slopes shown on the plans will be adjusted as required to achieve this result as directed by the WVDEP. Therefore, the need for an offsite waste or borrow area is not anticipated and any offsite waste area(s) and/or any borrow area(s) required must be approved by WVDEP. Should the Contractor decide to obtain and utilize any waste/borrow areas outside of the construction limits, or move material from one property owner to another unless designated, the Contractor shall be responsible to obtain from the property owner(s) of the borrow (waste) areas, all necessary rights of entry, including rights of entry for WVDEP and OSMRE for inspection purposes. The said rights of entry agreement must state that the property owner(s) indemnify and hold harmless the WVDEP for Contractor's action for any liability or damages whatsoever resulting from the Contractor's use of the property for which the contractor was to obtain rights of entry borrow, disposal, access or other purposes. Said indemnification shall

include, but is not limited to, liability and damages resulting from the contractor's failure to obtain any or not all rights of entry; failure to obtain the proper rights of entry; failure to utilize appropriate language in the rights of entry agreements; or failure to obtain permission and signature of all persons or entities holding a legal interest in the subject property (ies) covered by the rights of entry.

The Contractor also shall submit a borrow/waste area reclamation plan(s) for prior approval by WVDEP. The Contractor shall observe the following NEPA compliance schedule relative to selecting and utilizing any off site borrow areas and or any waste areas.

- a. No borrow (disposal) site operations will affect a site listed in, eligible or proposed to be listed in the National Register of Historic Places.
- b. No borrow (disposal) operations will be located within one-quarter mile of any Federally listed established or prospective component of the National Wild and Scenic River System under 16 USC 1274 and 1276.
- c. Borrow (disposal) site operations will not cause a significant encroachment within the base floodplain (CE.O. 11988: Floodplain Management).
- d. Borrow (disposal) site operations will not be located in or affect a critical habitat of a federally listed endangered or threatened species under 16 USC 1531, et. seq.
- e. No borrow (disposal) operations will occur in wetland areas which are designated by appropriate agencies.
- f. Borrow (disposal) site operations will be consistent with any approved plans governing ambient air quality.
- g. Adherence to these mitigation measures does not relieve the Contractor of the obligation or responsibility to obtain any other Federal, State, or local approvals required to use borrow (disposal) areas and conduct such activities.
- h. Documentation: Copies of borrow (disposal) site approvals and concurrences will be submitted to the WVDEP prior to the commencement of work activities.
- i. Site Monitoring: Borrow (disposal) activities will be monitored by the State to ensure compliance with contractual requirements, applicable Federal, State, and local laws, and any permit conditions.

8. DISPOSAL OF UNSUITABLE MATERIAL

All waste areas shall be obtained in accordance with **Special Provisions Section 7** of these Specifications. All unsuitable materials (wood, trash, debris, and garbage) as determined by the Engineer shall be wasted by the Contractor, at his/her expense, outside the limits of work conforming to the requirements of the applicable subsections of these

Specifications. Wood may be burned in conformity with applicable subsections of **Section 4 of these Specifications**.

The Contractor shall observe the NEPA compliance schedule relative to selecting and utilizing any off-site disposal areas in accordance with **Special Provisions Section 7** of these Specifications.

9. INTERPRETATION OF APPROXIMATE ESTIMATE OF QUANTITIES

The estimate of quantities of work to be done and/or materials to be furnished under the Special Provisions and Technical Specifications, as shown on the Contract Bid Schedule, is approximate and is given only as a basis of calculation upon which the award of the Contract is to be made. WVDEP reserves the right to increase or decrease any or all of the quantities of work or to omit any of them, as it may deem necessary.

10. SAFETY

All regulations of the Occupational Safety and Health Act of 1970 (**OSHA**) are in effect for this Contract. WVDEP shall not be liable for any citations received by the Contractor as a result of failure to comply with applicable **OSHA** standards. Compensation is to be included in the various items of the Contract for the expense involved in complying with these standards. In addition, the Contractor shall comply with **Section 107.7** of the **WVDOH Standard Specifications** regarding public convenience and safety. The Contractor's supply vehicles will travel paved, gravel, and dirt roads in close proximity to local resident's homes, businesses, driveways, and other constructions. As such, the safety and convenience of these people shall be of utmost importance in the Contractor's execution of work as shown on the Plans and herein specified. The Contractor shall comply with **OSHA Regulation 29CFR1926 Subpart P** for excavation of trenches associated with pipe, culvert, subsurface drains, and similar constructions. The Contractor shall also protect pedestrian and vehicular traffic around excavations and trenches in compliance with the **US Federal Highway Administration Manual of Uniform Traffic Control Devices** and the **WVDOT "Traffic Control for Street and Highway Construction and Maintenance Operations"** dated May 1999 or later edition. In addition the Contractor shall be required to comply with all WVDOT rules, regulations, weight limits, speed limits associated with and posted on nearby public and/or private roads used by the Contractor to access the project. The Contractor will be required to coordinate his operations with each resident and provide unrestricted access to them at all times. At the discretion of the WVDEP and as required by the WVDOH or local municipality, the Contractor will be required to employ flag persons to direct traffic

while hauling materials on and off site and other construction. The Traffic Control Plan will also detail the Contractors plan to keep all roadways free of fugitive dust and clean of mud and other debris from the job site deposited by the Construction and other vehicles entering or leaving the site(s) and project area.

11. REGULATIONS

All appropriate Township, County, State, and Federal Regulations shall apply to this Contract. It shall be the Contractor's sole responsibility to be aware of these regulations and to comply with them. WVDEP shall not be liable for any citations received by the Contractor. Unless approved by the WVDOH and the WVDEP, the Contractor shall keep the existing roads open and safe to public vehicular traffic at all times and shall provide appropriate barriers and warning devices as directed by these agencies.

12. LAWS TO BE OBSERVED

The Contractor shall at all times, observe, comply with, and post as required all Federal, State, and local laws, ordinances, and regulations in any manner affecting the conduct of the work or applying to employees on the project as well as all orders or decrees which have been or may be promulgated or enacted by any legal bodies or tribunals having authority or jurisdiction over the work, materials, employees, or Contract. The Contractor shall protect and indemnify WVDEP and its representatives against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree whether by the Contractor or by the Contractor's employees.

13. PERMITS, LICENSES AND FEES

The WVDEP shall provide the NPDES Construction Stormwater permit from the Division of Water and Waste Management. The Contractor shall procure all other permits and licenses, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the work. Permits required for this project may include but are not limited to: a Stream Activity permit from the WV Division of Natural Resources and burning permits from the WV Division of Forestry and the WVDEP, Division of Air Quality. A copy of the permits as procured shall be furnished to the WVDEP prior to initiation of the work under this Contract. Specific permits provided by the WVDEP for this project are listed below:

- WVDEP Construction Storm Water Permit
- WVDOH Encroachment Permit

The Contractor will be responsible for the control of water during construction activities so that work can be performed in the dry.

14. ELECTRICITY, WATER SUPPLY AND SANITARY FACILITIES

There are no available supplies at the site of electricity and water and, additionally, there are no sanitary facilities. Arrangements for electric service, water supply and sanitary facilities shall be made by the Contractor, and all costs for such arrangements shall be borne by the Contractor at no additional cost to the WVDEP.

15. UTILITIES AND OTHER OBSTRUCTIONS

The Contractor shall be solely responsible to correctly locate all existing active underground and overhead utilities at the project sites and take precautions to avoid damage to them. Any existing utility lines damaged by the Contractor shall be replaced by the Contractor or repaired at no cost to the WVDEP. The Contractor shall notify the utility companies likely to be affected well in advance and before beginning any work within the project sites. In the event of damage to the existing utilities or other facilities, the Contractor shall notify the affected utility Owner(s) and the WVDEP immediately and make, or have made, all necessary repairs and bear the expense thereof and resulting damage caused thereby. It shall be the responsibility of the Contractor to arrange for relocating the utility lines, where required and as directed by the WVDEP, in accordance with the guidelines set forth by the utility company, prior to beginning construction. The Contractor will be reimbursed for actual charges invoiced by the Utility Company, except for utilities that are subject to regulation by the Public Service Commission, in which case, payment will be made directly to the affected utility by the WVDEP. The utility companies (and WVMIS) must be contacted by the Contractor at least one week prior to commencement of construction activities for the purpose of field locating and marking utility owned facilities within the project area. The phone number of the WVMIS Utility location service is 1-800-245-4848. A gas line is present in the Highwall 2 reclamation area at Site 1. 340 LF of the gas line will require relocation as part of the reclamation at Highwall 2. The gas line is owned by Petroleum Development Corporation Mountaineer (PDC). Contact information for the PDC is as follows:

Petroleum Development Corporation
Contact: Tim Lewis - Phone: 304-848-2205

16. SITE CLEANUP

Before the project shall be considered as having been satisfactorily completed, the Contractor shall clean and remove, from the project site, all surplus and discarded materials, and equipment and shall further remove all debris and objectionable materials of any kind from areas used or disturbed by the construction operations within or within sight of the project area.

17. ROCK BLASTING

No blasting is anticipated for this project. However, should blasting be necessary and approved by the WVDEP, all blasting operations shall be conducted in strict accordance with applicable State and Federal laws relating rock blasting and storage and use of explosives. The Contractor shall maintain and keep in full force and effect blasting insurance to protect and indemnify the WVDEP and/or his agents or representative for damages and shall defend all suits at law. If blasting is required, the Contractor shall submit to the WVDEP a request for blasting insurance coverage prior to initiating blasting operations. Failure to obtain approval for blasting prior to initiating the work will result in no payment for items utilizing this rock.

18. TEMPORARY ACCESS ROADS

The Contractor shall construct and maintain temporary access roads for convenient access to the various parts of the work, and for other necessary purposes incidental to the performance of this Contract. The location of temporary access roads shall be approved by the WVDEP prior to construction. No separate payment for construction and maintenance of such roads will be made. The Contractor shall erect such temporary fences or guards as may be necessary to keep unauthorized persons away from the work. Grading and surfacing of temporary access roads, excavations, fills and embankments for purposes of construction, or for convenience, beyond the limits of ordered excavations and all temporary fences and guards, shall be provided by the Contractor and shall be maintained in good condition. The Contractor shall be required to maintain all roads used by his hauling equipment in a dust-controlled condition. Upon completion, the Contractor shall return the disturbed areas to the approximate original condition as approved by the WVDEP and re-establish vegetation in accordance with **Section 6.0 of these Specifications.**

The Contractor shall be required to obtain a right of entry agreement from any property owner(s) prior to the utilization or construction of any access outside of the construction limits shown on the plans. Such agreement shall require the property owners(s) to indemnify and hold WVDEP harmless from any and all injuries or damages, whatsoever, resulting from the Contractor's use of the property. Should the Contractor utilize any

access of county or state roads other than those shown on the plans, he shall modify the approved NPDES Construction Stormwater Permit and obtain necessary permits from the WVDOH to work in their right of way all at his or her expense.

19. TRAFFIC CONTROL

The Contractor shall maintain and protect traffic, protect work in progress, protect adjacent property from excess dust resulting from the construction and maintain traffic through, around, or adjacent to the construction area. All materials used for traffic control shall be in accordance with the current WVDOH manual: “Traffic Control for Streets and Highway Construction and Maintenance Operations.” The Contractor shall submit a traffic control plan to the applicable WVDOH District office permit supervisor for approval prior to submitting said plan to the WVDEP for final approval and implementation. The Traffic Control Plan will also detail the Contractors plan to keep all roadways free of fugitive dust and clean of mud and other debris from the job site deposited by the Construction and other vehicles entering or leaving the site(s) and project area. All traffic control required during the work shall be considered incidental to the project.

20. SITE CONDITIONS AND ENVIRONMENTAL PROTECTION

Conditions at the site shall be examined by the Contractor, and he shall assume responsibility as to the contours and the character of the earth, rock, water and other items that may be encountered during the excavation, backfilling, and filling operations.

The Contractor shall be responsible for controlling and handling water encountered during construction by providing equipment and labor to insure safe and proper construction. The Contractor shall submit a plan to the WVDEP at the pre-construction meeting for approval. The WVDEP approval of this plan does not relieve the Contractor of his responsibility for controlling water.

The Contractor shall be responsible for the operation and maintenance of any required diversion or pumping facilities for removing ground water, surface water, and/or mine drainage from work areas during progress of the work under this Contract.

The Contractor shall be responsible for furnishing all materials, equipment, labor and incidentals necessary for the installation of sediment traps, silt barriers, and check dams and any other measures required as designated in the Drawings or as required by the WVDEP. Sediment control shall be placed on regraded areas concurrent with construction and prior to re-vegetation.

The Contractor shall be responsible for implementing measures called for in the NPDES Stormwater permit provided by the WVDEP for erosion and sediment control. Sediment

control measures shall be in-place and operational prior to any disturbance occurring in the project area. The WVDEP approval of this plan does not relieve the Contractor of his responsibility to be in compliance with any laws and/or permits.

The Contractor shall take any necessary steps to prevent erosion or silting problems from occurring and to minimize pollution or sedimentation of the stream. If any such problems develop, the Contractor shall be responsible to take immediate corrective action.

The Contractor shall be responsible for the repair or replacement of streets or driveways (blacktop, gravel & concrete), trees, shrubs, fences, or any other physical features including structures disturbed by construction which were not included in the proposed scope of work for the project to original condition or better at his own expense. The Contractor will be required to re-grade, maintain, and repair access roads in and near the project area and top existing roadway surfaces after construction operations are complete, but before demobilization operations, with compatible materials that existed upon demobilization operations. All existing access roads shall be maintained with materials compatible with those existing, repaired with compatible material as exists, and left in a condition equal to or better than existed at the time of mobilization activities. At a minimum, construction access roads and existing access roads used for construction shall be upgraded and maintained to provide all weather access to construct the project as specified and shown on the Plans.

The Contractor shall be responsible for the replacement of any existing boundary or corner markers disturbed by construction activities. Property corners which are disturbed by the construction will be reset and resurveyed as required by a professional land surveyor licensed in the State of West Virginia.

21. CONTROL AND REVIEW OF WORK BY THE ENGINEER

All services rendered by the Engineer consist of professional opinions and recommendations made in accordance with generally accepted engineering practice. Under no circumstances is it the intent of the Engineer to directly control the physical activities of the Contractor or the Contractor's workmen's accomplishment of work on this project.

The presence of the DEP's Field Representative and/or Engineer at the site is to provide the DEP a continuing source of professional advice, opinions and recommendations based upon the Field Representative's and/or Engineer's observations of the Contractor's work and does not include any superintending, supervision or direction of the actual work of the Contractor or the Contractor's workmen.

Any construction review of the Contractor's performance conducted by the Engineer is

not intended to include review of the adequacy of the Contractor's safety measures, in, or near the construction site.

22. CITATION OF OTHER SPECIFICATIONS

Whenever the Specifications for this Contract refer to the specifications of any society, institute, association or government organization, then such specifications cited shall become a part of this Contract as if written in full. Commonly used abbreviations have the following meanings:

- ASTM - American Society for Testing Materials
- ASA - American Standards Association
- AWWA - American Water Works Association
- AASHTO - American Association of State Highway and Transportation Officials
- ACI - American Concrete Institute
- WVDOT-DOH – West Virginia Department of Transportation – Division of Highways

Where reference is made to a specification, it shall be the latest revision at the time called for bids, except as noted on the Plans or elsewhere herein.

23. NPDES STORMWATER PERMIT GUIDELINES

VEGETATIVE PRACTICES

Except as noted below, stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portion of the site has permanently ceased.

- Where the initiation of stabilization measures by the fourth day after construction activity temporarily or permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as conditions allow.
- Where construction activity will resume on a portion of the site within 14 days from when activities ceased, (eg. The total time period that construction activity is temporarily halted is less than 14 days) then stabilization measures do not have to be initiated on that portion of the site by the seventh day after construction activities have temporarily ceased.

Areas where the seed has failed to germinate adequately (uniform perennial vegetative cover with a density of 70%) within 30 days after seeding and mulching must be reseeded immediately, or as soon as weather conditions allow.

Diversions must be stabilized prior to becoming functional.

MAINTENANCE & INSPECTION

At a minimum, all erosion and sediment controls on the site will be inspected at least once every seven calendar days and within 24 hours after any storm event of greater than 0.5 inches of rain per 24 hour period.

All controls should be cleaned out when sediment reaches one half the sediment capacity of that control.

Inspection and maintenance records must be kept onsite.

EROSION & SEDIMENT CONTROL CONSTRUCTION SEQUENCE

1. Install stabilized construction entrance(s) as shown on the Plans.
2. Install perimeter sediment control devices as shown on the Plans.
3. Install temporary ditching, check dams, and sediment traps if, and as shown on the plans.
4. Clear and grub the site
5. Provide sediment control for any topsoil or soil/rock stockpiles.
6. Commence installation of subsurface drains and drainage channels beginning at the downstream end of the project and progressing upstream. Continue to maintain and inspect all erosion and sediment controls.
7. Install additional erosion and sediment controls as required to prevent sedimentation of the receiving stream as the work progresses.
8. Perform work including excavation, fill placement, and drainage structure installation.
9. Construct mine seals and the bat gate.
10. Fine grade the disturbed areas and place soil cover over new fill.
11. Abandon piezometers.
12. Install final erosion and sediment control measures.
13. Repair/improve road surfaces and reclaim temporary access roads.
14. Permanently seed and mulch all disturbed areas within 7 days of reaching final grade during dry periods and daily during periods of rain.
15. Upon completion of project including adequate stabilization, remove all remaining erosion and sediment controls.
16. The Contractor will comply with the site specific construction sequence provided on the Plans.

II. TECHNICAL SPECIFICATIONS

1.0 MOBILIZATION AND DEMOBILIZATION

1.1 DESCRIPTION

This work shall consist of the performance of construction preparatory operations, including the movement of personnel and equipment to the project site and for the establishment of the Contractor's offices, equipment and material storage areas, buildings and other facilities including the construction of all temporary access roads as necessary to begin work on a substantial phase of the contract. The location of Contractor's office (if required) to be established shall be approved by WVDEP. It also shall include all demobilization activities involving the removal from the sites of all plant, equipment, supplies and personnel after completion of the work including cleanup of all rubbish and waste materials generated during the construction of this project; and restoration of any damage to existing site improvements resulting from the Contractor's activities at the site; and installation of the project sign.

1.2 METHOD OF MEASUREMENT

The method of measurement will be per lump sum.

1.3 BASIS OF PAYMENT

The bid for "Mobilization and Demobilization" shall be a lump sum and cannot be more than 10% of the TOTAL AMOUNT BID for the project. Partial payments will be as follows:

- (a) One-half of the amount bid will be released to the Contractor with the first estimate payable, not less than 15 days after the start of work at the project site.
- (b) The final one-half of the amount bid shall be released with the estimate payable after the work is accepted by the WVDEP and when the Contractor has submitted and received approval for paper (hard copies) and two (2) copies of a cd-rom with all "as-built" plans, in accordance with **Specification Section 2.3.6**.

Nothing herein shall be construed to limit or preclude partial payments otherwise provided for by the Contract. No deduction will be made nor will any increase be made, in the lump sum mobilization and demobilization item amount regardless of decreases or

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increases in the final total contract amount or for any other cause.

1.4 PAY ITEM

Item 1.0 “Mobilization and Demobilization” per lump sum. Cannot be more than 10% of the TOTAL AMOUNT BID for the project.

2.0 CONSTRUCTION LAYOUT STAKES

2.1 DESCRIPTION

This item consists of furnishing, placing, and maintaining construction layout stakes necessary for the proper performance of the work under this contract including borrow areas. It shall further consist of determining the exact units of measure for payment. It also consists of checking and making any field adjustment to the plan alignment, grades and elevations as considered necessary by the WVDEP or dictated by planned excavations. Additionally, this item shall also include the preparation of “**As-Built**” Plans including the Borrow (disposal) Area Reclamation Plan, Site Plan, Cross Sections, Profiles and any others shown on the Design Drawings or specifically requested by the WVDEP. All of these “**As-Built**” Plans shall be provided prior to the Final Inspection Meeting and shall be complete and accepted by the WVDEP prior to issuing the final one-half of payment for “Mobilization and Demobilization.”

2.2 MATERIALS

Conventional survey stakes, hubs, batter boards, flagging, templates, straightedges and other devices necessary for laying out all parts of the work.

2.3 CONSTRUCTION METHODS

2.3.1 The Contractor shall be responsible for the proper layout of the work. The Owner will provide the Contractor with survey information regarding the baselines and the existing surface features shown on the Construction Drawings. The Contractor shall make all calculations involved and shall furnish and place all layout stakes.

2.3.2 The Contractor shall provide field forces and shall set all additional stakes as needed, such as offset stakes, reference point stakes, slope stakes, grade stakes, stakes for drainage, or other structures, supplementary bench marks, and any other horizontal or vertical controls necessary to secure a correct layout of the work including the re-establishment of the survey and construction baselines (as necessary), as shown on the Construction Drawings. The Contractor shall also perform any necessary cross-section or profile surveying of the existing ground surface at the intervals/locations shown within the Construction Drawings, provide an overlay of the surveyed cross-sections or profiles on the cross-sections/profiles shown on the Construction Drawings, and submit the same to the

Engineer for comparison prior to initiating work. The original grade line and proposed final grade line shall be included on all sections. Incomplete cross-sections/profiles will be returned to the Contractor for necessary additions. Cross-sections or profiles, which do not encompass all areas of both earthwork excavation (including borrow excavation), fill placement, and pipe installation shall be considered incomplete without exception. The Contractor shall also include the locations of baselines used showing cross section locations on a copy of the site plan when submitting cross sections.

- 2.3.3** The Contractor shall be responsible for assuring the layout staking work is in conformance to the lines, grades, elevations, dimensions, and locations shown on the Construction Drawings or as required by the WVDEP. The Contractor shall furnish a copy of his/her survey records for checking by the WVDEP and for the Owner's permanent file. These records shall be furnished as they are completed during the progress of the work.
- 2.3.4** Any inspection or checking of the Contractor's layout by the WVDEP and the acceptance of all or any part of it shall not relieve the Contractor of his/her responsibility to secure the proper dimensions, grades, and elevations of the several parts of the work.
- 2.3.5** The Contractor shall exercise care in the preservation of stakes and benchmarks, including existing property line or corner markers, and shall have them reset at his/her expense when any are damaged, lost, displaced or removed. The Contractor shall use competent personnel and suitable equipment for the layout work required and shall provide that it be performed by or under the direction of Registered Professional Engineer or Licensed Professional Land Surveyor registered in the State of West Virginia.
- 2.3.6** “**As-Built**” plans shall be provided to the WVDEP at the Final Inspection Meeting.
- 2.3.6.1** Hard (paper) copies of all “**As-Built**” Plans shall be submitted to the WVDEP at the final inspection meeting. Hard copies shall be the same size, scale, and clarity as the Design Drawings furnished for construction.
- 2.3.6.2** Two copies of the CD-ROM with all “**As-Built**” plans shall also be submitted to the WVDEP at the final inspection meeting. The electronic versions of all “**As-Built**” plans shall be in AutoCAD Release 2007 format and pdf format

as approved by the WVDEP.

2.3.6.3 The final one half of the amount bid for **Item 1.0 Mobilization and Demobilization** will not be made until “**As-Built**” plans, as specified, have been submitted and approved.

2.3.6.4 “**As-Built**” plans shall include the horizontal and vertical location of all buried components depicted on the plans and herein specified.

2.3.6.4.1 “**As-Built**” plans shall include the vertical and horizontal locations of all installed pipes and appurtenances.

2.3.6.4.2 In addition, “**As-Built**” plans shall show the vertical and horizontal location of the bottom/top of buried subsurface drain installed for this project.

2.4 **METHOD OF MEASUREMENT**

Measurement for furnishing, setting, maintaining, and resetting the stakes when necessary, and for furnishing all engineering personnel, equipment, materials, and all incidentals thereto, shall be by the lump sum bid for “Construction Layout Stakes”. The lump sum payment also shall include the cost for providing the WVDEP with pre- and post- construction ground line cross-sections for all disturbed or regraded areas including borrow areas and “As-Built” Plans as described herein.

2.5 **BASIS OF PAYMENT**

Payment shall be made based on the lump sum amount as bid as approved by the WVDEP. Said lump sum bid cannot be more than 3% of the TOTAL AMOUNT BID for the project. No deduction will be made, nor will any increase be made, in the lump sum “Construction Layout Stakes” item amount regardless of decreases or increases in the final total contract amount or for any other cause.

2.6 **PAY ITEM**

Item 2.0, “Construction Layout Stakes”, per lump sum. Cannot be more than 3% of the TOTAL AMOUNT BID for the project.

3.0 QUALITY CONTROL

3.1 DESCRIPTION

This work shall consist of testing for verification that the materials supplied and the work performed are in accordance with these Specifications and the WVDOH Standard Specifications for Roads and Bridges, Adopted 2010 or later edition.

3.2 MATERIALS

3.2.1 The Contractor shall submit a minimum of two (2) copies of shop drawings, catalog cuts and material certifications (as applicable) to the WVDEP of all off-site materials to be incorporated into the work. Written approval from the Engineer will be required prior to incorporation of these items into the work.

3.2.2 The Contractor shall submit at least two (2) copies of the results of all tests conducted on in-situ material, including concrete and grout to be used in this project, if shown on the plans. As a minimum, these tests will include moisture content & density tests of the soil/soft rock/crushed stone materials in accordance with the provisions of **ASTM D698** (Standard Proctor), field density tests following compaction, soil tests to determine the lime and nutrient requirements of the areas to be re-vegetated; gradation (size), durability (soundness), fizz, and acid base (calcium carbonate equivalency) requirements for purchased or onsite borrowed and commercially purchased rip rap and aggregate. Compressive strength tests for grout and concrete if required by the Specifications will be performed in accordance with **ASTM C109** (grout) and in accordance with **ASTM C31 & C39** (concrete). Four specimens are required for each concrete or grout test. Rip rap gradation, quality, and durability will comply with the applicable subsections of Section 7.0.

3.3 METHOD OF CONSTRUCTION

3.3.1 The Contractor shall furnish the services of his own testing laboratory or select an independent testing laboratory, as long as the laboratory is under the direct supervision of a Registered Professional Civil Engineer and is AASHTO accredited (AAP) for physical properties testing. The laboratory used for chemical testing of soils shall be a State approved laboratory. The WVDEP must approve all laboratories used.

- 3.3.2** Testing for compaction, soil nutrient and lime requirements for soil; compressive strength tests for concrete and grout; and durability and gradation testing for rip rap shall be performed as required by these specifications and/or ordered by the Engineer in writing. The WVDEP will determine the locations and time of any testing herein specified and the need and extent of any testing in addition to that which is herein specified.
- 3.3.3** The contractor shall be responsible for performing laboratory tests of the coal refuse, mine spoil, and any natural soil to identify the compaction requirements for their use as fill and cover material, respectively. In addition, field density tests shall be performed in accordance with the Construction Specifications. All test results shall be submitted to the WVDEP for approval of compaction criteria prior to compacting the fill and after fill compaction to verify that the required compaction is obtained.
- 3.3.4** Rock rip rap shall have a maximum weighted weight loss of thirty percent and aggregate shall have a maximum weighted loss of twelve percent when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – ASTM C88 (Standard Test Method for Soundness of Aggregates by the Use of Sodium Sulfate or Magnesium Sulfate), as modified by the American Association of State Highway and Transportation Officials (AASHTO T-104).
- 3.3.5** Non-calcareous stone used for mine seals and subsurface drains shall exhibit a fizz of 0 when subjected to dilute hydrochloric acid. A laboratory certification of soundness and fizz shall be submitted to the WVDEP prior to delivery.
- 3.3.6** Calcareous stone and rip rap (limestone) used on this project shall be laboratory tested for calcium carbonate equivalency (acid-base accounting) by a State approved laboratory. Laboratory results from a commercial supplier will suffice, otherwise the Contractor will be required to perform the test prior to delivery of the stone or rip rap to the project site. All calcareous stone or rip rap (limestone) to be used on this project must exhibit a calcium carbonate equivalency of 70% or greater. The Contractor shall submit test results to the WVDEP for approval prior to delivery of the stone or rip rap to the site.
- 3.3.7** Only new and first class materials, which conform to the requirements of these Specifications, shall be used unless specified otherwise. When requested by the WVDEP, the Contractor shall furnish a written statement of the origin, composition, and manufacturer of any or all materials (manufactured or produced)

that are to be used in the work. The sources of supply of each material used shall be approved by the WVDEP before delivery is started. If, at any time, sources previously approved fail to produce materials acceptable to the WVDEP, the Contractor shall furnish materials from other approved sources.

3.4 METHOD OF MEASUREMENT

The method of measurement for determining the quantity of quality control work done as described above will be on a lump sum basis.

3.5 BASIS OF PAYMENT

The quantity of quality control work done will be paid at the contract lump sum price bid for this item. Said lump sum bid cannot be more than 2% of the TOTAL AMOUNT BID for the project. No deduction will be made nor will any increase be made in the lump sum “**Quality Control**” item amount regardless of decreases or increases in the final total contract amount or for any other cause.

3.6 PAY ITEM

Item 3.0, “Quality Control”, per lump sum. Cannot be more than 2% of the TOTAL AMOUNT BID for the project.

4.0 SITE PREPARATION

4.1 DESCRIPTION

4.1.1 Clearing & Grubbing

Work performed under this section shall include the removal and disposal of all trees, stumps, shrubs and any other vegetation, wood, debris, junk, garbage of any nature from those areas specified below and/or shown on the plans and/or any other areas as directed and approved by WVDEP.

This item shall also include stripping and stockpiling soil and topsoil from the construction area for use as soil cover and re-vegetation.

This work shall also include the preservation from injury to all vegetation, utilities or other objects to remain as shown on the Design Drawings.

4.1.2 Demolition of Structures

This work shall consist of complete demolition and removal of such buildings, mining related structures and equipment, existing ruins and foundation structures, concrete pads, walls, pavement and existing drainage conveyances and facilities including corrugated metal pipe, rock, and walls located within the construction limits as are specifically designated on the Plans for removal or as directed by the WVDEP if within the construction limits and not shown on the Plans. Boulders, pads, walls, and foundation ruins shall be broken in accordance with **Specification Section 4.3.22** and buried in the deepest portion of the fill areas as directed by the WVDEP. Broken pieces shall not be consolidated in one area, but shall be dispersed throughout fill areas to ensure compaction requirements are achieved. Masonry walls, foundations, and concrete slabs may be present and will require demolition and disposal. Buried ruins, structures, other debris, including abandoned mining equipment, may exist and be encountered during excavation operations. All onsite garbage (as well as any other debris of any type and quantity encountered), mining equipment, and metal structures or items encountered shall be removed from the site to an off-site disposal area in accordance with **Special Provisions Section 7** or to a landfill approved by the State of West Virginia to accept this type of debris. The Contractor is advised to perform a thorough site reconnaissance to quantify all garbage and debris within the construction limits whether designated on the plan or not, for removal prior to

submitting his or her bid.

4.1.3 Temporary Access Road Construction

The Contractor will be required to improve and maintain existing access roads into all weather access roads for the duration of the project. All existing access roads shall be left in a condition equal to or better than existing at the time of mobilization, and shall be repaired and maintained during construction (except when culvert, ditch and road construction are being performed) to the satisfaction of the WVDEP. Resurfacing and/or stabilization stone will be incidental to the cost of the work described herein for any road upgrading required for construction entry or maintenance as deemed necessary by the WVDEP to facilitate site travel.

All travel and upgrading operations performed on existing access roads shall be confined to the width of the existing road, unless shown otherwise on the Plans. Final grading, re-vegetation, stabilization (resurfacing with stone or asphalt pavement), and providing final drainage control for existing access roads shall be performed as shown on the Plans and as directed and approved by the WVDEP after reclamation operations for the project have been completed.

The Contractor shall maintain and protect traffic, protect work in progress, protect adjacent property from excess dust resulting from the construction and maintain traffic through, around, or adjacent to the construction area. The Contractor's hauling and supply vehicles will travel paved, gravel, and dirt roads in close proximity to local resident's homes, businesses, driveways, and other constructions. As such, the safety and convenience of these people shall be of utmost importance in the Contractor's execution of work as shown on the Plans and herein specified. The Contractor shall be required to comply with all WVDOT rules, regulations, weight limits, speed limits associated with and posted on nearby public and/or private roads used by the Contractor to access the project. The Contractor will be required to coordinate his operations with each resident and provide unrestricted access to them at all times. At the discretion of the WVDEP and as required by the WVDOH or local municipality, the Contractor will be required to employ flag persons to direct traffic while hauling materials on and off site and other constructions. All materials used for traffic control shall be in accordance with the current WVDOH manual; "Traffic Control for Streets and Highway Construction and Maintenance Operations".

Other access roads not shown on the construction plans built to gain access to, travel between, or otherwise required for equipment/vehicular site access shall be kept to a minimum and only constructed where necessary upon approval from the WVDEP. Contractor constructed travel routes not shown on the Plans, shall be

reclaimed to the approximate original contour and revegetated according to **Specification Section 6** and upon completion of the construction activities, as deemed necessary by the WVDEP, with associated costs being considered incidental to this project. Any additional access shall require the Contractor to obtain written permission from the respective landowner.

Traffic on private access roads shall be maintained during construction (except when culvert, ditch and road construction are being performed), and shall be left in a condition equal to, or better than, the existing condition upon completion of construction as discussed herein. Resurfacing and/or stabilization stone will be incidental to the cost of the work described herein, except where designated on the plans, for any road upgrading required for construction entry, as deemed necessary by the WVDEP, to facilitate site travel. Final grading, stabilization, and providing final drainage control for existing access roads shall be performed after reclamation operations for the project have been completed. Road surface treatments shall be approved by the WVDEP.

4.1.4 Materials and Equipment Storage

Material storage areas within the Contractor's Work Limits shown on the plans shall require the approval of the WVDEP. Material storage areas outside the Contractor's Work Limits will require permission from the respective landowner in accordance with **Special Provision 7**.

4.1.5 Property Line & Corner Markers

The Contractor shall become familiar with the property boundaries before beginning work onsite and shall restore any property corner markers destroyed by the construction as approved by the WVDEP.

4.2 MATERIALS (As shown on the Plans or as required by the WVDEP)

4.2.1 Crushed stone aggregate for road rehabilitation if shown on the Plans or required by the WVDEP shall conform to the requirements of a Class 2 Aggregate as described in Table 704.6.2A and Section 704.6 of the West Virginia Department of Transportation - Division of Highways Standard Specifications for Roads and Bridges, adopted 2010 or latest edition.

4.2.2 Separation fabric if shown on the plans or required by the WVDEP shall be placed on a prepared subgrade prior to placement of surfacing and resurfacing stone. Separation fabric shall be woven and meet the requirements of Section

715.11.8 of the WVDOH Standard Specifications for Roads and Bridges, adopted 2010 or later edition such as ADS 9250 manufactured by Advanced Drainage Systems, Inc. or approved equal.

- 4.2.3 Class B Concrete:** Concrete if shown on the Plans shall be 3000 psi Class “B” concrete placed and cured in accordance with the requirements of **Section 601 of the WVDOH Standard Specifications for Roads and Bridges**, adopted 2010 or later edition and **Supplemental Specifications** dated January 1, 2003 or later edition. Cement used in the mixture shall be Type II sulfate resistant Portland cement meeting the requirements of ASTM C150 (Type II cement, not Type I cement).
- 4.2.4 Reinforcing Bars:** Deformed bars used for reinforced concrete (if shown on the plans or required by the WVDEP/WVDOH) shall be epoxy coated and meet the requirements of **Section 709 of the WVDOH Standard Specifications for Roads and Bridges**, adopted 2010 or later edition and **Supplemental Specifications** dated January 1, 2003 or later edition.
- 4.2.5** A minimum 5 ½ inches of **Hot Mix Asphalt (HMA)** shall be used for asphalt repair sections of existing roads and driveways if shown on the Plans or required by the WVDEP. Four (4) inches of HMA Base 1 Course and one and one half (1 ½) inches of Wearing 1 Course will be required. The HMA shall comply with **Specification 401 of the WVDOH Standard Specifications for Roads and Bridges**, adopted 2010 or later edition. The HMA shall be placed in two (2) inch lifts, compacted, and placed to blend into existing asphalt grades surrounding the repair area.
- 4.2.6** Asphalt overlay of existing asphalt and concrete pavements if shown on the Plans shall consist of one and one half inches (1 ½ inches) of Hot Mix Asphalt (HMA) Wearing 1 Course. The HMA shall comply with **Specification 401 of the WVDOH Standard Specifications for Roads and Bridges**, adopted 2010 or later edition. The HMA shall be placed in one (1 ½ inch) lift, compacted, and placed to blend into existing asphalt grades surrounding the repair area in accordance with the details shown on the Plans.
- 4.2.7** Temporary fence materials shall consist of the following as shown on the plans or as approved by the WVDEP:
- 4.2.7.1 Barbed Wire:** 15.5 gage, 2 strand, four barb at 5 inch spacing, and with Class

3 Zinc Coating.

4.2.7.2 Steel Drive Posts: Drive Posts shall be steel T shaped and furnished with a green enamel finish. Posts shall weigh a minimum of 1.25 lbs per foot and shall be furnished with a 7 ft. length.

4.2.7.3 Treated Fence Posts: Wood corner posts and pull posts shall be 6 inch diameter and 8 ft. long. Posts shall be furnished with a CCA pressure treated finish.

4.3 METHOD OF CONSTRUCTION

4.3.1 The Contractor shall comply with all Special Provisions, with particular attention to **Special Provision 5, Schedule of Work and Special Provision 10, Safety.** Also, refer to the construction sequence provided on the Plans.

4.3.2 The specific areas to be cleared and grubbed are as shown on the Contract Drawings and are generally described as, but not limited to, those specific areas of excavation, fill, stockpile, backfill, and drainage structure installation.

4.3.3 The Contractor shall clear the site within the limits of the construction shown on the plans or as approved by the WVDEP. The WVDEP shall exercise control over clearing and shall designate all trees, plants and other objects to be removed or to remain.

4.3.4 Clearing and grubbing shall be completed prior to initiation of earthwork operations and only to the extent necessary to complete the work. The Contractor shall confine his operations strictly to required areas. If the Contractor clears and grubs beyond the required areas, whether knowingly or accidentally, he shall, at his expense, replant, and otherwise restore all areas outside the limit lines to a condition equal to or better than that existing prior to start of work.

4.3.5 All timber eight (8) inches in diameter and larger at stump height shall be saw cut prior to grubbing operations. Timber shall be topped with the branches removed and stacked and stockpiled in an appropriate manner in an accessible location approved by the WVDEP on the property from which it was cut. Timber to be stockpiled shall not be pushed down by equipment prior to being cut nor can it be indiscriminately shoved into a stockpile.

4.3.6 All stumps, roots, buried logs and brush shall be removed. Grass, however, may be incorporated into the re-soiling material. Taproots and other projections over

1-½ inches in diameter shall be grubbed out to a depth of at least ten (10) inches below the planned subgrade or slope elevation. All holes remaining after the grubbing operation shall have the sides broken down to flatten out the slopes, and shall be filled with suitable materials, moistened and properly compacted.

- 4.3.7** Topsoil shall be stripped to a minimum depth of 6 inches below existing grade as directed and approved by the WVDEP. The topsoil shall be stockpiled onsite for use as soil cover as required by the WVDEP and these Specifications.
- 4.3.8** Cleared and grubbed areas shall be worked such that positive drainage is provided to prevent ponding of water except for the purpose of sediment control sumps as approved by the WVDEP.
- 4.3.9** All organic material shall be burned completely to ash or otherwise removed from the site and disposed of in a manner approved by the WVDEP in accordance with **Special Provision 8 – Disposal of Unsuitable Material and Special Provision 13 – Permits, Licenses, and Fees**. Burning of the combustible material will not be permitted on or near refuse, mine portals or within close proximity to coal seams or utilities. The Contractor shall obtain all permits and licenses required prior to burning the material. A plan, showing the location of material to be burned and all fire control measures to be implemented, including copies of permits and licenses, shall be submitted to the WVDEP’s representative at the site for approval.
- 4.3.10** All other materials generated from required clearing and grubbing operations shall be removed and disposed of by the Contractor. All garbage, construction debris, mining debris, etc., shall be disposed of in approved waste area(s) or landfill(s). It shall be the responsibility of the Contractor to obtain, at no expense to the WVDEP, all necessary waste and borrow areas or landfills for the disposal of waste materials in accordance with any applicable local, state, and/or federal regulations including compliance with NEPA requirements (See **Section 7 of the Special Provisions** for NEPA Compliance Schedule). All waste and borrow areas must be approved by the WVDEP and, the Contractor must provide a reclamation plan for approval. In addition, for all waste and borrow areas outside the construction limits, the Contractor must obtain from the property owner a right-of-entry agreement in which the property owner indemnifies and holds the WVDEP harmless from any injury or damages whatsoever resulting from the use of the property. The Contractor may be required to submit proof the landfill is permitted to accept the type of debris or waste to be deposited. Garbage and

waste including metal junk and vehicles may be present within the project area. Some of this waste may require special handling and disposal. Burning of tires, treated lumber, mine belt, or anything that might create black smoke is prohibited. The Contractor is required to visit the site and decide for their self the nature and quantity of garbage and waste to be removed and properly disposed of prior to submitting his or her bid.

- 4.3.11** It shall be the sole responsibility of the Contractor to correctly locate and avoid all underground, on-ground, and overhead utilities, facilities and other structures and constructions, and for that purpose, shall employ all necessary precautions and methods to insure avoidance of and damage to such constructions. In the event damage does occur, the Contractor shall notify the affected Owner and the WVDEP immediately and make or have made all necessary repairs and bear the expense thereof and resulting damage caused thereby. See “**Special Provisions**”, **Section 16 “Utilities and Other Obstructions**”, of these specifications for more information on utilities.
- 4.3.12** Power poles located within the construction limits (if any) must also be protected from damage or relocated during construction as approved by the WVDEP.
- 4.3.13** Should offsite disposal or borrow be necessary, clearing, grubbing, and stripping shall be performed as required by these Specifications and as approved by the WVDEP. The Contractor shall observe the NEPA Compliance Schedule as per **Section 7 of the Special Provisions**.
- 4.3.14** Existing private access roads shall provide safe, all-weather access to the site for local traffic and persons living in the area. Existing roads shall be maintained during construction and left in a better than or equal to condition. The Contractor is responsible for locating and avoiding all underground and overhead utilities during access road grading and maintenance.
- 4.3.15** Pavement along the length of any state, county, or private roads within the construction area shall be removed/replaced where damaged and/or overlain with asphalt pavement in accordance with the WVDOH requirements, the details shown on the Plans, and as approved by the WVDEP. Should cross piping be shown on the Plans or required by the WVDEP, the amount of asphalt pavement which must be removed shall be minimized to the extent practical but shall be of sufficient width to allow safe and stable trenching in accordance with OSHA regulations at the pipe crossing locations. Asphalt pavement removed from the

pipe trench alignment, if shown, shall be disposed of in an offsite approved landfill unless approved by the WVDEP. Landfill receipts shall be furnished for disposal of broken asphalt and demolition debris. Pavement demolition, if necessary, shall be incidental to drainage structure installation and no separate payment will be made.

- 4.3.16** Rehabilitation of state, county, or private roads at completion of the project if required shall as a minimum consist of trench backfill for asphalt pavement and a Hot Mix Asphalt overlay constructed in accordance with the details shown on the Plans. Where the overlay or new pavement ends, the new asphalt shall be “healed-in” as shown on the plans or as required by the WVDOH and WVDEP in order to provide a smooth transition from old to new asphalt. Should excavation/hauling activity or drainage structure installation require complete removal of the existing roadway surface, or should this be required by the WVDOH or WVDEP, full width roadway repairs shall be implemented to match the existing roadway width and shall include 1 ½ inches of WVDOH Wearing 1 Course, 4 inches of WVDOH Base 1 Course, 6 inches of Class 1 Crushed Stone, and 6 to 12 inches of AASHTO No. 1 stone over fabric as directed by the WVDEP if subgrade stabilization is required. Stabilization measures necessary to provide a stable roadway subgrade for rehabilitation shall be in accordance with the WVDOH Specifications and shall be incidental to the project and no separate payment will be made.
- 4.3.17** Crushed stone aggregate for road improvements if shown on the Plans shall conform to the requirements of a Class 2 Aggregate as described in Table 704.6.2A and Section 704.6 of the West Virginia Department of Transportation - Division of Highways Standard Specifications for Roads and Bridges, adopted 2010 or latest edition. Prior to placement of aggregate, the road surface shall be stabilized and graded to drain as directed by the DEP. The quantity of aggregate needed and the placement/compaction of the aggregate shall be as directed by the WVDEP.
- 4.3.18** The top 12 inches of the roadway subgrade shall be compacted to a minimum of 95% of the maximum dry density as determined by the standard Proctor laboratory test (ASTM D 698). Quality control procedures shall be in accordance with and approved by the WVDOH. The subgrade shall be crowned to match the stone surface where required by the Design Drawings. Soft areas shall be excavated and replaced with similar soil or fill which is placed and compacted as required by the Design Drawings and these Specifications for specific fill areas.

The subgrade shall be stable and shall not deflect, or pump prior to or during placement of the stone surface materials.

- 4.3.19** Should rutting or other damage to existing access roads occur during construction due to construction traffic, the Contractor will be required to excavate the damaged area(s) and stabilize the same as approved by the WVDEP and WVDOH at no additional cost to the WVDEP. As a minimum, roadway areas which pump or rut will be excavated to a minimum depth of to 12 inches and be stabilized with 6 to 12 inches of compacted AASHTO No. 1 stone which complies with the WVDOH Standard Specifications for Roads and Bridges, Adopted 2010, or later edition. Stabilization will be as directed by the WVDEP. The No. 1 stone shall be placed over a suitable stabilization fabric as directed and approved by the WVDEP.
- 4.3.20** Existing fence lines removed during construction activities shall be replaced to an “as good as” or “better than” condition and as approved by the WVDEP. In situations where fencing is used to control or contain cattle, horses, and livestock, the Contractor shall also be responsible for any temporary fencing required to assure the safety and containment of the livestock.
- 4.3.21** If required, channel posts shall be driven plumb either by hand or by mechanical devices to the required line and to a depth of two feet below the ground surface and they shall be plumb with four feet above the ground. During driving, posts shall be protected by a special driving cap. Any post bent or otherwise damaged so as to be unfit for use in the finished work shall be removed from the site and replaced by the Contractor at their expense.
- 4.3.22** Buildings, walls, mining related structures, existing ruins, foundations, and drainage structures encountered in the excavations shown on the Plans shall be removed as directed and approved by the WVDEP. The removal operation shall extend 1 foot below finish grade, which operation shall include removal of concrete slabs, pavement, or any other type of floors and/or walls resting upon the ground. Basement floors shall be shattered. Pits, trenches, holes, or basements shall be backfilled. Any buried mining debris and ruins encountered during excavation shall be removed as directed by the WVDEP. Abandoned mining equipment and all metal encountered shall be removed from the site to an off-site disposal area in accordance with **Special Provision Section 7** or to a landfill approved by the WVDEP to accept this type of debris. The WVDEP shall be the sole judge as to what is buried and what is to be removed from the site. Areas

where structures and buildings are removed shall be graded to provide positive drainage so surface runoff will not pool or impound as directed by the WVDEP.

- 4.3.23** Coal and/or refuse spillage, concrete, masonry blocks, and foundation ruins shall be excavated, specially handled in accordance with these Specifications, and/or removed from the site. Boulders, cut stone structures, concrete pads and blocks, and foundation ruins shall be broken and buried in the deepest portion of the fill areas or disposed offsite at an approved landfill if no suitable fill area is shown on the Plans. Broken pieces shall be of size less than 2 feet in any dimension and not be consolidated into one area, but shall be dispersed throughout the fill areas to ensure compaction requirements are achieved. Prior to placement as fill, any rebar protrusions from broken concrete shall be removed and properly disposed as approved by the WVDEP. Coal and/or coal refuse shall be buried beneath 12” minimum of soil capable of supporting vegetation. See **Specification Section 8**.
- 4.3.24** Trash, garbage, tires, plastic, metal, automobiles or parts, household appliances, treated lumber, and other unsuitable material resulting from demolition or existing onsite shall be disposed of by the Contractor at his or her own responsibility and expense outside the work limits in a landfill as approved by the WVDEP unless otherwise directed. Bricks, concrete blocks, cut stone and concrete foundations shall be disposed as per **Section 4.3.22** of these Specifications.
- 4.3.25** Should offsite borrow be necessary, the Contractor shall observe the NEPA Compliance Schedule as **per Section 7 of the Special Provisions**.
- 4.3.26** The Contractor will be responsible for repairing all Contractor associated damage to driveways, with compatible topping that exists, and to the satisfaction of the WVDEP and affected resident or property owner. Driveway repair materials shall conform to **Specification 4.1.3**.

4.4 METHOD OF MEASUREMENT

- 4.4.1** There shall be no measurement of the “Site Preparation” item as it is a lump sum. All costs associated with Site Preparation operations including but not limited to; demolition, clearing and grubbing, timber cutting and stockpiling, burning of organic materials; offsite disposal of garbage and items designated by the WVDEP to be removed from the site; plan preparation or permitting as required by these Specifications, traffic control, demolition, excavation and fill not shown on the project cross sections, etc. Temporary roadway construction, maintenance, and rehabilitation which are not shown on the plans are included as incidental to

this pay item and no separate payment will be made. This pay item shall also include stripping and stockpiling topsoil for use as soil cover in re-vegetation of the site at completion and all other items as described herein.

- 4.4.2 There is no measurement for rehabilitation of access roads whether they are constructed for the Contractors use, or consist of private or public roadway unless specifically shown on the plans or as directed by the WVDEP as this work is incidental to this pay item and no separate payment will be made.
- 4.4.3 There shall be no measurement for re-establishing existing property corners damaged by the construction as this work, if required, shall be incidental to “Site Preparation”.
- 4.4.4 No payment will be made for “Site Preparation” required for offsite borrow/disposal area(s). Payment for borrow area site preparation shall be incidental to the particular pay item.
- 4.4.5 Fence removal and replacement including any temporary fence required to contain cattle or other farm animals shall be measured per linear foot.

4.5 BASIS OF PAYMENT

- 4.5.1 The quantity of work done for site preparation will be paid at the Contract price bid for this pay item, which price and payment shall be full compensation for doing all the work herein described in a workmanlike and acceptable manner; including the furnishing of all labor, material, tools, equipment, supplies, and incidental necessary to complete the work. “Site Preparation” shall not exceed ten percent (10%) of the Total Amount Bid for the project.
- 4.5.2 No deduction will be made, nor will any increase be made, in the lump sum “Site Preparation” amount regardless of decreases or increases in the final total contract amount or for any other cause.
- 4.5.3 Fence will be paid by the linear foot and will include materials, labor, and equipment necessary to remove and replace existing fence to as good or better condition.
- 4.5.4 Temporary fence will be paid by the linear foot installed and approved by the DEP. The bid price shall include materials, labor, and equipment necessary to install and remove fence at completion.

4.5 PAY ITEMS

Item 4.1, “Site Preparation”, per lump sum. Cannot be more than 10% of the “Total Amount Bid” for the project.

Item 4.2, “Remove and Replace Existing Fence”, per linear foot

Item 4.3, “Install and Remove Temporary Fence”, per linear foot

5.0 EROSION AND SEDIMENT CONTROL

5.1 DESCRIPTION

This item shall consist of furnishing all materials, equipment, labor and incidentals necessary for the installation of temporary erosion and sediment control measures including but not limited to; wattles, silt fence, check dams, temporary ditching, 15 inch CPP, sediment traps (if show on the Plans), stabilized construction entrances, and dewatering bags as sediment control structures as designated on the Drawings or required by the WVDEP, and for any offsite borrow/disposal area(s) as required and approved by the WVDEP. Sediment and erosion control measures shall be placed as shown on the plans and/or as required by the WVDEP to prevent sedimentation of the existing water course. Additional temporary erosion and sediment control quantities or devices may be added at the discretion of the WVDEP.

The Contractor shall comply with the Construction Stormwater Permit approved by the WVDEP for the project site. The Contractor shall submit a plan for approval showing any additional erosion and sediment control measures necessary to prevent sedimentation of the receiving stream to the WVDEP at the pre-construction meeting. This plan shall include measures to be utilized for temporary and permanent erosion and sediment control for the site and any offsite borrow/disposal area(s) deemed necessary by the Contractor. This plan shall also include the measures as outlined herein as shown on the Plans. The WVDEP approval of this plan does not relieve the Contractor of his responsibility to be in compliance with any and all permits. All costs associated with meeting the Federal and/or State Regulations shall be the sole responsibility of the Contractor.

Refusal or failure of the Contractor to install, maintain, or remove sediment and erosion controls as directed by the WVDEP will result in non-payment of the pay items for this section and all other pay items.

5.2 MATERIALS (If Shown on the Plans or required by the WVDEP)

5.2.1 Silt fence materials and installation shall meet all applicable requirements of **Section 715.11.5 and Section 642.6 of the West Virginia Division of Highways Standard Specifications for Roads and Bridges**, adopted 2010 or latest edition.

5.2.2 Super silt fence shall consist of fabric mounted against 48 inch high chain link fence meeting the requirements of **Section 712 of the West Virginia Division of Highways Standard Specifications for Roads and Bridges**, adopted 2010 or latest edition. The fabric shall comply with **Section 5.2.1**. The posts shall be 2 ½” by 72” long and shall comply with **Section 709.46 of the West Virginia Division of Highways Standard Specifications for Roads and Bridges**, adopted

2010 or latest edition.

- 5.2.3 Straw wattles shall be manufactured by ACF Environmental (acfenvironmental.com), or approved equal. Wattles shall be standard 12 inch diameter straw wrapped in a tubular encasement of heavy duty biodegradable knitted netting.
- 5.2.4 Temporary ditches (if shown on the Plans, or required due to actual construction conditions to prevent sedimentation of the receiving stream) shall be seeded and mulched immediately after completion in accordance with **Specification Section 6.0**.
- 5.2.5 The Stabilized Construction Entrances (SCE) shall be constructed of an AASHTO No.1 crushed limestone which complies with the **West Virginia Division of Highways Standard Specifications for Roads and Bridges**, Adopted 2010 or later edition.
- 5.2.6 Sediment traps if required to prevent sediment from entering the receiving stream shall be constructed as shown on the Plans (if shown on the Plans, or required due to actual construction conditions to prevent sedimentation of the receiving stream), in accordance with Best Management Practice, and as approved by the WVDEP.
- 5.2.7 Separation fabric used for Stabilized Construction Entrances (SCE) shall be placed on a prepared subgrade prior to placement of stone. Separation fabric shall be woven and meet the requirements of **Section 715.11.8 of the West Virginia Division of Highways Standard Specifications for Roads and Bridges**, Adopted 2010 or later edition ADS 9250 manufactured by Advanced Drainage Systems, Inc. or approved equal.
- 5.2.8 Temporary pipes (if shown on the Plans, or required due to actual construction conditions to prevent sedimentation of the receiving stream) shall be 15 inch diameter highway grade HDPE with corrugated exterior and smooth interior walls such as ADS N12 pipes or approved equal. Pipe installations shall comply with the Plans and **Section 7 of the Special Provisions**.
- 5.2.9 Ditch checks shall consist of wattles or rock check dams as shown on the Plans or as required by the WVDEP. Wattles shall comply with Section 5.2.3. Rock check dams shall be constructed in accordance with these Specifications and as shown on the Plans. Stone for rock check dams shall have a D50 of 4 inches. The stone shall range in size from 3 inches minimum to 6 inches maximum diameter with no more than 10% by weight less than 3 inches and no more than 50% by weight greater than 4 inches. Stone shall have a maximum weight loss of 12%

when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – **ASTM C88 (Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate)**, as modified by The American Association of State Highway and Transportation Officials (**AASHTO T-104**).

5.2.10 Straw or hay bales are not allowed for use as a sediment control barrier.

5.2.11 Dewatering Bag: Sediment dewatering and filter bag is fabricated using heavy duty needle punched filter fabric (non-woven geotextile minimum 10 oz) which provides high permittivity (water flow) and a fine pore structure that allows water to flow through freely, while preventing fine soils from piping through. This structure is used as a discharge for all pumping associated with dewatering.

5.2.12 Erosion control matting to be installed in permanent vegetated or temporary ditches as shown on the Plans shall consist of Excelsior Type I Curlex Blanket, or equal as approved by the WVDEP.

5.3 **MAINTENANCE**

5.3.1 During the course of the project, sediment control structures shall be maintained in sound condition and accumulations of silt which may threaten their effectiveness shall be removed. Silt removed from the sediment control structures shall be taken to an approved disposal area. Temporary Erosion and Sediment Control Measures shall be installed and maintained in accordance with the WV Erosion and Sediment Control BMP Manual 2006 or as approved by the WVDEP.

5.3.2 Erosion and sediment control devices shall be inspected a minimum once over seven calendar days and within 24 hours after any storm event greater than 0.5 inches per 24 hour period. The inspector should check to see if water has flowed around the ends of, or under the structure. Replace and repair erosion and sediment control devices as necessary to maintain the correct height and configuration. Sediment should be removed from the erosion and sediment control devices when it has accumulated to one half of the original storage volume.

5.3.3 Close attention should be paid to the repair of damaged silt fence resulting from end runs and undercutting.

5.3.4 Should the fabric on the silt fence decompose or become ineffective prior to the end of the project and the barrier is still necessary, the fabric shall be replaced promptly.

5.3.5 Sediment deposits should be removed after each storm event. Deposits must be

removed when the volume of the captured sediment is approximately ½ of the original storage volume. If any section is knocked down by concentrated flow during a storm event, then other measures including a check dam, sediment trap, super silt fence, or temporary diversion must be installed.

- 5.3.6 Stabilized construction entrances shall be maintained in a condition that will prevent tracking or flowing of sediment onto public rights of way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public or private right of way which is not part of the construction project must be cleaned up and removed immediately.
- 5.3.7 Wheels on all vehicles shall be cleaned to remove sediment prior to entrance onto public right of way. If washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device(s). If the street is washed, precautions must be taken to prevent muddy water from running into waterways or storm sewers.

5.4 **INSTALLATION**

- 5.4.1 The Contractor shall comply with **Special Provision 7, NPDES Stormwater Permit Guidelines**, and the approved Construction Storm Water Permit issued by the WVDEP.
- 5.4.2 Straw wattles shall be installed end to end and staked parallel to the contour (perpendicular to the direction of flow) as shown on the Plans, in accordance with the manufacturers recommendations, and as approved by the WVDEP. The wattles must be dug in to a depth of 3 to 5 inches below existing ground and properly staked to prevent movement and floating during storm events. Installation shall be performed as construction progresses so that all barriers have been installed once fill placement in a particular area is complete. Straw wattles used as a check dams shall be installed and staked across the drainage ditch or feature as shown on the Plans and again, as approved by the WVDEP. Wattle installation shall also be performed in accordance with the WV Erosion and Sediment Control BMP Manual 2006 and as approved by the WVDEP.
- 5.4.3 Silt Fence and Super Silt Fence (if shown on the plans or required by the WVDEP) shall be installed parallel to the contour and shall not collect runoff from more than ¼ acre per 100 linear feet of fence. Super silt fence if required by the Plans or the WVDEP, shall be installed where steep slopes are present, in accordance with the manufacturer's recommendations, as shown on the details provided on the Plans, and as directed by the WVDEP. Silt fence and super silt fence shall not be installed where runoff is concentrated by ditches or topography.

- 5.4.4** Temporary ditching, 15” diameter HDPE CPP pipes, wattles, check dams, stabilized construction entrance, and sediment traps shall be installed as shown on the Plans, in accordance with Best Management Practices, and as approved by the WVDEP.
- 5.4.5** Temporary ditches shall be constructed in accordance with the details shown on the Plans (if shown or required by the WVDEP) and shall be installed to collect and divert clean runoff around the disturbed construction area as shown on the Plans and approved by the WVDEP. Temporary ditching shall be lined with Erosion Control Matting as shown on the Plans and vegetated in accordance with **Specification Section 6.0**.
- 5.4.6** Sediment traps (if shown or required by the WVDEP) shall be constructed with a minimum length to width ratio of 2 and a maximum depth of 5 ft. in accordance with the details shown on the Plans and as approved by the WVDEP. Sediment traps shall be sized with a volume of 3600 cf per disturbed acre and shall include a trapezoidal spillway armored with rip rap and constructed with a minimum depth and width of 1 and 4 ft., respectively. The maximum drainage area for sediment traps is 5 acres unless approved by the WVDEP. The actual width of the spillway shall be 2 ft. plus 2 ft. additional feet width for each disturbed acre draining to the trap. One half of the trap volume shall be in wet storage and ½ in dry.
- 5.4.7** Dewatering Bag: All pump discharge shall be directed to a dewatering bag (sediment filter bag) prior to release to the stream. Sediment filter bags should be sized based on:
- Volume of Water being pumped (pump flow rate)
 - Quantity and Type of Sediment
 - Permittivity of the given bag size.

Consideration should be given to location. Steep sloped surfaces are not recommended as the bag may roll. Dewatering bag location to be as shown on the plans (if shown) or as approved by the DEP. The bag shall be sized, installed, used, and maintained in accordance with the manufacturer’s recommendations and as approved by the DEP.

5.5 **REMOVAL**

All sediment control devices installed for this project, except for wattles and other installations designated to remain by the WVDEP, shall be removed when 75% vegetative cover is achieved or established as approved by the WVDEP. Removed

fabric, fencing, and posts shall be discarded in accordance with **Specification Section 4.3.10**. Accumulated sediment shall be deposited and re-vegetated in areas designated by the WVDEP which are not subject to run-on from surrounding ground. Stabilized construction entrances (SCE) shall be removed or left in place at the discretion of the WVDEP. If SCE's are to remain as directed by the WVDEP, they shall be topped with 3 to 6" of crusher run stone as required and approved by the WVDEP to provide a smooth traveled way for the landowner. If the SCE is to be removed as directed by the WVDEP, it shall be removed in its entirety, the area re-graded to original contour and re-vegetated in accordance with **Specification Section 6**.

5.6 METHOD OF MEASUREMENT

- 5.6.1** The method of measurement for temporary 15" diameter HDPE CPP pipe, silt fence, wattles, and temporary ditch installation and maintenance in conformance with the specifications and accepted by the WVDEP shall be on a per linear foot basis to include all necessary materials, supplies, labor and equipment for installation and maintenance including stakes and sediment removal and disposal. Temporary ditch installation shall include erosion control matting as subsidiary and no separate measurement will be made. Temporary pipe installation shall include trench excavation, bedding, backfill, and pipe as incidental. The 15 inch pipe to be installed at the entrance to Site 1 needed to replace an existing pipe will become permanent.
- 5.6.2** The method of measurement for "Stabilized Construction Entrance" shall be per each installed as shown on the plans and as approved by the WVDEP. The unit price shall include excavation, geotextile, purchase and placement of rock, and all equipment and labor necessary for installation, maintenance, and removal. The SCE will be removed at completion of the project and the area restored to its original condition as approved by the WVDEP unless written permission for the SCE to remain is provided by the WVDEP.
- 5.6.3** The method of measurement for ditch check installation and maintenance in conformance with the specifications and accepted by the WVDEP shall be on a per each basis for wattle or rock check dams, and shall include all necessary materials, supplies, labor and equipment for installation and maintenance including stakes and sediment removal and disposal.
- 5.6.4** The method of measurement for dewatering bags shall be per each. The per each pay item shall include all labor, material, and equipment including pumps necessary to install, maintain, and remove the dewatering bag device.
- 5.6.5** Any additional sediment control not shown on the plans installed by the contractor to meet any applicable State or Federal Law or Regulation shall be the

Contractor's sole responsibility and all costs pursuant thereto shall be born fully by the Contractor.

5.7 BASIS OF PAYMENT

The quantity of work completed will be paid at the contract unit price bid for the following items, which price and payment shall be full compensation for all materials, labor, equipment and incidentals necessary to perform the work. Additionally, payments shall constitute full compensation for any required maintenance, sediment removal and disposal, and removal of the device at completion of construction and establishment of vegetation as described herein. Pay Item 5.1 also includes the removal of the structure at completion as discussed herein.

No payment will be made for sediment control required for the borrow area(s) or waste area(s). Sediment control for the borrow area(s) and waste areas(s) is considered incidental to the Unclassified Excavation item.

Refusal or failure of the Contractor to install, maintain, or remove sediment and erosion controls as directed by the WVDEP will result in non-payment of the pay items for this section and all other pay items.

5.8 PAY ITEMS

Item 5.1, “Stabilized Construction Entrance”, per each

Item 5.2, “Silt Fence”, per linear foot.

Item 5.3, “Wattles”, per linear foot.

Item 5.4, “Ditch Check”, per each.

Item 5.5, “Temporary Ditch”, per linear foot.

Item 5.6, “Temporary 15” Diameter HDPE CPP”, per linear foot.

Item 5.7, “Dewatering Bag”, per each.

6.0 REVEGETATION

6.1 DESCRIPTION

This work shall cover all operations incidental to the establishment of vegetation within the limits of construction as shown on the Drawings and any other areas as approved by the WVDEP. This work also includes the furnishing and the application of fertilizer, agricultural limestone and mulch and the furnishing and sowing of seed, all in accordance with these Specifications and as designated herein.

No areas outside the limits of construction shall be disturbed without prior approval from the WVDEP in order to ensure that Right-of-Entry has been obtained.

Any areas outside the limits of construction, disturbed by the Contractor, shall be revegetated by the Contractor at no expense to the WVDEP.

6.2 MATERIALS

6.2.1 Fertilizer

The commercial fertilizer to be used shall consist of 10-20-20 grade of uniform composition and furnished in standard containers. These containers, in accordance with applicable state and federal laws, must be clearly marked with the following information:

- a. Weight
- b. Name of Plant Nutrients
- c. Guaranteed Nutrients Percentages

Fertilizer shall be applied at a minimum rate of 1,000 lbs/acre. Fertilizer shall be applied immediately to all areas reaching final grade by one of the two following methods:

- a. Apply and incorporate fertilizer during seedbed preparation.
- b. Apply fertilizer in hydro seeding mixture following seedbed preparation.

6.2.2 Limestone

The lime to be used will be an agricultural grade pulverized limestone containing not less than 75% total carbonates. Fineness will be such that no less than 75% will pass through a #100 sieve and 100% will pass through a #10 sieve.

Lime shall be applied immediately to all areas requiring seeding reaching final grade based on the results of a soil nutrient test and at a minimum rate of 3 tons/ac as approved by the Engineer in the absence of a soil test. Lime shall be applied by one of the two methods listed in Section 6.2.1, "Fertilizer".

6.2.3 Seed Mixtures

The variety of grass and legume seed furnished for the project shall bear a tag, in accordance with applicable state and federal laws, with the following information listed:

1. Lot Number
2. Seed Producers Name
3. Percent Purity
4. Percent Germination
5. Date of Germination Testing
6. Weed Seed Content (should be <0.25% by weight)

All leguminous seed shall be inoculated with the specified strain of rhizobia which shall be a pure culture of bacteria selected for maximum vitality. No rhizobia shall be used which has passed the expiration date on each package. The inoculant shall be applied at five times the recommended rate except when used in a hydroseeding mixture when the rate will be ten times the recommended rate.

6.2.3.1 Temporary Seed Mixture

All stockpiles or other disturbed areas which will require further disturbance in which the additional disturbance will be delayed for a period of three (3) weeks or longer shall be vegetated according to the following guidelines.

TEMPORARY SEED MIXTURE				
Variety of Seed	Spring 3/15-5/15	Summer 5/15-8/15	Fall 8/15-10/15	Winter 10/15-11/15
lbs./acre.....			
Annual Ryegrass (Lolium multiflorum)	40		40	
German Millet * (Setaria italica)		40		
Cereal Rye (Secale cereale)				170
*Do not use Japanese Millet				

All areas to be temporarily seeded which are to be redisturbed shall be fertilized with 500 lbs/acre of 10-20-20. All areas reaching final grade to be temporarily seeded shall be fertilized according to Section 6.2.1. Lime shall be applied according to Section 6.2.2 and mulched according to Section 6.2.4. Permanent seed mixture may be substituted for temporary seed mixture according to Section 6.2.3.3 provided that it is approved by the WVDEP and provided that any area failing to establish a vegetative stand shall be re-seeded, re-limed, re-fertilized, and re-mulched as approved by the WVDEP.

6.2.3.2 Lawn Seed Mixture

Existing lawn areas disturbed by construction shall be reseeded using the following mixture:

LAWN SEED MIXTURE			
Rate of Application	Seed Variety	Minimum Specifications	
.....lbs./1000 sq. ft.....		% Purity	% Total Germination
0.45	Red Fescue (Pennlawn)	98	85
0.90	Kentucky Bluegrass	85	75
0.70	Merion Bluegrass	90	75
0.20	Annual Ryegrass*	95	85
*Use annual ryegrass only in mixtures seeded after August 15 and before May 15			

6.2.3.3 Permanent Seed Mixture

Permanent vegetation shall be established on all areas reaching final grade or other areas not likely to be destroyed by further construction activities. Any areas which reach final grade between May 31 - August 15 or October 15 - November 15 shall be seeded with the appropriate temporary seed mixture according to Section 6.2.3.1 unless seeded with permanent seed mixture under the provisions

stipulated in Section 6.2.3.1. These areas shall then be reseeded with a permanent seed mixture, without Annual Ryegrass, during the next defined seeding period according to this section. The actual date of permanent seeding will require the Engineer's approval.

PERMANENT SEED MIXTURE		
	SPRING 3/15-5/15	FALL 8/15-10/15
Variety of Seed*lbs./acre.....	
Orchard grass (<i>Dactylis glomerata</i>)	30	30
Birdsfoot Trefoil (1) (<i>Lotus corniculatus</i>)	15	15
Red Clover (<i>Trifolium pretense</i>)	10	10
Annual Ryegrass (2) (<i>Lolium multiflorum</i>)	25	25
Spring Oats or Winter Wheat	35 0	0 90
<p>(1) Herbaceous legumes must be treated with the appropriate bacterium before seeding. <i>On areas which are steeply sloping (steeper than 1.7:1) or slide prone, swales, or drainage conveyance structures substitute Crownvetch (<i>Coronilla varia</i>) at 20 lbs./acre for Birdsfoot Trefoil.</i></p> <p>(2) Use Annual Ryegrass only in mixtures seeded after August 15 and before May 15.</p> <p>*Use only certified “blue tag” seed. Seed-rate suggested is for pure live seed (PLS) in lbs/acre.</p>		

6.2.4 Mulch Material

Mulching procedures shall take place immediately following seeding. Mulch material shall consist of straw or wood cellulose fiber.

6.2.4.1 Straw

Straw mulch shall include baled wheat or oats straw, or baled grass hay. Straw mulch shall be dry and reasonably free of weed, seeds, sticks, or other foreign material. Straw mulch shall be applied at a rate of 2 tons/acre. The straw mulch shall be anchored with 100 gallons/acre asphalt emulsion or 750 lbs/acre wood cellulose fiber. Baled grass hay will not be allowed as mulch for seeding lawn or mowed areas.

6.2.4.2 Wood Cellulose Fiber

Wood cellulose fiber may be used only on slopes steeper than 2H:1V at a rate of 1,500 lbs/acre. Mulch for use with the hydraulic application of seed, fertilizer, and lime shall consist of wood cellulose fiber. It shall be processed in such a manner that it will contain no growth or germination inhibiting factors and shall be dyed green. It shall be manufactured in such a manner the (1) after addition and agitation in slurry tanks with fertilizers, lime seeds, and water, the fibers in the material will become uniformly suspended to form a homogeneous slurry and (2) the material, when hydraulically sprayed on the ground, will form a blotter-like ground cover impregnated uniformly with seed, will allow rainfall to percolate to the underlying soil. Wood cellulose shall only be used on areas that have been approved by WVDEP.

The wood cellulose fiber shall be supplied in packages having a gross weight not to exceed 100 pounds. Weight specifications of this material from suppliers, and for all applications, shall refer only to air dry weight of the fiber material. Air dry weight is based on the normal weight standard of the Technical Association of the Pulp and Paper Industry for Wood Cellulose and is considered equivalent to 10 percent moisture. Each package of the cellulose fiber shall be marked by the manufacturer to show the air dry weight content.

- 6.2.5 Water** Water shall be reasonably free of injurious and other toxic substances harmful to plant life. The source of water is subject to the approval of the WVDEP.

6.3 METHOD OF CONSTRUCTION

- 6.3.1** All re-vegetation activities shall be conducted immediately following completion of final grading so as to utilize the fine soil material as a seedbed before this material is lost via subsequent rainfall.
- 6.3.2** On sites where appropriate equipment can operate the seedbed shall be prepared by breaking up surface crusts and loosening the soil material to a minimum of three (3) inches. Disking, harrowing, cultipacking or other acceptable tillage operations may be used to prepare the seedbed. On sites where appropriate equipment cannot operate, the seedbed shall be prepared by “tracking in” with a dozer or scarifying by other approved methods. Lawn areas are to be hand raked. Rocks larger than six (6) inches in diameter or two (2) inches in diameter in lawn areas, trash, weeds and other debris that will interfere with seeding or maintenance shall be removed or disposed of as approved by the WVDEP.

Seedbed preparation shall be suspended when soil moisture conditions are not suitable for the preparation of a satisfactory seedbed as determined by WVDEP.

- 6.3.3** Seedbed preparation and seeding shall take place progressively as various regraded areas are brought to final grade.
- 6.3.4** All seeding operations shall be performed immediately following seedbed preparation in such a manner that the seed is applied in the specified quantities uniformly on the designated areas.
- 6.3.5** Seed Application shall consist of approved hydroseeding methods where feasible. Any seed left in hydroseeder overnight shall be reinoculated before that seed shall be applied. Other methods of seed application may be utilized for site-specific reasons when approved by the WVDEP.
- 6.3.6** Any area failing to establish a vegetative stand due to weather or adverse soil conditions shall be reseeded, relimed, refertilized and remulched as approved by the WVDEP.
- 6.3.7** The Contractor shall maintain all seeded areas until final acceptance of the project. All areas shall be protected from any further equipment traffic and any damaged areas shall be repaired and reseeded. Maintaining seeded areas shall consist of watering, refilling, refertilizing, reliming, reseeding, and remulching erosion gullies and all bare areas.
- 6.3.8** A second and third seeding will be applied as needed, or as approved by the WVDEP.
- 6.3.9** The Contractor at his option, will be allowed to apply permanent seed mixture instead of temporary seed mix when seeding outside of the designated seeding season dates for permanent vegetation for seeding operations conducted on areas that have reached final grade (areas that will not require further disturbance) provided that these areas shall be reseeded with permanent seed mix at no additional cost to the WVDEP should adequate vegetation (as determined by the WVDEP) fail to be established from the initial seeding.

6.3.8.1 Second Step Seeding

The second step seeding will take place during the first defined seeding period following the initial seeding. No payment shall be made for second step seeding, this work is part of the contract if completed before the final inspection or shall be considered warranty if completed after the final inspection. The following shall be used as

a guide for second step application.

- a. For areas with less than a 50 percent stand or subject to severe erosion, apply the complete amount of seed, fertilizer, lime, mulch as specified.
- b. For areas with over 50 percent stand apply one half the original fertilizer, lime and seed. If erosion is a problem, apply one half of the original mulch specified in Section 6.2.4.

6.3.8.2 Third Step Seeding

The third step seeding shall consist of spot applications on areas not showing a satisfactory stand. The seeding shall take place at the next defined seeding period following the second step application. The quantity of material to be used shall be determined on the same basis as the second step application in Section 6.3.8.1.

6.4 METHOD OF MEASUREMENT

The method of measurement for revegetation shall be per plan view acre for the disturbed area shown on the plans less areas to be covered with rip rap as approved by the Engineer.

6.5 BASIS OF PAYMENT

- 6.5.1** Payment will be made at the Contract unit price bid for these items, which price and payment shall be full compensation for doing all the work herein described in a workmanlike and acceptable manner; including the furnishing of all labor, materials, tools, equipment, supplies and incidentals as necessary to complete the work. Payment for seeding includes all seeding (i.e. – temporary, first and second seeding). No additional payment will be made for second or third seeding.
- 6.5.2** Measurement and payment for erosion control matting shall be made under the particular drainage channel pay item Section 7.0. No measurement or payment will be made for this item under this section.
- 6.5.2** Temporary seeding will be incidental to the seeding item and no separate measurement or payment will be made for temporary seeding. There will be no separate payment for maintaining seeded areas. No payment will be made for seeding after the final inspection. All work performed after the final inspection will be done under warranty.

6.5.3 No payment will be made for re-vegetation of offsite borrow and/or waste area(s) which are outside of the construction limits as shown on the Plans. Payment for re-vegetation of offsite borrow and waste (disposal) areas shall be incidental to the unclassified excavation pay item.

6.6 **PAY ITEMS**

Item 6.0 “Revegetation”, per plan view acre.

7.0 DRAINAGE STRUCTURES

7.1 DESCRIPTION

This work shall consist of furnishing all labor, equipment and materials necessary to construct the drainage structures shown on the drawings. Drainage structures shown include; splash pads, vegetated vee drainage channel toe ditch with erosion control matting and, rip rap and grouted rip rap drainage channels. This specification shall also include the rip rap vee ditch road crossings, and existing channel or erosion feature rip rap armoring. Excavation and fill placement necessary to construct drainage channels complete shall be subsidiary to the particular pay item and no separate payment will be made.

7.2 MATERIALS

7.2.1 Rock for rip rap shall be placed in the plan area and to the thickness as shown on the plans. Riprap shall consist of either calcareous or non-calcareous (limestone or sandstone, respectively, unless noted otherwise), as long as the durability specifications are met, and shall have the following gradation:

Riprap: The riprap shall be furnished with a D₅₀ size of 12 inches and rock shall range in size from 6 inches minimum to 18 inches maximum diameter with no more than 15 per cent by weight less than 3 to 6 inches.

The Contractor should be aware that no provisions have been made to obtain rock on site. All rock riprap used throughout the project site shall consist of stone meeting the following requirements. The rock riprap shall have a maximum weighted loss of thirty (30) percent (%) when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – **ASTM C88** (ASTM C88-99a Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate), as modified by the American Association of State Highway and Transportation Officials (**AASHTO**) **T-104**.

At this time, it is not anticipated that rock materials may be found on site. If found onsite, in order to be considered for use as riprap, the rock shall be subjected to laboratory testing as required to verify the material as non-acid producing. The type of material, as well as the source of material of the riprap must be approved by the WVDEP prior to delivery.

7.2.2 Filter fabric used for drainage structures if shown on the Plans shall be non-woven and as specified in **Section 715.11.9** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010 or later edition for subsurface drainage such as ADS 6600 manufactured by Advanced Drainage

Systems, Inc. or approved equal.

- 7.2.3** “Grout to be used in the grouted riprap ditches shall consist of a cubic yard (CY) mixture as follows;

Cement – 470 lbs

Fly Ash – 220 lbs

Water – 316 lbs

Air Entrainment – 6% +/- 2%

Sand – 2676 lbs

Rheobuild 1000 (as needed to achieve the required slump and strength).

The minimum required compressive strength of the grout shall be 2010 psi @ 28 days. All testing shall be the responsibility of the contractor as part of Section 3 of these specifications.

- 7.2.4** Erosion Control Matting to be installed in vegetated ditches as shown on the plans shall consist of Excelsior Type I Curlex Blanket, or equal as approved by the WVDEP. Vegetated ditching shall be lined with Erosion Control Matting as shown on the Plans and vegetated in accordance with **Specification Section 6.0**.

7.3 **METHOD OF CONSTRUCTION**

- 7.3.1** The Contractor shall comply with **Special Provision 5, Schedule of Work**. The sequence of operations shall be at the discretion of the Contractor. However, at a minimum, water shall not be allowed to enter into or pool in the constructed ditches until all components have been installed and are operational, curing times have been achieved, and the construction has been approved by the WVDEP. **Work shall proceed from the downstream to the upstream, bringing the site to grade and installing drainage control structures as work progresses. A construction sequence is provided on the Plans.**

7.3.1.1 Where drainage conveyances are constructed in designed Contractor constructed fill areas (if shown on the Plans), the fill shall be compacted in accordance with **Specification Section 8** and brought to final grade elevations shown on the Plans. The subgrade of the channel shall then be excavated into the compacted fill to the template dimensions and to accept the required lining components.

7.3.1.2 In addition, some drainage conveyances may be constructed across unconsolidated mine spoil areas, soft areas, or along existing drainage

channels.

7.3.1.2.1 If in the opinion of the WVDEP the subgrade is unsuitable, the Contractor will be required to undercut the subgrade a minimum of 2 ft. and place compacted suitable onsite fill material, as approved by the WVDEP in 6 inch lifts back to subgrade elevation. In addition, some filling may be required after removing all objectionable material (including iron sediment precipitate and soft unconsolidated material/sediment) to bring the subgrade to proper elevation shown on the Plans.

7.3.1.2.2 Subgrade fill material shall be compacted to at least 95% of the Standard Proctor (**ASTM D698**) maximum dry density at a moisture content of not less than 2% below nor greater than 3% above optimum. Testing frequency and locations shall be directed and approved by the WVDEP. As a minimum a compaction test shall be performed for every 50 linear feet of channel or one test per day if less than 50 ft. of channel is constructed per day.

7.3.2 Drainage channels shall be constructed to the approximate line, grade, and templates as shown on the plans or as directed by the WVDEP. Channels shall be formed and constructed in conjunction with fill placement required (if any is shown) to create the proposed finish grade where shown on the plans. Channels shall be vegetated with ECM, rock rip rap lined, or grouted rock rip rap lined as shown on the Plans.

7.3.3 Erosion control matting if shown on the plans shall be installed in accordance with the manufacturer's recommendations and as approved by the WVDEP.

7.3.2 Riprap shall be placed in accordance with **Section 218.3.2 of the WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010 or later edition.

7.3.2.1 The rip rap stone furnished on the project for rip rap shall be certified by the supplier as meeting or exceeding the requirements for size, gradation, durability, and calcium carbonate equivalency as established by these Specifications.

7.3.2.2 Rip rap linings shall be placed so the top of the lining in ditches blend to adjacent final grades. Rip rap linings shall not be indiscriminately placed atop final grades.

7.3.2.3 Rip rap shall be placed to its required thickness without damaging or

displacing the underlying subgrade. Some hand placing of rip rap stones may be required around pipe inlets and sediment control devices.

7.3.2.4 Rip rap shall be installed 1 ft. minimum (unless otherwise shown on the Plans) above the top of all pipes either installed or existing, and on both the inlet and outlet ends of the pipes. The 1 ft. minimum cover requirement shall extend from the pipe centerline to a point horizontally perpendicular to the centerline at the inlet or outlet end of the pipe. Then a 10 ft. minimum transition from the 1 ft. minimum cover elevation to design ditch dimensions shall extend upstream or downstream from the pipe ends.

7.3.2.5 Grouted Rip Rap shall be placed within drainage channels and as armoring for the inlet and outlet of pipes as shown on the Plans. Rip rap used shall comply with these Specifications for size, gradation, and quality. Grouted rip rap shall comply with the following:

7.3.2.5.1 Concrete used to grout the rip rap shall comply with Section 7.2.4. of these specifications. Mix design to be approved by the DEP prior to placement.

7.3.2.5.2 Cement used in the mixture shall be Type II sulfate resistant Portland cement meeting the requirements of ASTM C150 (Type II cement, not Type I cement).

7.3.2.5.3 Plasticizer admixture will be added onsite by the concrete supplier in order to provide a pumpable and flowable mix which will penetrate voids in the stone to a minimum depth of 2 ft.

7.3.2.5.4 Slump on the fresh concrete will be in accordance with the mix design. Slump after the addition of the plasticizer will be a maximum of 7 inches.

7.3.2.5.5 Slump will be checked at the time of concrete arrival to the site and after the addition of the plasticizer. The addition of water to increase slump will not be allowed.

7.3.2.5.6 Pump concrete to point of placement or as approved by the WVDEP.

7.3.2.5.7 Where rip rap is to be grouted, as indicated on the Design Drawings and/or as directed by the WVDEP, the stone shall be thoroughly wet immediately before the grout is applied. As soon as the grout is deposited on the surface, it shall be worked into the voids by rodding to achieve 100% penetration into the rip rap blanket. The stones shall then be brushed so that their top surfaces are exposed and in order to remove thin, weak grout or cement paste from the rock surface. No payment will be made for grouted rip rap when the rip rap stones are not wet prior to placement of grout.

- 7.3.2.5.8 Water will not be allowed to run in the grouted channels until the grout is cured.
- 7.3.2.5.9 Under no circumstances will grout be allowed to run under the grouted channels.
- 7.3.2.5.10 The grout shall be free of trash, sticks, leaves and other foreign materials.
- 7.3.2.5.11 Do not allow green concrete to come into contact with the stream or flowing water. Cure concrete by application of approved curing compound. Do not wet cure.
- 7.3.2.5.12 Tests: Perform according to ACI 301.

- a) Testing Frequency: Fabricate one set of four test cylinders for each 50 cy of concrete placed or one set per day if less than 50 cy of concrete is placed in a day. In addition to concrete cylinders, determine air content, temperature, and slump from the truck the cylinders are fabricated from. Additionally, test each truck to determine fresh properties of concrete including temperature and slump. Test and record slump for each truck prior to addition of plasticizer and after the addition of this admixture. Reject concrete which does not comply with the specifications. Store, transport, and cure cylinders as required by ACI code.
- b) Acceptance: Break three cylinders in the laboratory to determine the 28 day compressive strength. Average the three compressive strength results. In determining the average compressive strength, all three tests must exceed 1800 psi and the average must exceed 2010 psi. A cylinder break which is less than 1800 psi will be considered as a failing test unless there is evidence to indicate the cylinder has been mishandled. In that case the fourth cylinder will be tested and used in the average as a basis for acceptance. Remove and replace concrete and grouted rip rap which does not meet these specifications.

- 7.3.4** Rip rap and grouted rip rap ditch lining shall be underlain by geotextile. Geotextile to be used under rip rap and grouted rip rap will comply with Section 7.2.2 as follows: “Filter fabric used for drainage structures shall be non-woven and as specified in **Section 715.11.9** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010 or later edition for subsurface drainage such as ADS 6600 manufactured by Advanced Drainage Systems, Inc. or approved equal”. A transition shall be provided from one channel type to another when a change in template occurs in a continuous channel, but the pay limits for each channel will be as shown on the plan and profile for each.

- 7.3.5 Excess material from ditch excavation will be disposed of onsite. Sections of ditches that are cut into rock will not require rip rap or grouted rip rap lining.
- 7.3.6 Ditches that intercept existing drain pipes or subsurface drains etc., shall provide outlets for those intercepted drains. Outlets shall consist of compatible piping materials as exists and the Contractor shall ensure water emanating from these pipes safely and completely enters the constructed ditch and to the satisfaction of the WVDEP.
- 7.3.7 Trench excavation exceeding five (5) feet in depth shall be supported with suitable shoring or sides of the excavation shall be cut to stable slopes as recommended in the OSHA Publication” Excavating and Trenching Operations”, **OSHA 2226** and approved by the Engineer to prevent caving, slipping, or cracking of the sides to protect workmen from any injury. Any shoring installed shall be removed following backfilling the trench.
- 7.3.8 Drainage conveyance layout shall be performed by a professional engineer or professional surveyor licensed in West Virginia. The surveyor shall be onsite full time while layout work is being performed. A laser pipe level shall be required to set and verify pipe alignment and grade as required by the Plans.
- 7.3.9 Drainage channels constructed in coal refuse shall be excavated one foot below planned grade and soil material shall be placed and compacted to 90% of the Standard Proctor (ASTM D698) Maximum Dry Density to a thickness of one foot over the refuse prior to placement of channel lining.

7.4 METHOD OF MEASUREMENT

- 7.4.1 The method of measurement for rip rap lined and grouted rip rap lined channels, and rip rap placed in existing channels or erosion features, shall be on a linear foot basis measured end to end along the flow line of the channel or erosion feature. The unit price shall include excavation, fill, and subgrade preparation as necessary, and all equipment, material, and labor necessary for satisfactory installation of the lining material as shown on the plans and detailed in these specifications. Excavation and fill required to construct drainage channels and rip rap lined existing channels or erosion features shall be incidental to this pay item and no separate payment will be made.
- 7.4.2 Vegetated toe ditch shall not be measured for payment. Excavation and fill placement associated with toe ditch construction shall be incidental to unclassified excavation. The method of measurement for vegetated channels lined with erosion control matting shall be per square yard of erosion control matting placed as shown on the plans and as approved by the DEP.

- 7.4.3 The method of measurement for splash pads shall be lump sum “per each” as bid and shall include all labor, material, and equipment necessary to excavate and furnish/place rip rap as shown on the Plans and approved by the WVDEP.
- 7.4.2 The method of measurement for rip rap vee ditch road crossings shall be lump sum “per each” as bid and shall include all labor, material, and equipment necessary to excavate and furnish/place rip rap as shown on the Plans and approved by the WVDEP.
- 7.4.3 Rip rap required for Splash Pads, Rip Rap and Grouted Rip Rap Vee Channels, Road Crossings, and rip rap armored erosion features and existing channels shall not be measured and shall be incidental to the particular pay item.

7.5 BASIS OF PAYMENT

- 7.5.1 Payment for rip rap and grouted rip rap lined channels, and rip rap armored existing erosion features including any minor excavation/fill, rip rap, grout, and geotextile as subsidiary shall be made on a unit cost basis per linear foot as bid for ditch properly constructed in accordance with the plans and as approved by the WVDEP.
- 7.5.2 Payment for erosion control matting installed in vegetated toe ditch shall be made based on the unit price bid in square yards based on the quantity shown on the plans or as approved by the Engineer. No payment will be made for grading the toe ditch and all excavation and fill placement required to construct the toe ditch will be incidental to the unclassified excavation pay item.
- 7.5.3 Payment for Splash Pad shall be lump sum per each as bid for the unit properly installed and constructed in accordance with the Plans and as approved by the WVDEP.
- 7.5.4 Payment for Rip Rap Vee Road Crossings shall be lump sum per each as bid for the unit properly installed and constructed in accordance with the Plans and as approved by the WVDEP.

7.6 Pay Items

Item 7.1, “2H:1V Rip Rap “Vee” Channel” – 2 ft. deep, per linear foot

Item 7.2, “2H:1V Grouted Rip Rap “Vee” Channel” – 2 ft. deep, per linear foot

Item 7.3, "Erosion Control Matting for Toe Ditch", per square yard

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Item 7.4, “Splash Pad”, per each

Item 7.5, “Grouted Rip Rap Vee Road Crossing”, per each

Item 7.6 "Rip Rap Armored Erosion Feature or Existing Channel", per linear foot

8.0 UNCLASSIFIED EXCAVATION

8.1 DESCRIPTION

This work shall consist of excavating, transporting, stockpiling, placing and compacting existing material excavated from the project area for regrading existing refuse, reclamation of existing highwall, access road improvements, and installation of drainage structures as shown on the Plans. Excavation is required to remove soil and debris from the existing subsidence features to allow repair of the same. This work shall include excavation of all soil, rock, coal refuse, debris, or other materials encountered in the excavation as shown on the plans regardless of size or character. Material excavated shall be stockpiled onsite for use as fill, backfill, or soil cover if deemed suitable and approved by the WVDEP. Excavation and fill required to construct surface and subsurface drains/channels, mine seals, bat gate, splash pads, and underdrains complete shall be subsidiary to the project pay items and no separate payment will be made. Excavation and disposal of material associated with the regrading of refuse, highwall reclamation, subsidence repair, and installation of underdrain at Site 2 shall be paid in accordance with the Unclassified Excavation Pay Item provided in this section. Excavation of soil from the borrow area for use as soil cover shall be subsidiary to the soil cover pay item and no separate payment will be made.

8.2 MATERIALS

- 8.2.1** Random fill material shall be considered a mixture of any or all of mine spoil, soil, or rock excavated from the site as approved by the WVDEP. The particle size range for random fill is 9 to 12 inches as defined herein.
- 8.2.2** Select fill shall consist of Random Fill except the fill material shall not contain rock particles which are larger than 2 inches. Select fill must be approved by the WVDEP.
- 8.2.3** Soil cover placed over the surface of the completed fill shall consist of 12 inches of topsoil or suitable soil which can be conditioned to support vegetation as approved by the WVDEP.
- 8.2.4** Rip rap shall comply with Section 7.0 of these specifications.
- 8.2.5** The initial layer of stone backfill placed at the base of the subsidence feature excavation and repair shall be constructed of an AASHTO No.1 crushed limestone which complies with **Table 703.4 of Section 703 of the West Virginia Division of Highways Standard Specifications for Roads and Bridges,**

Adopted 2010 or later edition.

8.2.6 Filter fabric used for subsidence feature repair shall be non-woven and as specified in **Section 715.11.9** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010 or later edition for subsurface drainage such as ADS 6600 manufactured by Advanced Drainage Systems, Inc. or approved equal.

8.2.7 The 2nd layer of subsidence feature excavation backfill shall consist of No. 57 Aggregate as described in **Table 703.4 of Section 703 of the WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010 or later edition, for quality and gradation.

8.3 BORROW/DISPOSAL AREA

Excess and unsuitable soil materials generated from the excavation shall be placed as compacted fill or as waste fill in the highwall reclamation area as shown on the Plans and as directed by the WVDEP. The need for an offsite borrow or waste (disposal) area is not anticipated. However, should the disposal area shown on the plans be inadequate, or should additional soil borrow be needed for soil cover or revegetation, the Contractor will be required to furnish an offsite/onsite waste/borrow site(s). If required, the Contractor shall be responsible for locating this area(s) and obtaining right-of-entry agreements in which the property owner indemnifies and holds WVDEP/OSMRE harmless from any injury or damage whatsoever resulting from the Contractor's use of the property. All prospective Contractors and Bidders must obtain their own permission from the landowner for any subsurface tests, borings, or pits. The Contractor shall be held responsible for compliance with all NEPA requirements and shall provide proof of such compliance to the WVDEP. The Contractor shall submit a reclamation plan to the WVDEP and must obtain approval for said plan prior to any disturbance to an offsite borrow or disposal site. The Contractor shall modify the approved Construction Stormwater Permit to include any offsite borrow or disposal site required and obtain agency approval for the modification from the WVDEP-DWWM. All costs associated with this modification shall be the responsibility of the Contractor and no additional payment will be made.

8.4 METHOD OF CONSTRUCTION

8.4.1 The Contractor shall comply with all Special Provisions with particular attention to **Special Provisions 5 and 10**.

8.4.2 The sequence of operations shall comply with that shown on the Plans and shall be approved by the WVDEP.

- 8.4.3** Excavation shown on the plans is all considered to be unclassified. Unclassified excavation shown on the plans is intended to provide sufficient fill, backfill, and soil cover to construct the project complete. Unclassified excavation except for that required for the Highwall Reclamation, Refuse Reclamation, and Subsidence Area Repair is incidental to the particular pay item and no separate payment will be made. Fill or backfill required to complete site grading shall consist of any suitable soil/rock material which complies with these Specifications or can be conditioned to comply as approved by the WVDEP. Soil/rock materials derived from the excavations required to install drainage structures as shown on the plans will be used as fill and cover soil for re-vegetation (if suitable). Fill placement and compaction is also incidental to the project pay items and no separate payment will be made. During excavation, rock materials encountered shall be excavated and hammered to size suitable for placement as highwall reclamation as approved by the WVDEP. Hard oversize rock materials shall generally be placed within the lowest embankment fill areas and shall be covered with a minimum of 18 inches of soil material so as not to interfere with re-vegetation.
- 8.4.4** Soil cover placement consists of covering all areas reaching final grade with a one (1) foot thick layer of suitable soil material capable of supporting vegetation. The soil cover material shall be obtained in conjunction with clearing and grubbing operations and/or drainage feature and other planned excavations and as directed and approved by the WVDEP. Topsoil and soil encountered during these excavation operations shall be stockpiled and used as a general cover of the site at final grade and a soil cover for encountered coal refuse, exposed coal seams, bedrock, and buried materials at final grade elevations. Areas reaching final grade in exposed coal or coal refuse shall be undercut a minimum of 12 inches and backfilled with a minimum of 12 inches of soil material placed over the exposed coal or refuse to the lines and grades as shown on the Plans. Excavation of soil cover shall be as per these Specifications.
- 8.4.5** It is anticipated an adequate amount of soil cover, select, and random fill needed will be available onsite to complete the project. However, the Contractor is responsible for securing an offsite borrow area in the event that adequate soil material is not available on site and at no additional cost to the WVDEP. If, during the course of construction, the need for offsite borrow areas become evident, the Contractor shall obtain prior approval from the WVDEP for such borrowing and the borrow area must comply with NEPA regulations and **Special Provision 7** of these Specifications. The Contractor shall obtain right of entry agreements for any soil, clay, or rock borrow areas outside the construction limits that also provide for entry by the WVDEP and OSM for inspection purposes, and with such agreements stating that the property owner(s) indemnifies and holds the WVDEP and OSM harmless from injury or damage whatsoever resulting from the use of the property. The Contractor shall modify the approved Construction

Stormwater Permit to include any offsite borrow or disposal site required, and obtain agency approval for the modification from the WVDEP-DWWM. All costs associated with this modification shall be the responsibility of the Contractor and no additional payment will be made.

- 8.4.6** On-site soil encountered in areas of proposed disturbance(s) should be utilized for later revegetation whenever possible. The soil materials present in all areas to be excavated or filled shall be gathered and stockpiled at a suitable location, at the discretion and approval of the WVDEP. Where required, strip topsoil to whatever depths encountered in a manner to prevent intermixing with underlying subsoils. Disturbance of the subsoils is to be minimized whenever possible. Remove heavy growths of grass from areas before stripping. Satisfactory soil is considered to be reasonably free of subsoil, clay clumps, stones and other objects over four (4) inches in diameter, and shall be free of objectionable material. Stockpile soil in storage piles in an area that will not create slope instability to provide free drainage of surface water. Cover stockpiles or use temporary seeding if necessary, to prevent wind erosion.
- 8.4.7** The grading plan shall be conducted in a manner such that a 12 - inch thick layer of soil material is uniformly spread over any areas of fill or disturbed in-place material which is not suitable for re-vegetation. Grading shall be to the lines and grades shown on the Plan and the final grade line includes the 12-inch thick layer of soil cover. The soil cover shall not be compacted to the specifications stated for fill compaction, but shall be placed in a manner to allow for proper establishment of vegetation as described in the seedbed preparation portion of the Re-vegetation Specifications. The required soil amendments are to be incorporated into this top-dressing material while it is in a loose state, to facilitate proper mixing of these materials within the soil matrix. The soil cover shall then be prepared by tracking-in with a dozer perpendicular to the slope. The WVDEP may require that the soil cover be scarified prior to seeding if compaction is considered excessive or if rills develop.
- 8.4.8** Excavated materials shall be stockpiled within the construction limits shown on the Plans and used as random fill or backfill to the extent this material is needed and approved by the WVDEP. Excess and unsuitable materials will be moved and deposited in the highwall reclamation area as waste as shown on the Plans or approved by the WVDEP. Off-site disposal areas (if required) shall comply with **Specification Section 8.3 and Special Provision 7**. Every effort has been made to estimate quantities as accurately as possible, however, the amount of work estimated is for information purposes only and the WVDEP in no way guarantees the quantities listed. Field adjustments of elevations, lines, and grades shown on the Plans may be required to correctly construct this project in accordance with the intent of the design. Such adjustments shall be made by the Contractor at no

additional cost to the WVDEP. The WVDEP reserves the right to increase or decrease any or all of the quantities of work or to omit any of them as it may deem necessary.

- 8.4.9** Material excavation shall consist of the required removal of materials from the drainage structure alignments and backfill to original grade unless shown otherwise on the Plans. The finish surface of the proposed fill area and/or along the drainage structure alignment may be varied only by permission of the WVDEP. Any excavation beyond planned grades will not be paid for unless prior authorization is obtained from the WVDEP. Slopes shall be trimmed neatly to present a uniform surface, free from hollows and protrusions and loose or overhanging rocks. The tops of all slopes shall be rounded to form a smooth, uniform transition to the existing ground. Areas to be cut to grade in refuse are to be undercut one foot below the final grade(s) shown on the reclamation plan with final grade(s) achieved with the soil cover material.
- 8.4.10** The reclamation approach described in these construction specifications is intended to provide a lasting, stable configuration. The Contractor is required to exercise care to avoid conditions which may result in unstable conditions during the construction process. The Contractor shall be responsible for protecting residences and adjacent property from damage.
- 8.4.11** The Contractor must utilize material removal techniques, which are generally considered to be conducive to retaining slope stability. Additionally, disturbed slopes shall be brought to the design template as soon as practical and shall be protected in accordance with **Specification Section 6.0 “Revegetation”**.
- 8.4.12** Iron precipitate sediment, coal or coal refuse, and black or dark gray shale, acidic material, and other onsite potentially toxic materials shall be specially handled to the satisfaction of the WVDEP. These potentially acidic and toxic materials will be buried in-place as approved by the WVDEP. Acidic or potentially toxic materials buried in-place shall not be placed within 1 ft., minimum, vertically of any coal seam and shall be compacted and placed beneath a cap of 12 inches, minimum, of soil cover (capable of supporting vegetation) and proposed final grades depicted on the plans.
- 8.4.13** Depositing and compacting random or select fill in layers shall be started at the lowest point in the fill below grade, at the bottom of ravines, and at the toe of the slope on side hill fills. Prior to fill placement, the existing foundation for the embankment will be proof-rolled and all unsuitable material, as determined by the WVDEP, will be removed.
- 8.4.14** Excavated material shall be placed in embankments in successive layers not to

exceed one (1) foot in thickness before compaction. The layers shall be constructed approximately horizontal. Each layer, before starting the next, shall be leveled and smoothed by means of power driven graders, dozers, or other suitable equipment with adequate weight, capacity, and power to do the work. Layers shall be extended across the entire fill at the level of the deposition unless otherwise authorized by the WVDEP. Each layer, before starting the next, shall be compacted.

- 8.4.15** Fill materials to be used in any area of an embankment shall be free from trash, debris, frozen soil, organic material or other foreign material. No burning refuse (defined as greater than 140° F) and/or combustible material shall be placed in fill areas. No burning refuse was observed during investigation of the site.
- 8.4.16** Embankment fill, embankment subgrade materials, and trench or drainage structure backfill shall be compacted to at least 90% of Standard Proctor maximum dry density at a moisture content of not less than 2% below nor greater than 3% above optimum. Testing shall be at a frequency approved by the WVDEP. One test will be performed for each 500 CY of fill placed or one test per day during fill placement shall serve as a minimum if less than 500 CY of fill is placed in a day.
- 8.4.17** Embankment fill or backfill material which does not contain sufficient moisture to be compacted to the requirements specified herein shall receive applications of water necessary for compaction. Water shall be applied with suitable sprinkling devices and shall be thoroughly incorporated into the material which is to be compacted. Embankment fill material which contains excess moisture shall be dried prior to compaction. Sufficient discing equipment shall be continuously available at the site and shall be used to add water or remove excess moisture from fill materials.
- 8.4.18** Oversize rock materials encountered in the excavation shall be hammered and broken to a maximum size of 12 to 18 inches and placed within the lower fill zones and covered with a minimum of 24 inches of soil material.
- 8.4.19** At the close of each day's work, or when work is to be stopped for a period of time, the entire surface of the compacted fill shall be sealed by a method approved by the WVDEP. If, after a prolonged rainfall, the top surface of the embankment(s) is too wet and plastic to work properly, the top material shall be removed to expose firm material. Ruts in the surface of any layer shall be suitably filled or eliminated by grading before compaction. The disturbed areas will be revegetated according to **Specification Section 6, "Revegetation"**.
- 8.4.20** Subsidence features shall be excavated to bedrock or a maximum depth of 5 ft. as

shown on the Plans and as required to expose the subsidence crack, install filter fabric, a 12 inch layer of No. 1 stone, a second layer of filter fabric, a 12 inch layer of No. 57 stone, a third layer of filter fabric, and compacted random fill from the top of the No. 57 stone layer to the original ground surface. The surface will be graded to the approximate original contour as approved by the WVDEP.

8.5 METHOD OF MEASUREMENT

- 8.5.1** Random fill placement and compaction will not be measured but is considered subsidiary to the project.
- 8.5.2** Unclassified excavation and fill necessary to construct drainage channels, splash pads, rip rap vee channel road crossings, mine seals, excavation of soil cover from the borrow area, underdrain, and the bat gate mine seal shall not be measured but will be incidental to the particular pay items. Payment shall include labor, equipment, and material necessary to construct these items complete.
- 8.5.3** Unclassified excavation associated with the highwall and refuse reclamation, and the subsidence repair as shown on the Plans shall be measured to the nearest cubic yard based on before and after cross sections using the average end area method as shown on the Plans and as approved by the WVDEP. Payment shall include labor, equipment, and material necessary to construct these items complete.
- 8.5.4** The method of measurement WVDOH Size No. 1 and No. 57 stone backfill necessary to stabilize and backfill the subsidence feature excavation shall be by the ton of stone delivered to the site and placed/accepted by the WVDEP. Filter fabric required as shown on the Plans is incidental to the No. 1 and No. 57 stone and no separate payment will be made.

8.6 BASIS OF PAYMENT

- 8.6.1** Unclassified excavation associated with the highwall and refuse reclamation, and subsidence repair shall be paid based the actual volume of excavation measured by before and after cross sections in accordance with the unit price bid per cubic yard.
- 8.6.3** Payment for Size No. 1 stone and No. 57 stone used to fill the bottom of the subsidence feature excavation as shown on the plans shall be by the unit price bid per ton for the stone placed and approved by the WVDEP. Payment shall include separation fabric as shown on the plans as incidental and no separate payment will be made.

8.7 PAY ITEM

Item 8.1, “Unclassified Excavation”, per cubic yard

Item 8.2, “No. 1 Stone Fill”, per ton.

Item 8.3, “No. 57 Stone Fill”, per ton

9.0 MINE SEALS

9.1 DESCRIPTION

This work shall consist of dewatering the mine pool(s) and pit ponds (if required); excavating the wet/modified mine seal and bat gate mine seal locations; installing piping components and the bat gate as directed by the WVDEP; installing gravel bulkheads into competent openings; installing similar gravel bulkheads along the bottom of existing highwalls (if shown on the plans or required by the DEP) centered upon mine discharges and collapsed openings; installing best onsite “clayey material” available bulkheads at mine seal locations; and backfilling the opening and highwall (if shown) to the lines and grades shown on the Plans or as directed by the WVDEP. Wet mine seals are preferred over modified mine seals. However, the specific seal(s) that is needed for this project is not known at this time, but shall be determined based on the conditions encountered when the mine entry is opened up during construction and as approved by the WVDEP. Mine seals shall also be installed in mine openings discovered during construction as directed by the WVDEP. Mine seals shall be constructed in accordance with the typical details at the locations shown on the plans. Materials shall conform to those listed herein. The length of the 12-inch diameter conveyance pipes and associated clean-outs will vary from that shown on the plans based on the conditions revealed at the time of construction and the final grades that are achieved. The maximum conveyance pipe run allowable without installation of cleanouts shall be 100 feet.

9.2 MATERIALS

9.2.1 Stone

The stone for gravel bulkhead shall consist of sound, durable 3” to 6” non-calcareous crushed sandstone. All stone shall consist of particles of clean, hard, tough, durable rock, free from adherent coating and meeting the requirements of **Section 703.1 of the WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. 3” to 6” crushed stone shall meet the requirements of these Specifications. Stone shall have a maximum weighted loss of twelve (12) percent when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – **ASTM C88 (ASTM C99-99a Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate)**, as modified by the American Association of State Highway and Transportation Officials (**AASHTO**) **T-104**. Non-calcareous stone shall exhibit a fizz of 0 when subjected to dilute hydrochloric acid. A laboratory certification of soundness and fizz shall be submitted to the WVDEP prior to delivery.

3” to 6” non-calcareous crushed sandstone shall be obtained for gravel bulkheads

to level the pipes in the Wet or Modified Mine Seals and the Bat Gate Mine Seal as shown on the Plans.

Class 1 (1 ½”) Crusher Run Stone may be used to level and backfill pipes which are located outside the mine and convey mine drainage to drainage structures. Class 1 (1 ½”) aggregate shall meet the gradation requirements in **Table 704.6.2A** and **Section 704** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. Class 1 (1 ½”) Crusher Run Stone may be limestone or sandstone and shall meet all other quality requirements mentioned above

9.2.2 Filter Fabric

Non-woven filter fabric shall be as specified in **Section 715.11.8** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010 for subsurface drainage such as ADS 6600 manufactured by Advanced Drainage Systems Inc. or approved equal.

9.2.3 Pipe

Wet and Modified Mine Seal outlet pipes (two required per seal), which are located inside the mine, extend for a total distance of 28 ft. each. As shown on the Plans these outlet pipes shall consist of custom perforated 12 inch diameter SDR 35 PVC pipes. The wet mine seal riser component with 18” diameter SDR 35 Hubbed Cap, perforated stub and associated perforated end cap (gasketed and screwed in-place) shall also be custom perforated 12-inch diameter PVC SDR 35 pipe. The Modified Mine Seal cross over pipe (one required per seal) shall be a custom perforated 12 inch diameter SDR 35 PVC pipe. Custom perforated 12 inch diameter SDR 35 PVC pipes (two required per seal) are also located beneath the circular HDPE pipe in Bat Gate Seals inside the mine and extend for a total of 28 ft. each. Bat Gate Seal cross-over pipes, perforated stub and associated perforated end cap (gasketed and screwed in-place) are also custom perforated 12 inch diameter SDR 35 PVC pipes. Wet Mine Seal, Modified Mine Seal, and Bat Gate Mine Seals extend from the end of the 28 ft. long mine seal outlet pipes to the receiving drainage structure and are solid 12 inch diameter SDR 35 PVC pipes. Animal guards constructed of stainless steel bolts, nuts, and washers shall be constructed and installed on the downstream end of each conveyance pipe, as detailed on the plans, the same day as the pipe is installed. Twelve (12) inch diameter clean outs, if required, shall be installed at maximum 100 LF intervals along the two (2) outlet pipe alignments and shall consist of 12” x 12” by 8” diameter 45° wye fitting; solid 8” diameter PVC SDR 35 pipe; an 8” diameter 45° SDR 35 PVC bend; an East Jordan Iron Works Model 1564 frame and cover; and 3,000 psi concrete to be placed around the frame and cover as shown on the Plans. Concrete shall be **Class B** and shall comply with **Section 601** of **WVDOH**

Standard Specifications for Roads and Bridges, Adopted 2010 or later edition. Cleanouts extend from the conveyance pipes to final grades shown on the plans.

Wet Mine Seals also require an anchor plate (two required per seal) consisting of 16" x 16" x ½" steel plate with 3/8" U-bolts as shown on the Plans.

The Bat Gate Mine Seal shall be a 36 inch diameter ID smooth bore corrugated plastic pipe. The bat gate pipe shall consist of ADS N12 or equal furnished with silt tight joints and manufactured in accordance with ASTM F2628.

9.2.4 Fill

Clay used for the outside of Mine Seal Bulkheads shall be the best on-site material found during excavation operation and as approved by the WVDEP. Mine portals which are collapsed and dry if shown on the plans shall be regraded as approved by the WVDEP using the best available onsite "clayey" material in accordance with **Specification Section 4.0 "Site Preparation"**, and the Plans. Material to be used for bulkhead construction shall require the approval of the WVDEP and be free of particles greater than 4 inches in any direction, readily compactable, and free from coal, coal refuse, and organic debris.

9.2.5 Bat Gate Steel

The bat gate ring and angle steel shall be manufactured of A36 mild steel. Welding shall be performed in accordance with the details shown on the plans and as required by the WVDEP in accordance with applicable welding standards. Bolts shall be fully threaded, of sufficient length, and all bolts and nuts shall be galvanized. The steel shall be painted as approved by the DEP prior to installation.

9.2.6 Soda Ash Briquettes

Soda ash briquettes commonly used in the treatment of acid mine drainage and purchased by the skid in 50 pound bags.

9.3 METHOD OF CONSTRUCTION

9.3.1 The Contractor shall submit a Dewatering Plan to the WVDEP for approval prior to beginning excavation and installation of operations for any mine seal. Dewatering operations will be required to dewater mine pools as well as pit ponds. Excavation of the mine opening shall proceed in a manner which will control the release of the mine pool.

9.3.1.1 Mine seals will require excavation into the mine entries/collapsed portals for proper installation of the planned components. The Contractor shall perform this work after taking all necessary precautions with regard to control and treatment of the impounded water, with all work being performed at the risk of the Contractor. The WVDEP and Engineer accepts no responsibility or liability for any related construction activities. Mine pool reduction may be provided from above with a dewatering well(s) or well point system or a similar dewatering scheme approved by the WVDEP.

9.3.1.2 The Contractor will be solely responsible for any damage caused by dewatering through an un-controlled release of water. In an effort to control sudden surges from dewatering operations, the Contractor will be required to provide constant supervision over the process and have sufficient sized equipment and an overburden material stockpiled near the dewatering excavation pits to quickly install an embankment of sufficient height, width, and density to shut off the flow from the dewatering operations if deemed necessary by the WVDEP or as conditions warrant.

9.3.1.3 Pit pond and mine reservoir water may require treatment prior to release. The Contractor shall re-circulate the pit pond and mine water while adding necessary soda ash briquettes until the water has reached a pH between 6.0 and 9.0. Then, with the approval of the WVDEP, the water may be pumped from the pit or treatment pond until dry. The treatment pond location(s) will be identified in the Dewatering Plan and be approved by the WVDEP.

9.3.1.4 The location of the dewatering operations is left to the discretion of the Contractor. However, the location will be provided in the dewatering plan and must be approved by the DEP.

In addition, the mine pool elevations vary with groundwater infiltration and stormwater runoff. The estimated number of bags of soda ash briquettes required to treat the mine pools and discharges cannot be guaranteed by the WVDEP and should be used only as a basis for the Contractor to submit a bid for water treatment during construction.

9.3.1.5 The Contractor will be required to install and operate a mine pool water treatment system to maintain the dewatering discharge between pH 6.0 and 9.0. Laboratory analysis of mine reservoir samples from Borings B-1, B-3, and B-4 was performed. Results are appended to these Specifications. The Contractor is responsible for reviewing these results and making his own judgment concerning water quality and treatment

required during dewatering operations when the mine reservoir is lowered. The method of controlling pH shall be soda ash briquettes. In no instance will chemicals that may cause imminent danger to the public, such as Caustic Soda or Anhydrous Ammonia, be used as a component of the Contractor's plan. The plan shall provide for sufficient settling time to reduce the risk of iron precipitate from entering the receiving stream.

9.3.1.6 The Contractor's Dewatering Plan shall include procedures for using existing drainage ditches and conveyances for discharge of treated acid mine drainage. Prior to discharge through these existing ditches and conveyances, the Contractor will be required to inspect and improve anticipated flow paths to ensure discharge through these existing ditches do not overtop existing pipes or ditches. To this purpose, the Contractor will be required to clean-out all existing culverts or pipes anticipated to carry treated discharges to the satisfaction of the WVDEP. The Contractor will also be required to clean-out existing ditch lines that are too shallow or filled with sediment and precipitate to prevent and eliminate overtopping. All cleaned out materials shall be removed from the site and taken to a landfill permitted to accept this type of waste or buried as specially handled materials as shown on the plans and detailed in **Specification Section 8.0**. In addition, the Contractor will be required to clean out all ditches, pipes, or culverts after their use for conveying treated acid mine drainage to the satisfaction of the WVDEP.

9.3.2 Mine Seal installations require excavation into the open, partially open, or collapsed, entries or portals for proper installation. The opening shall be cleaned of debris and overburden to the satisfaction of the WVDEP with all work being performed at the risk of the Contractor. The WVDEP and Engineer accepts no responsibility or liability for any related construction activities or associated risks and subsequent accidents with any mine seal installations.

9.3.2.1 The Contractor shall implement the approved dewatering plan and completely dewater the mine pool prior to beginning excavation of the openings for installation of the Mine Seal components. The openings shall be cleaned of all debris to the satisfaction of the WVDEP.

9.3.2.2 Wet and Modified Mine Seals are detailed on the Plans. Wet Mine Seals are preferred over Modified Mine Seals and shall be installed at all proposed mine seal installations listing both seals as options on the Plans unless approved by the WVDEP. The Contractor shall demonstrate to the satisfaction of the WVDEP that the excavation of the collapsed portal area is futile, only then will a Modified Mine Seal be installed, and only if approved by the WVDEP.

9.3.2.3 For Wet Mine Seals, once the opening has been excavated to the satisfaction of the WVDEP, filter fabric and a 6 inch layer of 3” to 6” non-calcareous stone, complying with **Specification Section 9.2.1**, shall be placed to level and bed the pipes. Two (2) runs of custom perforated pipe 28 ft. in length with custom perforated risers 3 ft. in height, custom perforated or solid stub 1 ft. to 3 ft. in length, gasketed perforated end cap screwed in place, and attached trash racks (18” SDR35 PVC Hubbed Cap) with steel stability plates attached, conforming to **Specification Section 9.2.3**, shall be placed in each opening as shown on the plans. The 18” diameter custom perforated (as shown on the plans) hubbed end cap shall be secured to the top of all riser pipes to act as trash rack to keep debris from clogging risers. Custom perforations in the 28 ft. of wet mine seal outlet pipes shall end 2.5 ft., minimum, inside the anticipated outby toe of the completed stone bulkhead as shown on the Plans. The spacing between the Wet Mine Seal outlet pipes shall be 3 ft. to 6 ft. with an equal distance maintained between the wet mine seal outlet pipes and the coal ribs. This spacing shall be maintained throughout the installation. The stone bulkhead will be constructed with non-calcareous 3” to 6” stone so that no gaps exist between the coal pavement (bottom), ribs (sides), and roof (top). The outside of the stone bulkhead shall be covered with filter fabric and then compacted “best onsite clayey material” available placed atop the filter fabric to the dimensions shown on the plans, and the site Backfilled to the lines and grades shown on the plans. The “best onsite clayey material” seal shall be three feet (3.0 ft.) thick, minimum, at the bottom as shown on the Plans. In no instance will workman be allowed in openings under un-supported roof or unventilated entryways. The Contractor shall adhere to **OSHA Regulation 29 CFR Part 1926** during all excavation and trenching activities.

9.3.2.4 For Modified Wet Seals, the concentrated mine drainage flow emanating from the collapsed portal area shall be located and become the lowest point and center of the stone bulkhead. The stone bulkhead shall extend from the apparent collapsed coal entry rib to the opposite collapsed coal entry rib and an additional ten feet (10 ft.) minimum in each direction along the bottom of the highwall or mine face from the edge of the collapsed coal entry rib. From these two outermost points, the bottom of the highwall and stone bulkhead shall be graded to slope to the outlet pipes. Filter fabric shall be placed along the bottom of the highwall or mine face prior to stone bulkhead placement to provide a clean work environment and support bulkhead stone. A 6 inch layer of 3” to 6” non-calcareous stone, complying with **Specification Section 9.2.1**, shall be placed as pipe bedding atop the filter fabric and shall extend outside the

mine opening a distance equal to the anticipated angle of repose of the completed stone bulkhead as shown on the Plans. The perforated pipes and connectors shall be placed at the center, lowest point in the bulkhead as shown on the Plans. The Contractor shall excavate into the collapsed entryway as far as possible and place piping components as far into the collapsed entryway as possible. Two (2) runs of 12 inch diameter custom perforated PVC pipe 28 ft. in length, conforming to **Specification 9.2.3**, are required per installation. Custom perforations in this 28 feet of wet mine seal outlet pipes shall end 2.5 ft., minimum, inside the anticipated outby toe of the completed stone bulkhead as shown on the Plans. A 12 inch diameter SDR35 PVC 90° elbow shall be installed in the end of each custom perforated pipe to be inserted into the opening and a custom perforated length of 12 inch SDR35 PVC pipe shall be inserted into the elbows to connect the pipes together. The length of the perforated cross over pipe shall be 3 feet to 6 feet with an equal distance maintained between the runs of pipe and the coal ribs. This spacing shall be maintained throughout the installation. Prior to backfilling the piping components, the Contractor shall obtain the approval of the piping installation from the WVDEP. A stone bulkhead constructed of 3” to 6” stone will be placed atop the pipes and as shown on the Plans and extend a minimum of three (3) feet outby the highwall (as measured at the top elevation of the bulkhead) so that no gaps exist between the coal pavement (bottom), the top of the apparent opening, and the existing highwall or mine face. The entire outside of the stone bulkhead shall be covered with filter fabric and then “best onsite clayey material” available placed atop the fabric to the dimensions shown on the Plans and the site backfilled to the lines and grades shown on the Plans. The “best onsite clayey material” seal shall be 1.0 ft. thick, minimum, at the top of the seal and 3 ft. thick, minimum, at the bottom as shown on the Plans. In no instance shall workman be allowed to work at the bottom of the unsupported, unstable highwalls or mine face. The Contractor shall adhere to **OSHA Regulation 29 CFR Part 1926** during all excavation and trenching activities.

9.3.2.5 Wet Mine Seal conveyance pipes shall extend from the 28 foot long Mine Seal Outlet Pipes to a constructed receiving drainage structure. Mine seal outlet pipes shall be custom perforated and Wet Mine Seal Conveyance Pipes shall be solid. All pipes shall be installed at a minimum grade of 2% discharging 1 ft. minimum above the drainage structure invert. There is no pay item for Mine Seal Outlet Pipes (perforated pipes 28 ft. long each) as all costs shall be included in the per each price bid for Wet or Modified Mine Seals, and Bat Gate Mine Seals.

9.3.2.6 Construction of wet mine seals, modified mine seals, and the bat gate seals

shall be in accordance with the plan details. Filter fabric shall separate all aggregate/soil interfaces. The clay seal and pipe outlet trenches shall be compacted in accordance with **Section 8.5.11** of these Specifications.

9.3.3 The Contractor will be required to install one Dry Bat Gate Mine Seal as shown on the Plans and/or as directed by the WVDEP.

9.3.3.1 The Contractor shall implement the approved dewatering plan and completely dewater the mine pool prior to beginning excavation of the openings for installation of Bat Gate Mine Seal components.

9.3.3.2 Once the opening has been excavated to the satisfaction of the WVDEP, filter fabric and a 6 inch layer of 3 to 6 inch size non-calcareous stone, complying with **Specification Section 9.2.1**, shall be placed from the existing highwall or mine face bottom into the mine opening to level and bed pipes. The non-calcareous aggregate shall extend two times the entryway opening height (as approved by the WVDEP) plus six (6) ft. into the opening and from coal rib to coal rib. The 3 to 6 inch size aggregate shall also extend outside the mine opening a distance equal to the anticipated angle of repose of the completed stone bulkhead as shown on the plans. If required by the Plans, two (2) runs of 12 inch diameter custom perforated PVC pipe 28 ft. in length, conforming to **Specification Section 9.2.3**, are required per bat gate installation. Custom perforations in this 28 ft. of wet mine seal outlet pipes shall end 2.5 ft., minimum, inside the anticipated toe of the completed stone bulkhead as shown on the Plans. Again if required by the Plans, 12 inch diameter SDR35 PVC “Tee” shall be installed at the end of each custom perforated pipe to be inserted into the opening and a custom perforated length of 12 inch SDR35 PVC pipe shall be inserted into the “tees” to connect the pipes together. The length of this perforated cross over pipe shall be 3 ft. to 6 ft. with an equal distance maintained between the runs of pipe and the coal ribs. This spacing shall be maintained throughout the bat gate installation. In addition, a one (1) ft. to three (3) ft. custom perforated or solid 12” diameter SDR35 PVC pipe stub shall be inserted in the “straight ahead” end of each installed “tee”. A custom perforated gasketed 12” diameter SDR35 PVC end cap shall be installed and screwed in place on the upstream end of each stub. Once this Bat Gate Outlet Piping system is constructed and the cross over pipe and stubs and associated end caps installed and approved by the WVDEP, it can be inserted into the entryway to a distance of two (2) times the entryway height, as determined by the WVDEP, plus six (6) ft. as shown on the plans. Non-calcareous 3 to 6 inch size aggregate shall be placed around and atop the installed Bat Gate Outlet Pipe(s) until six (6) inches, minimum, of stone covers the top

of the installed perforated pipe components from the coal rib to coal rib and from the highwall or mine face to a distance of two (2) times the entryway opening height inside the entryway. Total thickness of non-calcareous 3 to 6 inch size stone shall be two (2) ft.

9.3.3.3 Next, a sufficient length of HDPE Pipe (Bat Gate Pipe), meeting the requirements of **Specification 9.2.3**, shall be inserted into the entryway to a distance of two (2) times the entryway opening height, as determined by the Owner. A stone bulkhead will be constructed around the pipe(s) with non-calcareous 3 to 6 inch size stone, meeting the requirements of **Specification 9.2.1**, so that no gaps exist between the OD of the pipe, the coal pavement (bottom), ribs (sides), and roof (top).

9.3.3.4 The outside of the stone bulkhead shall be covered with filter fabric and then compacted “best onsite clayey material” available placed atop the filter fabric to the dimensions shown on the plans. The “best onsite clayey material” seal shall be three (3) feet thick, minimum, at the bottom as shown on the plans. The clay seal shall be compacted in accordance with **Specification 8.4.16**.

9.3.3.5 Wet mine seal conveyance pipes consisting of two (2) runs of solid twelve inch diameter SDR35 PVC pipe, meeting the requirements of **Specification 9.2.3**, shall be connected to the Bat Gate Outlet Pipes and extend to the receiving drainage structure as shown on the Plans. The Wet Mine Seal Conveyance Pipes shall have six (6) inches of compacted Class 1 or 1 ½ inch crusher run aggregate beneath, and six (6) inches of compacted Class 1 or 1 ½ inch crusher run aggregate placed atop. There is no pay item for the Bat Gate Outlet Pipes (perforated pipes 28 ft. long each) as all costs shall be included in the per each price bid for Bat Gate Mine Seals.

9.3.3.6 Sufficient HDPE pipe culvert shall be placed atop the Wet Mine Seal Conveyance Pipe system and connect to the HDPE pipe installed in the entryway and end at the distances and location shown on the plans or as directed by the WVDEP as conditions vary and dictate. A bat gate shall be installed in the downstream end of the HDPE Pipe.

9.3.3.6.1 Bat gate components shall meet the requirements of **Specification 9.2**.

9.3.3.6.2 The bat gate shall be constructed to the dimensions shown on the plans and to the satisfaction of the WVDEP.

9.3.3.6.3 Any necessary welding of the bat gate components shall be completed prior to its attachment to the HDPE pipe. Welding will not be allowed inside or near the installed HDPE Pipe where fumes could be drawn into the abandoned mine.

9.3.3.7 In no instance will workman be allowed in the openings under unsupported roof or unventilated entryways. The Contractor shall adhere to **OSHA 29 CFR Part 1926** during all excavation and trenching activities.

9.3.3.8 The Contractor shall use extreme caution when installing all of the components of the bat gate installation, particularly when backfilling around and above the HDPE Pipe. If in the opinion of the WVDEP, component installation or backfilling operations have disturbed or in any way compromised the intent or effectiveness of any installed component, the Contractor shall remove the backfill and compromised component, replace all with new material and reinstall the component and backfill in accordance with the original plan and these specifications. All components and necessary repair work shall be borne by the Contractor at no cost to the WVDEP.

9.3.4 **Piezometer Abandonment:** Three (3) piezometers which have been installed for the Contractor's use, must be removed and abandoned by a person who has been certified by the State of West Virginia in accordance with 47CSR59 "Monitoring Well Regulations". This certification is necessary for any person to operate in the State of West Virginia and includes construction, installation, alteration and/or abandonment of any monitoring wells and select boreholes. The site of the piezometers shall be re-graded and re-vegetated in accordance with these Specifications. This removal and abandonment should be considered as incidental costs to the Site Preparation Item.

9.4 **METHOD OF MEASUREMENT**

9.4.1 Wet or Modified Mine Seals will be measured per each installed as shown on the Plans, and as approved by the WVDEP. For purposes of estimating the cost of this project, the Engineer has considered half of the Wet or Modified Mine Seals will be Wet Mine Seals and half will be Modified Mine Seals. Each has been designed to contain approximately the same quantities and involve similar construction effort and therefore shall be bid as a homogeneous item with no distinction made between the two seals, Wet or Modified. However, depending on conditions encountered in the field, one type of seal installation may be required more than the other and the Contractor may wish to take this into consideration prior to submitting his bid. The actual type of mine seal required,

Wet or Modified, will depend on the conditions encountered during excavation and will be determined by the WVDEP in the field during construction. Wet or Modified Mine Seals shall be paid under **Item 9.1 Wet or Modified Mine Seals** and measured per seal installed regardless of whether the seal required is Wet or Modified. Wet or Modified Mine Seal Conveyance Piping Systems connected to the end of the mine seal outlet piping system and extending to the receiving ditch or splash pad shall be paid at the unit price bid for **Item 9.3 “Mine Seal Conveyance Pipes”**.

9.4.2 The method of measurement for Dry Bat Gate Mine Seal installation shall be per each for **“Item 9.2 Single 36" Diameter Dry Bat Gate Mine Seal”**. Payment shall be full compensation for installing mine seals as described herein in a workmanlike and acceptable manner.

9.4.3 Mine Seal Conveyance Pipes shall be measured from the end of the installed Wet or Modified, or Bat Gate Mine Seal outlet pipe system to the proposed outfall at the receiving ditch drainage structure or splash pad. A mine seal conveyance pipe outlet pipe installation consists of two (2) outlet pipes. Each outlet pipe shall be measured along the centerline, summed together, and submitted for payment under **“Item 9.3 Mine Seal Conveyance Pipes”**. The Contractor is advised the estimate of the Mine Seal Conveyance Pipes may change as conditions encountered in the field warrant and as directed and approved by the WVDEP.

9.4.4 Soda Ash Briquettes used in the mine dewatering and treatment process shall be measured per 50# bag used and paid at the unit rate per bag for **“Item 9.4, Soda Ash Briquettes”**.

9.5 BASIS OF PAYMENT

9.5.1 Payment for Wet or Modified Mine Seals shall be made at the lump sum bid price per each for seals installed in accordance with the Plans, these Specifications and as approved by the WVDEP. Wet or Modified Mine Seal payment shall include all excavation of any and all nature, dewatering, stone, filter fabric, impervious soil blanket, mine seal outlet piping systems, and all other necessary components or tasks required to complete the seal installation as shown on the plans and detailed in these Specifications.

9.5.2 Payment for Dry Bat Gate Mine Seals shall be made at the lump sum bid price per each for seals installed in accordance with the Plans, these Specifications and as approved by the WVDEP. The Dry Bat Gate Mine Seal payment shall include all excavation of any and all nature, dewatering stone for pipe leveling and burying and bulkhead construction, impervious clay seals and compaction, bat gate seal, and HDPE Pipe, and all or any other necessary components or tasks required to

complete the seal installation as shown on the Plans and detailed in these Specifications. The per each priced shall also include steel materials required for the bat gate, as well as constructing and installing the bat gate, furnishing and placement of all stone, pipe and fittings, backfilling, and grading, and including all ancillary materials and operations required to construct the Dry Bat Gate Mine Seal as shown on the Plans and herein specified. Payment shall be full compensation for doing all work herein prescribed in a workmanlike and acceptable manner.

9.5.3 Payment for Mine Seal Conveyance Pipe shall be based on the unit price bid per linear foot for conveyance pipe properly installed as shown on the Plans, described herein, and as approved by the WVDEP. The basis of payment for construction of conveyance pipe shall include trench excavation of any and all nature, furnishing and placement of pipe and fittings, bedding, and necessary cleanouts, compacted on-site backfill, and minor grading including all ancillary materials and operations required to construct the conveyance pipes.

9.5.4 Payment for soda ash briquettes shall be made based on the unit price bid per each #50 bag used to treat mine drainage as required by these Specifications and as approved by the WVDEP. Payment for soda ash briquettes shall include all costs associated with the dewatering and treatment process, including the Contractor's Dewatering Plan, and all other operations associated with dewatering, discharging treated water, and implementation of the Contractor's approved Dewatering Plan as detailed by these Specifications and as required and approved by the WVDEP.

9.6 **PAY ITEMS**

Item 9.1, "Wet or Modified Mine Seal", per each.

Item 9.2, "Single 36" Diameter Dry Bat Gate Mine Seal", per each.

Item 9.3, "Mine Seal Conveyance Pipe", per linear foot.

Item 9.4, "Soda Ash Briquettes", per bag

10.0 SUBSURFACE DRAINS

10.1 DESCRIPTION

The Contractor will be required to construct and install a subsurface under-drain(s) in accordance with the details shown on the plans and as directed and approved by the WVDEP. The work shall also include installation of a 12 inch diameter conveyance pipe as required and directed to drain the under-drain(s) to drainage structures proposed herein. The under-drain shall be constructed with minimum cross sectional dimensions of 4 ft. x 4 ft. (16 square feet) and shall include a perforated 12 inch diameter SDR 35 Perforated PVC Pipe as shown on the plans. Conveyance pipe shall consist of 12 inch diameter SDR 35 Solid PVC Pipe needed to drain the under-drain to one of the drainage structures as directed by the WVDEP. The proposed under-drain(s) is intended to intercept low spring flow or mine drainage and safely direct it to a drainage structure as shown on the Plans and as directed by the WVDEP.

10.2 Materials

10.2.1 Stone for the under-drains shall consist of sound, durable 3” to 6” non-calcareous crushed sandstone. All stone shall consist of particles of clean, hard, tough, durable rock, free from adherent coating and meeting the requirements of **Section 703.1** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. 3” to 6” crushed stone shall meet the requirements of these Specifications. Stone shall have a maximum weighted loss of twelve (12) percent when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – **ASTM C88** (**ASTM C99-99a Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate**), as modified by the American Association of State Highway and Transportation Officials (**AASHTO**) **T-104**. Non-calcareous stone shall exhibit a fizz of 0 when subjected to dilute hydrochloric acid. A laboratory certification of soundness and fizz shall be submitted to the WVDEP prior to delivery.

10.2.2 Pipe shall consist of 12 inch diameter SDR 35 PVC perforated and solid pipe as shown on the plan details.

10.2.3 Filter fabric shall be non-woven and shall comply with Section 715.11.4 of the WVDOH **Standard Specifications for Roads and Bridges**, Adopted 2010.

10.3 Construction Methods

10.3.1 The alignment of the under-drain shall be cleared and grubbed. Topsoil, debris, mine drainage sediment, and organic materials if present shall be removed as approved by the WVDEP prior to placement of stone aggregate.

- 10.3.2 At Site 2, the underdrain will require unclassified excavation in addition to the excavation necessary to install the underdrain. This excavation shall be incidental to the Site 2 underdrain construction and no separate payment will be made.
- 10.3.3 The trench bottom shall be cleared of any loose debris and any standing water.
- 10.3.3 Perforated pipe shall be installed with perforations down and a minimum of 4 inches of crushed stone below the pipe.
- 10.3.4 Crushed stone shall be wrapped in filter fabric as shown on the details provided on the plans. Fabric will not be placed on the seep side of the underdrain.
- 10.3.5 The under-drain shall be drained by solid SDR 35 PVC conveyance pipe. The pipe shall be bedded and backfilled with random fill extending a minimum of 12 inches all around the pipe. Random backfill shall comply with **Section 8.0 “Unclassified Excavation”, of the Specifications.**

10.4 Method of Measurement

- 10.4.1 Under-drain shall be measured based on a linear foot basis measured end to end of the installed and approved under-drain as shown on the plans, or as directed and approved by the WVDEP. Payment will not be made for aggregate materials which are wasted, carelessly strewn about the site, or not placed to the required thickness. No payment will be made for removal of debris, mine drainage sediment, or minor excavation required to allow proper placement of the stone. This work shall be subsidiary to the under-drain pay item and no separate payment will be made.
- 10.4.2 Excavation, stone, perforated 12 inch diameter SDR35 PVC pipe, and filter fabric shall be incidental to the under-drain pay item and no separate payment will be made.
- 10.4.3 Conveyance pipe measurement will be based on the linear foot, measured end to end for the solid pipe installed in accordance with the Plans and as approved by the WVDEP.

10.5 Basis for Payment

- 10.5.1 Payment for under-drain shall be made based on the unit price bid per linear foot installed in accordance with the Plans, these Specifications, and as directed and approved by the WVDEP. Payment for under-drain shall include all excavation and backfilling, stone, filter fabric, and piping necessary to install the under-drain

as shown on the Plans and described in these Specifications.

10.5.2 Payment for 12” Diameter SDR35 Solid PVC Conveyance Pipe shall be made based on the unit price bid in linear foot for pipe which is properly installed in accordance with the Plans and approved by the WVDEP. Payment for 12” diameter SDR35 Solid PVC conveyance pipe shall include all excavation and backfilling, any necessary cleanouts, bedding, and piping necessary to complete the work.

10.6 Pay Items

Item 10.1, “Site 2 Under-drain”, per linear foot.

Item 10.2, “Standard Under-drain”, per linear foot.

Item 10.3, “12” Diameter SDR 35 Solid PVC Conveyance Pipe”, per linear foot

11.0 BORING LOGS & WATER QUALITY TEST RESULTS

LOG OF BORING B-1A

**CIVIL TECH
ENGINEERING**

GRAFTON #4 REFUSE & HIGHWALL
TAYLOR COUNTY, WEST VIRGINIA

DEPTH (FEET)	SAMPLE TYPE	SOIL/ROCK DESCRIPTION	SPT BLOWS /FT.	REC. %	RQD %			
	AUGER	Brown Sandy Clay with rock fragments, moist 15'						
20	RC	Gray Claystone , very soft 30'		50	0			
	RC	Gray Shale , medium hard 38'		100	50			
40	RC	Dark Gray Shale with mud seams, soft 43'		95	27			
	RC	Gray Shale , Sandy medium hard to hard Vertical fracture at 54 ft. 56'		100	72			
60	RC	7 ft. Thick Solid Coal - Pittsburgh Seam 63' Gray Claystone , medium hard 66'		80	30			
80		Bottom of Core Boring @ 66 ft.						
100								
120								
140								

BORING LOCATION: SEE SITE PLAN
COMPLETION DEPTH: 66 ft.
ELEVATION: 1311 ft.
DATE STARTED/COMPLETED: 07/02/2013 -- 07/02/13
ENGINEER/GEOLOGIST: MEP
CIVIL TECH PROJECT NO.: 13103

NOTE:
 Solid coal encountered. Piezometer not installed.
 Boring backfilled at completion.
 Water level not measured.
 Boring 1B offset 50 ft. east along road.

LOG OF BORING B-1B

**CIVIL TECH
ENGINEERING**

GRAFTON #4 REFUSE & HIGHWALL
TAYLOR COUNTY, WEST VIRGINIA

DEPTH (FEET)	SAMPLE TYPE	SOIL/ROCK DESCRIPTION	SPT BLOWS /FT.	REC. %	RQD %			
	AUGER	Brown Sandy Clay with rock fragments, moist 15'						
20		Gray Claystone , very soft 31'		100	36			
40	RC	Dark Gray Shale with mud seams, soft 41'		100	36			
	RC	Gray Shale , sandy, medium hard to hard Sandstone layer 44.5 - 48.5' Vertical fracture at 45.5 ft.		100	88			
60	RC	57.5'		95	42			
	RC	7 ft. Thick Solid Coal - Pittsburgh Seam 64.5'		77	27			
		Gray Claystone , soft to medium hard 66'						
80		Bottom of Core Boring @ 66 ft.						
100								
120								
140								

BORING LOCATION: SEE SITE PLAN
COMPLETION DEPTH: 66 ft.
ELEVATION: 1311 ft.
DATE STARTED/COMPLETED: 07/02/2013 -- 07/03/13
ENGINEER/GEOLOGIST: MEP
CIVIL TECH PROJECT NO.: 13103

NOTE:
 Set 66 ft. 1 1/2 inch PVC with a 10 ft. screen at the bottom and 2 ft. of stickup
 Water measured at 44.3 ft. 7.3.13
 Water measured at 57.5 ft. 7.8.13
 Boring 1B offset 50 ft. east along road.

LOG OF BORING B-2

**CIVIL TECH
ENGINEERING**

GRAFTON #4 REFUSE & HIGHWALL
TAYLOR COUNTY, WEST VIRGINIA

DEPTH (FEET)	SAMPLE TYPE	SOIL/ROCK DESCRIPTION	SPT BLOWS /FT.	REC. INCHES				
	SS	Brown Sandy Clay with rock fragments, moist, soft to medium stiff	3	18				
5	SS		12	18				
10	SS		6	18				
15	SS		15'					
20	SS	Gray Shale, weathered, soft	50/1"	1				
25	SS		50/5"	5				
30	SS		50/5"	5				
30.4	SS		30.4	50/5"	5			
35		Bottom of Test Boring @ 30.4 ft.						

BORING LOCATION: SEE SITE PLAN
COMPLETION DEPTH: 30.4 ft.
ELEVATION: 1233 ft.
DATE STARTED/COMPLETED: 06/28/2013 -- 06/28/13
ENGINEER/GEOLOGIST: MEP
CIVIL TECH PROJECT NO.: 13103

NOTE: Water noted at 20 ft. during drilling. Boring dry at completion.

LOG OF BORING B-3

**CIVIL TECH
ENGINEERING**

GRAFTON #4 REFUSE & HIGHWALL
TAYLOR COUNTY, WEST VIRGINIA

DEPTH (FEET)	SAMPLE TYPE	SOIL/ROCK DESCRIPTION	SPT BLOWS /FT.	REC. %	RQD %			
	SS	Brown Sandy Clay with rock fragments, moist Medium Stiff	11					
	SS		7					
20	AUGER	40'						
40								
	RC	Gray Shale with coal laminations, medium hard		100	0			
60	RC	Lost core water return below 59 ft.		91	50			
	RC	Badly broken with vertical and high angle fractures		80	40			
80	RC	Void and mine roof collapse with fall-in over approx. 1 1/2 ft. of coal. Coal Floor @ 79 ft. 79' Gray Shale, hard 80'		40	10			
		Bottom of Core Boring @ 80.0 ft.						
100								
120								
140								

BORING LOCATION: SEE SITE PLAN
COMPLETION DEPTH: 80.0 ft.
ELEVATION: 1303 ft.
DATE STARTED/COMPLETED: 07/01/2013 -- 07/02/13
ENGINEER/GEOLOGIST: MEP
CIVIL TECH PROJECT NO.: 13103

NOTE:
 Set 80 ft. 1 1/2 inch PVC with a 10 ft.
 screen at the bottom and 1.5 ft. of stickup
 Water measured at 68.5 ft. 7.2.13
 Water measured at 68.5 ft. 7.3.13
 Water measured at 68.5 ft. 7.8.13

LOG OF BORING B-4

**CIVIL TECH
ENGINEERING**

GRAFTON #4 REFUSE & HIGHWALL
TAYLOR COUNTY, WEST VIRGINIA

DEPTH (FEET)	SAMPLE TYPE	SOIL/ROCK DESCRIPTION	SPT BLOWS /FT.	REC. %	RQD %			
	AUGER	Brown Sandy Clay , moist						
20		Brown Shale & Claystone , dry, soft						
40	RC	Tool chatter at 36 ft. Gray color and harder at 39.5'						
		Lost core water return below 40 to 43 ft.						
	RC	Mine Roof Collapse Lost core water 45 to 50 ft		20	0			
	RC	Roof collapse debris - shale and clay mix		20	0			
60		Coal - Approx. Mine Floor @ 50 ft.						
		Gray Claystone						
		Bottom of Core Boring @ 55 ft.						
80								
100								
120								
140								

BORING LOCATION: SEE SITE PLAN
COMPLETION DEPTH: 55 ft.
ELEVATION: 1327 ft.
DATE STARTED/COMPLETED: 07/08/2013 -- 07/08/13
ENGINEER/GEOLOGIST: MEP
CIVIL TECH PROJECT NO.: 13103

NOTE:
 Set 55 ft. 1 1/2 inch PVC with a 10 ft. screen at the bottom and 2 ft. of stickup
 Water measured at 31 ft. 7.8.13
 Water measured at 43.7 ft. 7.12.13

Client: TRIAD ENGINEERING INC-MORGANTOWN**Project:** 01-13-0298

The analytical results presented in this report were produced using documented laboratory SOPs that incorporate appropriate quality control procedures as described in the applicable methods. Verification of required sample preservation (as required) is recorded on associated laboratory logs. Any deviation from compliance or method modification is identified within the body of this report by a qualifier footnote which is defined at the bottom of this page.

All sample results for solid samples are reported on an "as-received" wet weight basis unless otherwise noted.

Results reported for sums of individual parameters, such as TTHM and HAA5, may vary slightly from the sum of the individual parameter results, due to rounding of individual results, as required by EPA.

The test results in this report meet all NELAP (and/or VELAP) requirements for parameters except as noted in this report.

Please note if the sample collection time is not provided on the Chain of Custody, the default recording will be 0:00:00. This may cause some tests to be apparently analyzed out of hold.

This report may not be reproduced, except in full, without the written approval of REIC.

DEFINITIONS:

MCL: Maximum Contaminant Level

MDL: Method Detection Limit; The lowest concentration of analyte that can be detected by the method in the applicable matrix.

Mg/Kg or mg/L: Units of part per million (PPM) - milligram per Kilogram (weight/weight) or milligram per Liter (weight/volume).

NA: Not Applicable

ND: Not Detected at the PQL or MDL

PQL: Practical Quantitation Limit; The lowest verified limit to which data is quantified without qualifications. Analyte concentrations below PQL are reported either as ND or as a number with a "J" qualifier.

Qual: Qualifier that applies to the analyte reported.

TIC: Tentatively Identified Compound, Estimated Concentration

Ug/Kg or ug/L: Units of part per billion (PPB) - microgram per kilogram (weight/weight) or microgram per liter (weight/volume).

QUALIFIERS:

X: Reported value exceeds required MCL

B: Analyte detected in the associated Method Blank at a concentration > 1/2 the PQL

E: Analyte concentration reported that exceeds the upper calibration standard. Greater uncertainty is associated with this result and data should be consider estimated.

H: Holding time for preparation or analysis has been exceeded.

J: Analyte concentration is reported, and is less than the PQL and greater than or equal to the MDL. The result reported is an estimate.

S: % REC (% recovery) exceeds control limits

CERTIFICATIONS:

Beaver, WV: WVDHHR 00412CM, WVDEP 060, VADCLS 00281, KYDEP 90039, TNDEQ TN02926, NCDWQ 466, PADEP 68-00839, VADCLS (VELAP) 460148

Bioassay (Beaver, WV): WVDEP 060, VADCLS(VELAP) 460149, PADEP 68-00839

Roanoke, VA: VADCLS(VELAP) 460150

Verona, VA: VADCLS(VELAP) 460151

Ashland, KY: KYDEP 00094, WVDEP 389

Morgantown, WV: WVDHHR 003112M, WVDEP 387

REI Consultants, Inc. - Analytical Report

WO#: 1307A77

Date Reported: 7/15/2013

Client:	TRIAD ENGINEERING INC-MORGANTOWN	Collection Date:	7/9/2013 12:40:00 PM
Project:	01-13-0298	Date Received:	7/10/2013
Lab ID:	1307A77-01A	Matrix:	Liquid
Client Sample ID:	B-1	Site ID:	GRAFTON REFUSE #4

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed
METALS by ICP		Method: SW6010C			SW3010A		Analyst: LF
Aluminum	30.2	0.060	1.00	NA		mg/L	7/11/2013 5:37 PM
Iron	62.7	0.100	1.00	NA		mg/L	7/11/2013 5:37 PM
Notes:							
Calculation of the percent recovery on the matrix spike for Al was not applicable since the spike added was <30% of the sample's background concentration.							
TOTAL DISSOLVED SOLIDS		Method: SM2540 C					Analyst: SF
Total Dissolved Solids	900	20	40	NA		mg/L	7/12/2013 1:27 PM
ACIDITY		Method: SM2310 B					Analyst: DSD
Acidity, Total	114	1.0	10.0	NA		mg/L	7/12/2013 10:57 AM
ALKALINITY		Method: SM2320 B					Analyst: DSD
Alkalinity, Total (As CaCO3)	67.4	1.0	10.0	NA		mg/L	7/12/2013 10:57 AM
pH - Lab Test, Hold Time Expired		Method: SM4500-H+-B					Analyst: DSD
pH	6.12	NA	NA	NA		SU	7/12/2013 10:57 AM

REI Consultants, Inc. - Analytical Report

WO#: 1307A77

Date Reported: 7/15/2013

Client:	TRIAD ENGINEERING INC-MORGANTOWN	Collection Date:	7/9/2013 10:30:00 AM
Project:	01-13-0298	Date Received:	7/10/2013
Lab ID:	1307A77-02A	Matrix:	Liquid
Client Sample ID:	B-3	Site ID:	GRAFTON REFUSE #4

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed
METALS by ICP		Method: SW6010C			SW3010A		Analyst: LF
Aluminum	41.7	0.060	1.00	NA		mg/L	7/11/2013 5:46 PM
Iron	163	0.100	1.00	NA		mg/L	7/11/2013 5:46 PM
TOTAL DISSOLVED SOLIDS		Method: SM2540 C					Analyst: SF
Total Dissolved Solids	1,160	25	50	NA		mg/L	7/12/2013 1:27 PM
ACIDITY		Method: SM2310 B					Analyst: DSD
Acidity, Total	287	1.0	10.0	NA		mg/L	7/12/2013 10:57 AM
ALKALINITY		Method: SM2320 B					Analyst: DSD
Alkalinity, Total (As CaCO3)	ND	1.0	10.0	NA		mg/L	7/12/2013 10:57 AM
pH - Lab Test, Hold Time Expired		Method: SM4500-H+-B					Analyst: DSD
pH	3.87	NA	NA	NA		SU	7/12/2013 10:57 AM

REI Consultants, Inc. - Analytical Report

WO#: 1307A77

Date Reported: 7/15/2013

Client:	TRIAD ENGINEERING INC-MORGANTOWN	Collection Date:	7/9/2013 2:40:00 PM
Project:	01-13-0298	Date Received:	7/10/2013
Lab ID:	1307A77-03A	Matrix:	Liquid
Client Sample ID:	B-4	Site ID:	GRAFTON REFUSE #4

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed
METALS by ICP		Method: SW6010C			SW3010A		Analyst: LF
Aluminum	24.7	0.060	1.00	NA		mg/L	7/11/2013 5:49 PM
Iron	63.5	0.100	1.00	NA		mg/L	7/11/2013 5:49 PM
TOTAL DISSOLVED SOLIDS		Method: SM2540 C					Analyst: SF
Total Dissolved Solids	1,300	25	50	NA		mg/L	7/12/2013 1:27 PM
ACIDITY		Method: SM2310 B					Analyst: DSD
Acidity, Total	138	1.0	10.0	NA		mg/L	7/12/2013 10:57 AM
ALKALINITY		Method: SM2320 B					Analyst: DSD
Alkalinity, Total (As CaCO3)	83.2	1.0	10.0	NA		mg/L	7/12/2013 10:57 AM
pH - Lab Test, Hold Time Expired		Method: SM4500-H+-B					Analyst: DSD
pH	6.04	NA	NA	NA		SU	7/12/2013 10:57 AM



CHAIN OF CUSTODY RECORD

TRIAD ENGINEERING, INC., P.O. Box 889, 219 Heartman Run Rd., Morgantown, WV 26505 PHONE (304) 296-2562 FAX (304) 296-8739

RESULTS TO: <u>Julie Barry</u>					Laboratory Delivery Group					PAGE <u>1</u> of <u>1</u>		
PHONE: <u>304-296-2562</u> FAX:					# CONTAINERS	PRESERV see key	<u>2</u>	<input checked="" type="checkbox"/>				TURNAROUND TIME <input checked="" type="checkbox"/> STD
PROJECT: <u>Grafton Refuse #4</u> SITE: <u>Grafton Refuse #4</u>						SAMPLE TYPE C= COMP G= GRAB	ANALYSIS / METHOD					<input type="checkbox"/> 24hr <input type="checkbox"/> 48hr <input type="checkbox"/> 72hr <input type="checkbox"/> 1 wk
PROGRAM: PROJECT #: <u>01-13-0298</u>							<u>6010 B</u>	<u>total Fe, total Al</u>	<u>PH, Acidity, Alkalinity, TDS</u>			
LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	# CONTAINERS						REMARKS	
	<u>B-1</u>	<u>7/9/13</u>	<u>1240</u>	<u>water</u>	<u>2</u>	<u>G</u>	<u>1</u>	<u>1</u>				
	<u>B-3</u>	<u>7/9/13</u>	<u>1030</u>	<u>water</u>	<u>2</u>	<u>G</u>	<u>1</u>	<u>1</u>				
	<u>B-4</u>	<u>7/9/13</u>	<u>1440</u>	<u>water</u>	<u>3</u>	<u>G</u>	<u>1</u>	<u>2</u>				
Collected / Relinquished By (1)						Special Instructions						
<u>J. Barry / Julie G. Barry</u>		Date	Time	Received By		<u>TEMP 3C</u>					<u>Not Rec Containers</u>	
<u>J. McGee</u>		Date	Time	Received By		<input type="checkbox"/> EDD <input type="checkbox"/> Report to MDL <input type="checkbox"/> Report QC Data <input type="checkbox"/> CLP-like Data Deliverable						
		<u>7/10/13</u>	<u>1215</u>									

PRESERVATION KEY: 0 - Ice Only 1 - HCl 2 - HNO₃ 3 - H₂SO₄ 4 - Na₂S₂O₅ 5 - MeOH 6 - NaOH Pink = Sampler Copy Yellow = Lab Copy White = Return with Results

LEE-GRAPHICS, INC.

Grafton #4 Refuse & HW

DEP16587

Contractor's Bid Sheet

Company Name: _____

Address: _____

NOTE: The DEP reserves the right to request additional information and supporting documentation regarding unit prices when the unit price appears to be unreasonable.

ITEM NO.	QUANTITY		DESCRIPTION	UNIT PRICE (\$)	AMOUNT (\$)
1.0	1	LS	Mobilization and Demobilization (Limited to 10% of Total Bid)		
2.0	1	LS	Construction Layout Stakes (Limited to 3% of Total Bid)		
3.0	1	LS	Quality Control (Limited to 2% of Total Bid)		
4.1	1	LS	Site Preparation (Limited to 10% of Total Bid)		
4.2	200	LF	Remove and Replace Existing Fence		
4.3	100	LF	Install and Remove Temporary Fence		
5.1	3	EA	Stabilized Construction Entrance		
5.2	3600	LF	Silt Fence		
5.3	6672	LF	Wattles		
5.4	19	EA	Ditch Check		
5.5	430	LF	Temporary Ditch		
5.6	180	LF	Temporary 15" Diameter HDPE CPP		
5.7	1	EA	Dewatering Bag		
6.0	23	AC	Revegetation (per plan view acre)		
7.1	433	LF	2H:1V Rip Rap "Vee" Channel - 2 ft. deep		
7.2	219	LF	2H:1V Grouted Rip Rap Vee Channel - 2 ft. deep		
7.3	1600	SY	Erosion Control Matting for Toe Ditch		
7.4	3	EA	Splash Pad		
7.5	6	EA	Grouted Rip Rap Vee Channel Road Crossing		
7.6	426	LF	Rip Rap Armored Erosion Feature or Existing Channel		
8.1	30169	CY	Unclassified Excavation		
8.2	938	TN	No. 1 Stone Fill		
8.3	938	TN	No. 57 Stone Fill		
9.1	5	EA	Wet or Modified Wet Mine Seal		
9.2	1	EA	Single 36" Diameter Dry Bat Gate Mine Seal		
9.3	1434	LF	Mine Seal Conveyance Pipe		
9.4	100	BAG	Soda Ash Briquettes		
10.1	300	LF	Site 2 Under-drain		
10.2	100	LF	Standard Under-drain		
10.3	178	LF	12" Diameter SDR 35 Solid PVC Conveyance Pipe		
			TOTAL		