WEST VIRGINIA

DEPARTMENT OF ENVIORNMENTAL PROTECTION

OFFICE OF ABANDONED MINE LANDS
AND RECLAMATION

COUNTY
OF

LOGAN

NAME OF PROJECT

SWITZER (ELLIS) DRAINAGE

NOTICE

ALL PAPERS BOUND WITH OR ATTACHED TO

THE BID FORM ARE A NECESSARY PART

THEREOF AND MUST NOT BE DETACHED

PROJECT SPECIFICATION BOOK

INDEX

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ARTICLE I - DEFINITIONS

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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 "Regional Engineer or Engineer" refers to the head of the Construction Group of the Office of Abandoned Mine Lands & Reclamation of the West Virginia Department of Environmental Protection in each regional office.

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 "Cabinet Secretary" refers to the Cabinet Secretary of the West Virginia Department of Environmental Protection.

9.0 "DEP" means the West Virginia Department of Environmental Protection.

10.0 "Design 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.**

15.0 **"Stabilization Measures" as noted in Section 5 Vegetative Practices shall be understood to mean and include any/all measures necessary for preventing erosion & sediment to the project site. This may include seeding and mulching, mulching without seed, silt fence, wattles. Check dikes, sumps or any other method required to stabilize a site that work has stopped for a time exceeding fourteen (14) days.**

ARTICLE II - GENERAL CONDITIONS

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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 II - GENERAL CONDITIONS

1.0 ENUMERATION OF CONTRACT DOCUMENTS

1.1 Drawings

Construction drawings (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 Chief or his/her authorized

representative shall be immediately notified thereof. No work so affected by such circumstances shall proceed until the Chief 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

of a trade guarantee custom or a special guarantee provision, the work, both as to the materials and workmanship, shall upon acceptance of final inspection 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.Failure to perform warranty work shall extend performance time until work is completed and accepted

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 three (3) 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 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.

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 contractor signs the co-applicant form and submits to the Office of Abandoned Mine Lands.. 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.

Co-Applicant #1 Signature Page

Co-Applicant#1: _____

New and/or Modification of NPDES Storm Water of 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 05, 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) DATE

Print Name:_____

Print Title: _____

Address: _____

City: _____State:_____ Zip:_____

Telephone Number: (____)_____-_____

Email: _____

FEIN: _____

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 29 CRF 1926. 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.

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 Regional Engineer, 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 Regional Engineer.

The amount of reimbursement claimed by the Contractor for work arising out of any emergency situation shall be determined by the Chief 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. Any property owner requiring additional insured shall be added to this policy.

(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.

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.

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. This rate shall include and and all time an employee is on the project.

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.

(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.

(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 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. 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.

13.2 Delays & Extensions of Time.

(d) 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.

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.

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.

(d) 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.

© 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.

14.4 Payments Withheld.

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

(b) 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.

(b) 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 by the Contractor prior to final inspection conference.

(b) Final payment to the Contractor will be processed by DEP upon fulfillment of the provisions of the contract documents and the conditions thereof.

(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.**

(v) **Affidavate of Payment**

(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 preceeding 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.

DEPARTMENT OF ENVIRONMENTAL PROTECTION / OFFICE OF ABANDONED MINE LANDS & RECLAMATION

AML-7
Revised 5/09

APPLICATION AND CERTIFICATE FOR PAYMENT

Project Name: _____

Contractor: _____

Address: _____

ATTN (AML&R Inspector): _____

Application No: _____

Application Date: _____

Performance Period From: _____ To: _____

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#:

FEIN/SS#: _____

FIMS Vendor # _____

Office/App

Date

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

% COMPLETE: (Total Completed & Stored to Date ÷ Contract Sum to Date) x 100 = _____

Contractor: _____
Original Signature (Blue Ink)

DEPARTMENT OF ENVIRONMENTAL PROTECTION / OFFICE ABANDONED MINE LANDS & RECLAMATION

AML-7A
Revised 6/00

CONTINUATION SHEET OF APPLICATION AND CERTIFICATE FOR PAYMENT

Project Name:__________________ Application No:__________

Page ___ of ___ pages

BID SCHEDULE PER CONTRACT				UNITS THIS APPLICATION	TOTAL COMPLETED AND STORED TO DATE	
ITEM # **A**	DESCRIPTION **B**	UNITS **C**	UNIT BID PRICE **D**	UNITS **E**	UNITS **F**	COST **G=(DxF)**
					SUBTOTAL OR TOTAL	

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. An increase in the Surety Bond will be required to equal any increases to the contract amount created by a change order.

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 Cabinet Secretary 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 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 All performance bonds shall be in effect throughout the one-year guarantee period set out in Section 5.0. 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.

(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 Chief is the only individual who can execute a change order committing DEP to the expenditure of public funds. No person other than the Chief 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 Chief 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 Chief 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.

16.3 Minor Changes in the Work.

Notwithstanding the requirements of Section 16.2 above, the Regional Engineer 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

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.

OMB #1029-0119
Expiration Date: 1/31/16

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 REQUIREMENTS

ARTICLE III - 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 III - 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 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:

ARTICLE III - GENERAL REQUIREMENTS

2.0 QUALITY STANDARDS, APPROVALS

2.1 Not withstanding 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 Regional Engineer 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

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 after the pre-bid conference has ended will not be permitted to sign the attendance sheet or bid on the project work.

(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 Regional Engineer, Construction 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 Regional Engineer'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 Regional Engineer.

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 Regional Engineer in any way, or releasing the Contractor from fulfilling all of the terms of the contract.

5.3 If a problem arises that that the contractor will not correct and 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.

ARTICLE III - GENERAL REQUIREMENTS

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 Reginal Engineer 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 Regional Engineer 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 Regional Engineer.

(c) The Contractor shall not be relieved of responsibility for any deviation from the requirements of the contract documents by the Regional Engineer'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 Regional Engineer, and a number of copies and samples being retained by the Contractor as required for the execution of its work.

(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 Regional Engineer. 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 Regional Engineer 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 Regional Engineer shall be notified of any differences found and work shall not proceed thereon until the Regional Engineer 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 Regional Engineer's approval. Volume and weight measurements shall be submitted to the Regional Engineer 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 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 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

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 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.

(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 III - 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) Sign face shall be 3/4" Marine Exterior plywood or aluminumor composite material. Posts and cross-brace shall be No. 2 Grade Pine or Fir, kiln dried and pressure treated.

(b) 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.

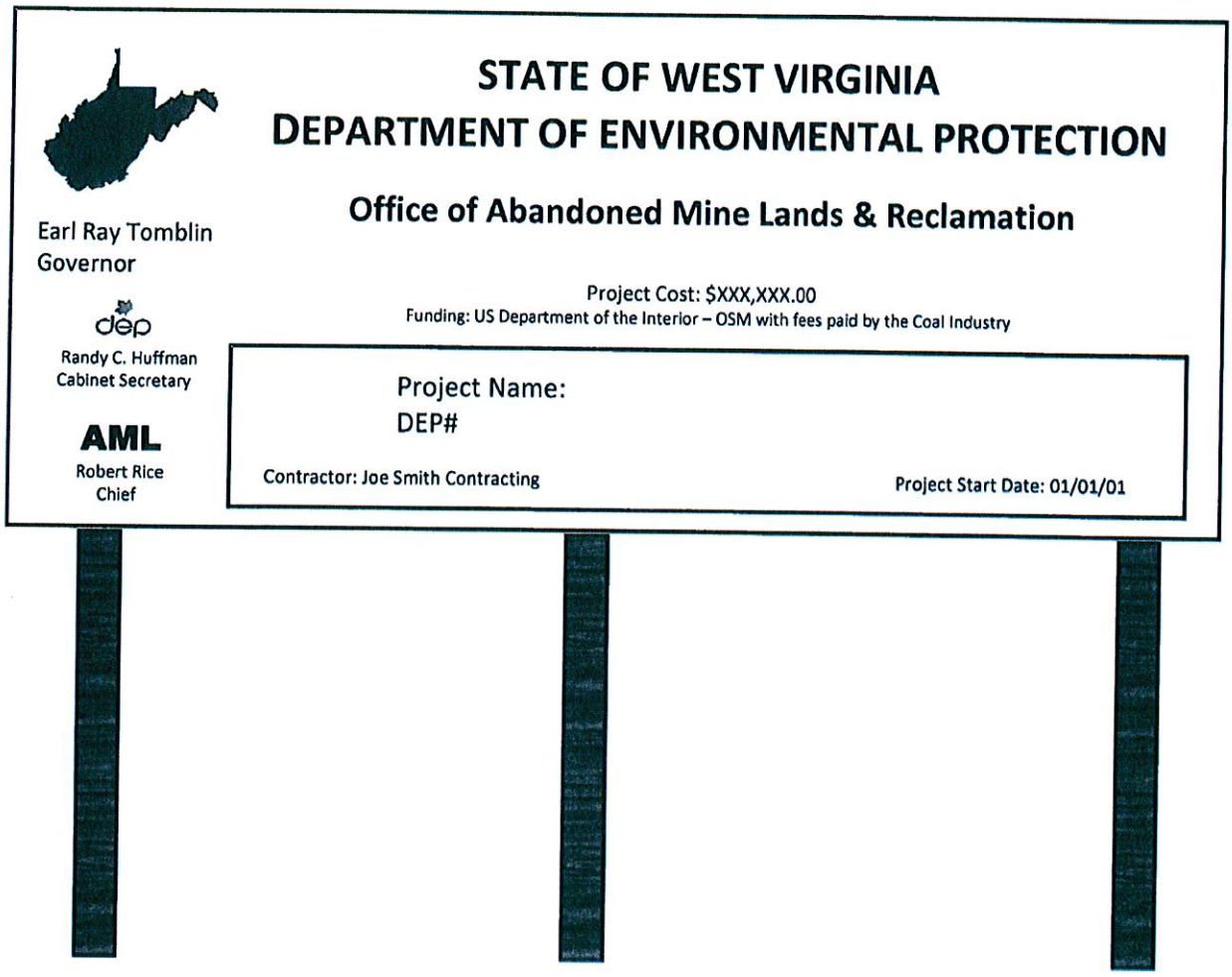
(3) All hardware shall be hot-dip galvanized in accordance with ASTM A-153.

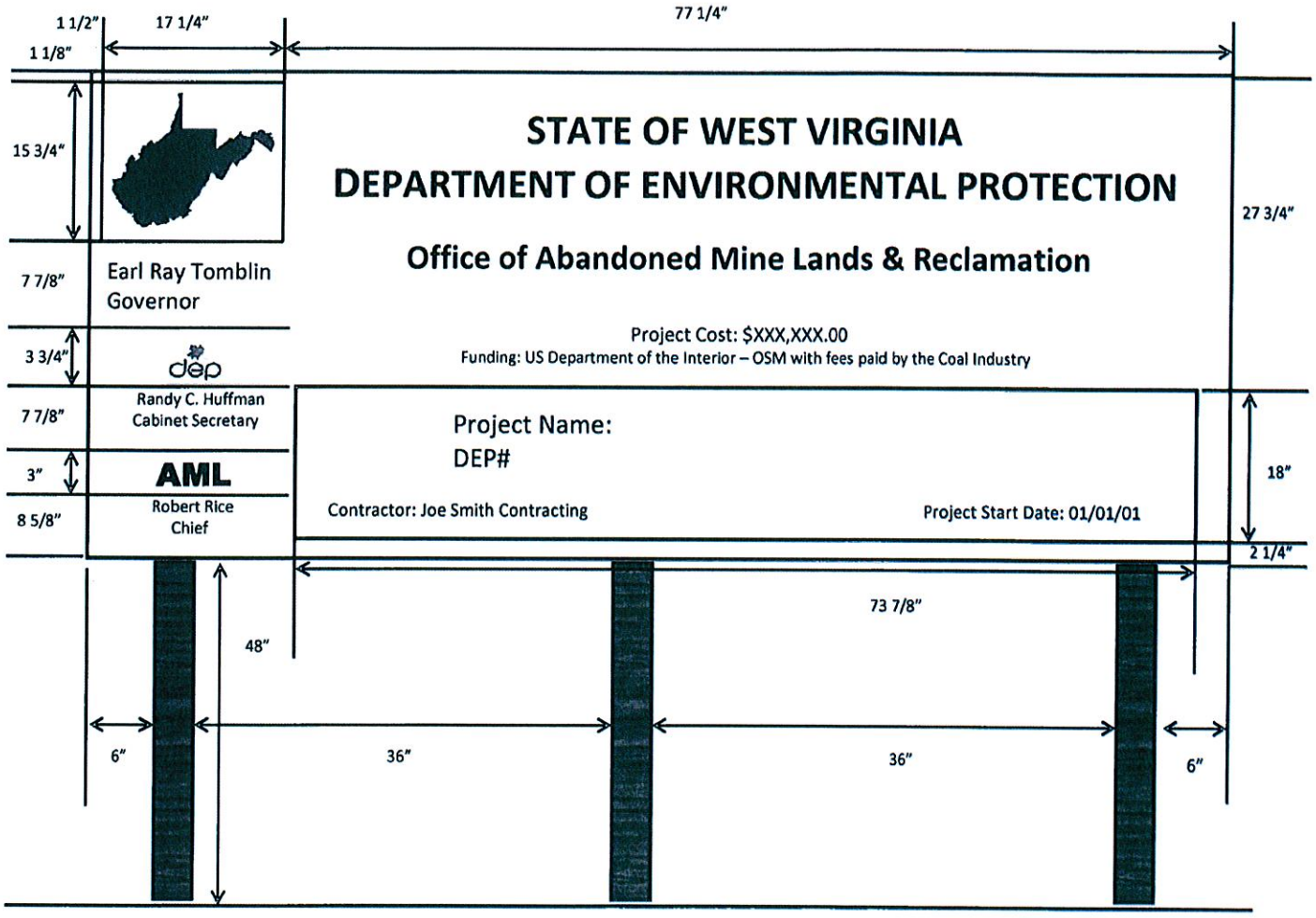
13.3 Execution.

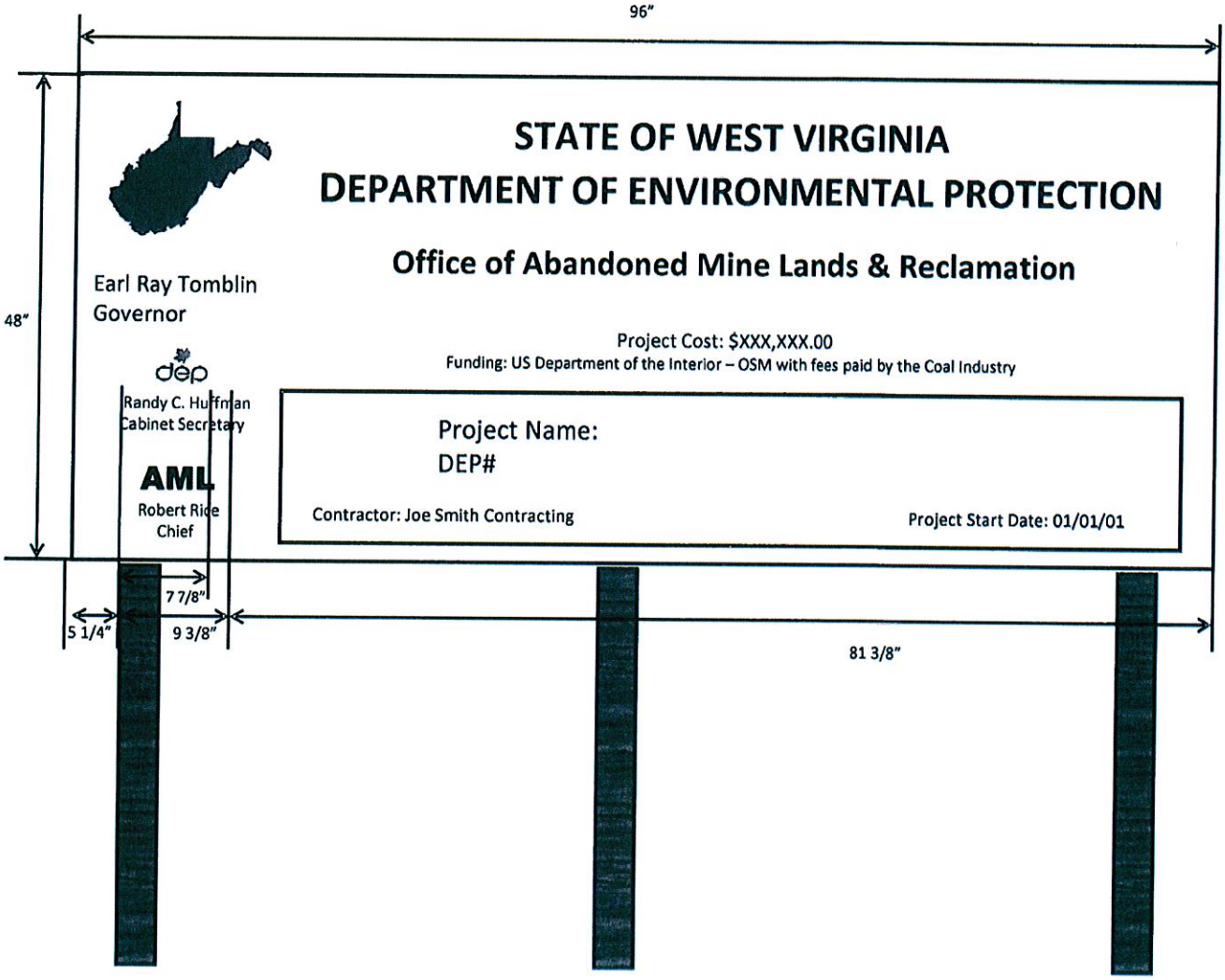
(a) Project Sign. The sign board shall be cut to the dimensions shown on the detail herein. The sign shall painted with one (1) coat of primer and two (2) coats of white enamel. All exterior cut edges shall be smooth sanded prior to painting. All edges shall be double primed. The letters, border and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

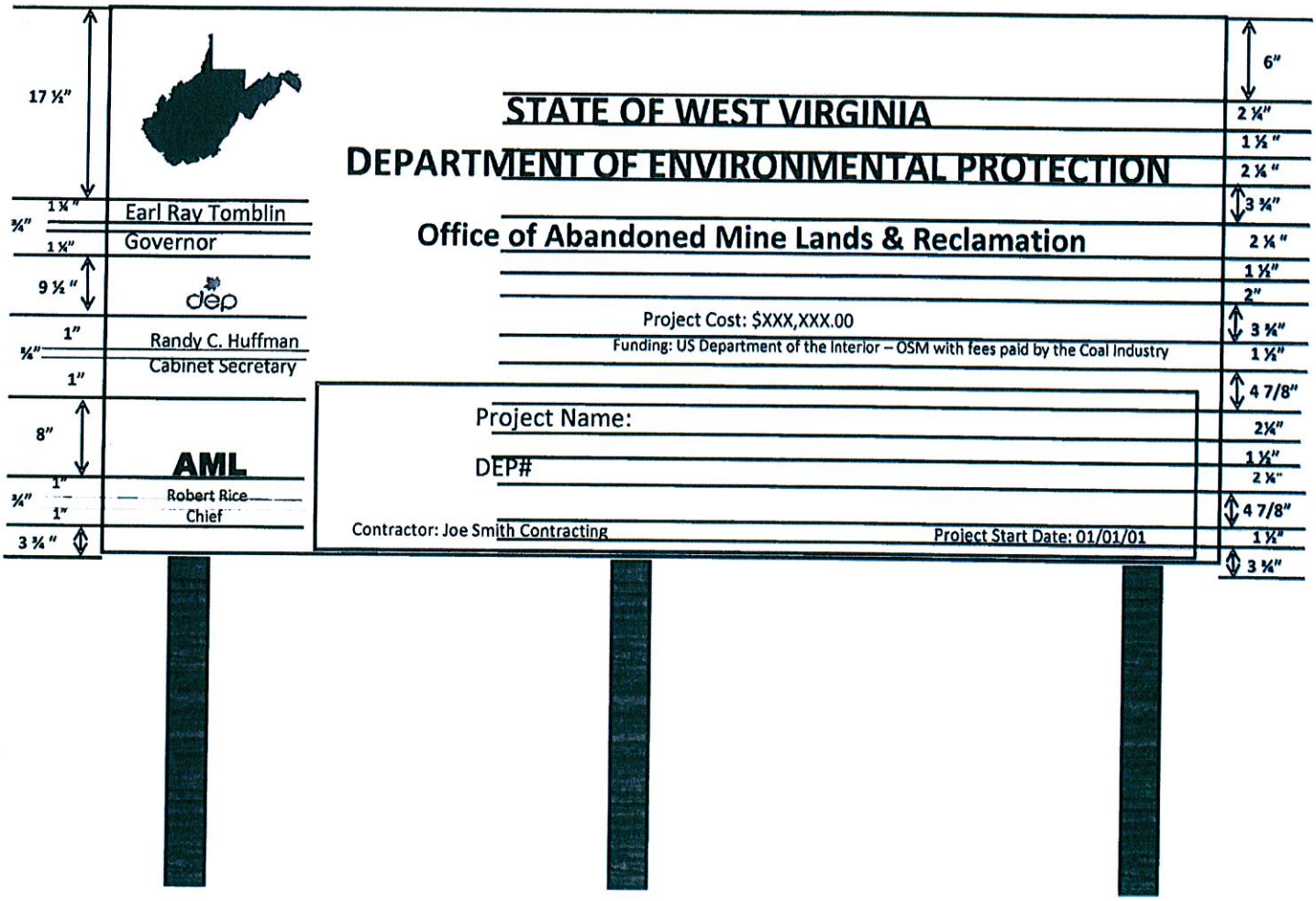
The Contractor shall bolt the sign to posts and provide required cross-bracing. The posts and sign shall be erected and posts set in gravel base, as shown on the drawings. One (1) sign is required and is to be located at the discretion of the Inspector.

(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
dep
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

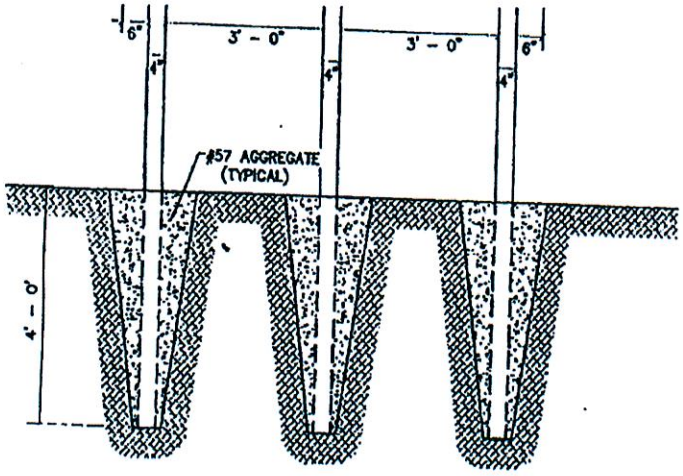

1 1/2"
17 1/4"
77 1/4"
1 1/8"
15 3/4"
27 3/4"
STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Office of Abandoned Mine Lands & Reclamation
7 7/8"
Earl Ray Tomblin
Governor
Project Cost: $XXX,XXX.00
Funding: US Department of the Interior – OSM with fees paid by the Coal Industry
3 3/4"
dep
7 7/8"
Randy C. Huffman
Cabinet Secretary
Project Name:
DEP#
18"
3"
AML
8 5/8"
Robert Rice
Chief
Contractor: Joe Smith Contracting
Project Start Date: 01/01/01
2 1/4"
73 7/8"
48"
6"
36"
36"
6"

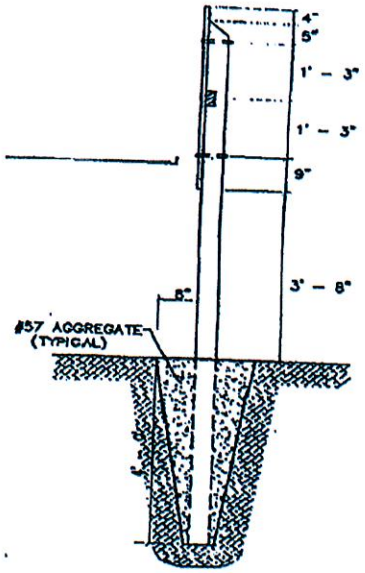

96"
48"
STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Office of Abandoned Mine Lands & Reclamation
Earl Ray Tomblin
Governor
dep
Randy C. Huffman
Cabinet Secretary
AML
Robert Rice
Chief
Project Cost: $XXX,XXX.00
Funding: US Department of the Interior – OSM with fees paid by the Coal Industry
Project Name:
DEP#
Contractor: Joe Smith Contracting
Project Start Date: 01/01/01
7 7/8"
5 1/4"
9 3/8"
81 3/8"


17 ½"
1 ¼"
¾"
1 ¼"
9 ½"
1"
¼"
1"
8"
1"
¾"
1"
3 ¾"
Earl Ray Tomblin
Governor
dep
Randy C. Huffman
Cabinet Secretary
AML
Robert Rice
Chief
STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Office of Abandoned Mine Lands & Reclamation
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 ¼"
1 ¼"
2 ¼"
3 ¾"
2 ¼"
1 ½"
2"
3 ¾"
1 ½"
4 7/8"
2¼"
1 ½"
2 ¼"
4 7/8"
1 ½"
3 ¾"

Notes:

1. Sign board to be ¾" 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 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.





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 it sub-contractors.

14.3 Final.

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 hold final payment until the cleanup work is completed.

15.0 TESTING.

15.1 When Testing Required.

Testing shall be performed as required by the specifications or ordered by the Regional Engineer. The Regional Engineer 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 civil 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 III - 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 Licensed Land Surveyor 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 ☐
Test Results ☐
Other (explain) ☐

Field Changes ☐
Explanation of work stoppages not due to weather ☐

ARTICLE IV – SPECIAL CONDITIONS

ARTICLE IV - 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 IV - 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 IV - SPECIAL CONDITIONS

2.0 EROSION & SEDIMENT CONTROL

The manual entitled "West Virginia Department of Enviromental Sediment Contol Design Manual BMP", 2006, 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 plans and/or specification book shall prevail and be followed.

DISCLOSURE OF LOBBYING ACTIVITIES

Approved by OMB
0348-0046

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352
(See reverse for public burden disclosure.)

1. Type of Federal Action:	2. Status of Federal Action:	3. Report Type:
☐ a. contract b. grant c. cooperative agreement d. loan e. loan guarantee f. loan insurance	☐ a. bid/offer/application b. initial award c. post-award	☐ a. initial filing b. material change **For Material Change Only:** year _____ quarter _____ date of last report _____

4. Name and Address of Reporting Entity:	5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime:
☐ Prime ☐ Subawardee Tier _____, *if known*: **Congressional District**, *if known*: 4c	**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.

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 Chief 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 IV - 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 IV - 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** _____

ARTICLE V - 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

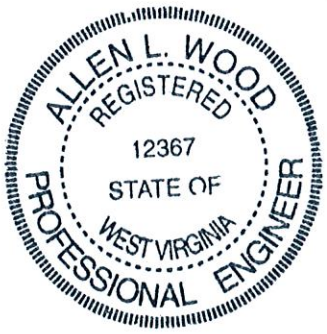
ARTICLE VI - CONSTRUCTION SPECIFICATIONS

CONSTRUCTION SPECIFICATIONS

SWITZER (ELLIS) DRAINAGE

LOGAN COUNTY, WEST VIRGINIA

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

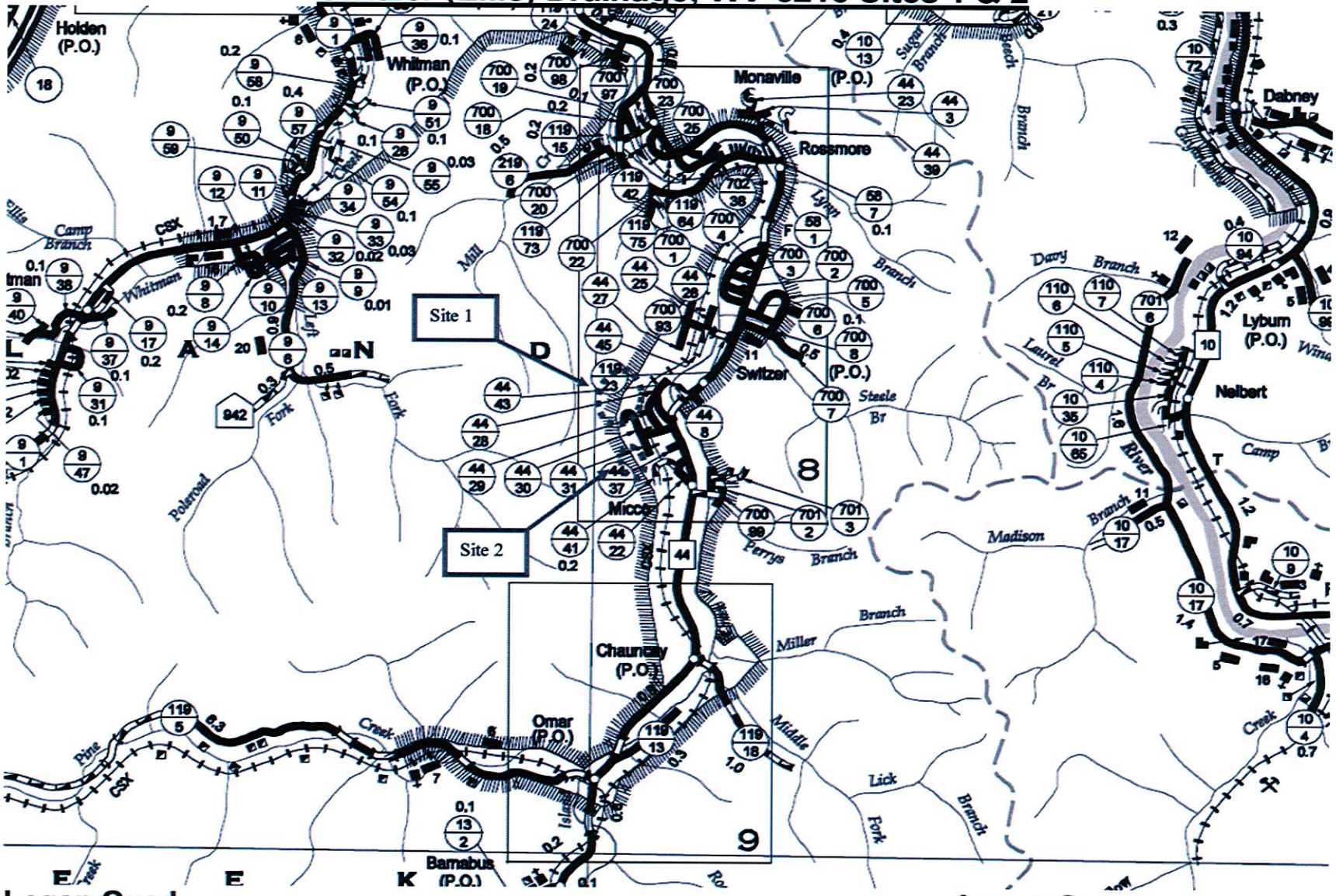


FEBRUARY 2015

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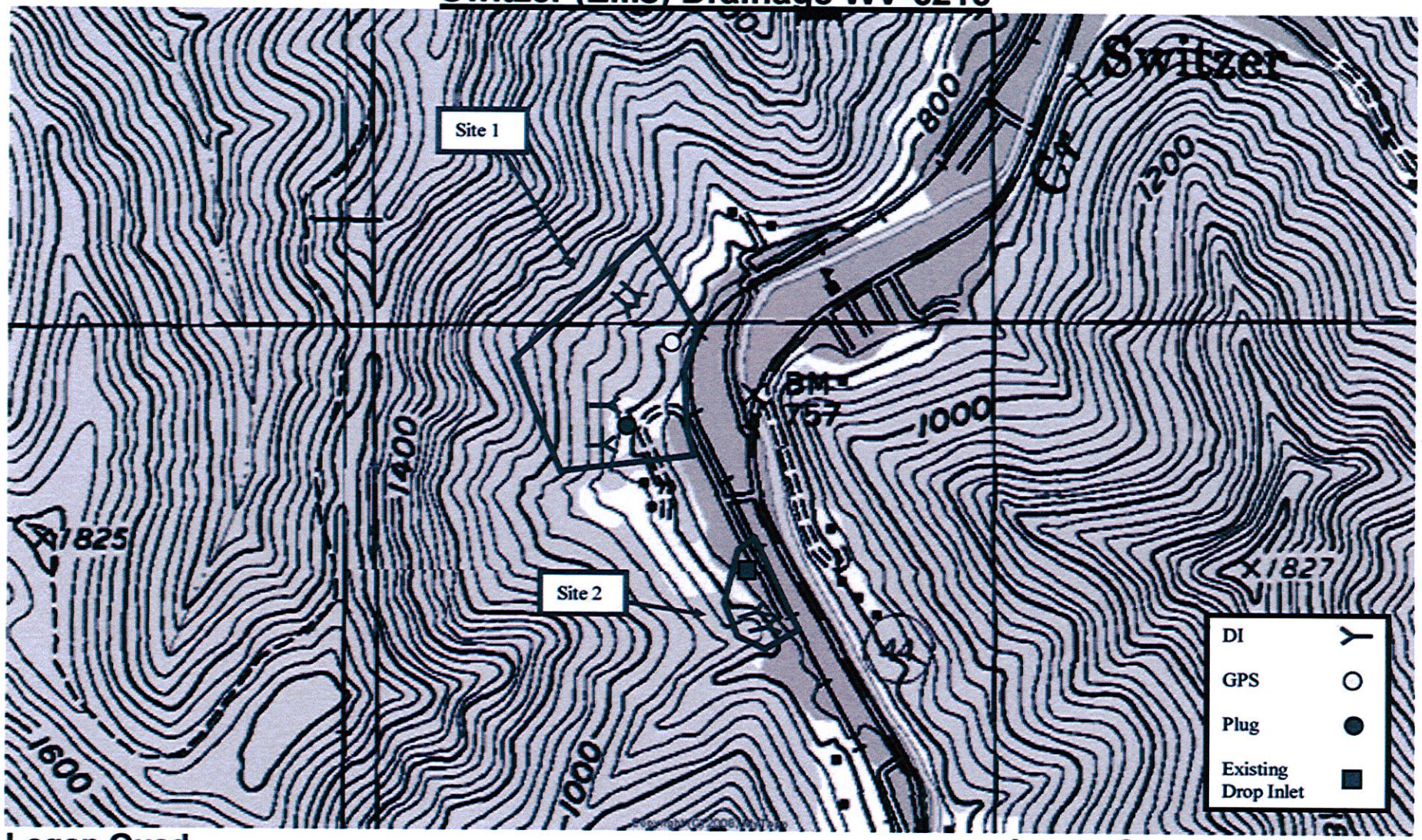
Highway Map
Switzer (Ellis) Drainage; WV-6216 Sites 1 & 2



Logan Quad
Latitude: 37° 47' 23.17"

Logan County
Longitude: 81° 59' 39.08"

Project Location Map
Switzer (Ellis) Drainage WV-6216



Logan Quad
Latitude: 37° 47' 23.17"

Logan County
Longitude: 81° 59' 39.08"

Scale: 1 inch = 750 Feet

Switzer (Ellis) Drainage

I. SPECIAL PROVISIONS

I. LOCATION / SITE DESCRIPTION

The Switzer (Ellis) Drainage project off Route 44 is located in the community of Switzer. The project consists of two sites. Site 1 consists of a collapsed draining portal and a clogged drainage near residences. Site 2 consists of a saturated area and clogged drainage.

Directions to site:

Site No. 1: From Charleston, take 119S to Logan (Rt. 73 / Rt. 10); Turn Left @ light (Rt. 73E), and drive 2.2 miles; Go Straight onto Rt. 44S and drive 5.6 miles; Turn Right (@ blue 2-story house, just past Upper Switzer Rd); continue straight, cross RR tracks; Turn Right onto Chassie Lane and go 0.1 mile; Turn Right (Straight) onto Shiney Drive; continue up driveway to tan modular home. Access is through series of switch-backs from top corner of driveway (right of culvert).

Site No. 2: From Site No. 1, continue back to RR crossing, continue straight (roads turn into Polaris Dr.) and continue to end of road. Site is located behind last two houses on street. The Johnson's live in trailer perpendicular to road.

The GPS location is as follows: 37° 47' 23.17" 81° 59' 39.08"

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

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

All references 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 references 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.

All references 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 references 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 references to "AMD" shall be understood to mean all acid mine drainage discharges from the project site.

All references to "OSM" shall be understood to mean Office of Surface Mining.

All references to "NEPA" shall be understood to mean National Environmental Policy Act.

III. 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:

- providing sediment control as shown on the plans;
- Install Construction Entrances;
- Eliminate Drill Access Roads;
- Open mine portal and install Wet/Modified Mine Seal
- Install Grouted Rock Rip Rap Lined Channels and Grass Lined Channels and French Drains;
- Install Conveyance pipes and Inlets and Manholes and Trash Rack;
- Install check dams;
- Cleanout Road Ditches;
- Asphalt Repair;
- Re-grade and re-vegetate all disturbed areas of the yard;

The Contractor shall also be responsible for surveying, including establishing construction baseline, measuring and developing all completed quantities on the job, and the 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.

IV. BIDDERS TO EXAMINE LOCATION

Prospective bidders are required to examine the locations of the proposed work and to determine, each in their own way, the difficulties which may be encountered in the prosecution 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 of test borings etc. at the site, they should obtain their own permission from the landowners.

V. 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 prosecute 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 Engineer 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 work hours on this project shall be between 7:00 am and 7:00 pm Monday through Saturday. Work on Sundays and major holidays will not be allowed on this project.

VI. MEASUREMENT OF QUANTITIES

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

VII. BORROW (DISPOSAL) AREAS

All borrow (disposal) areas must be approved by WVDEP. Should the Contractor decide to obtain and utilize any borrow areas outside of construction limits, or

move material from one property owner to another, unless designated on the plans, the Contractor shall be responsible to obtain from the property owner(s) of the borrow 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 injury or damages whatsoever resulting from the use of the property.

The Contractor also shall submit a borrow/disposal area reclamation plan 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 disposal areas.

a. No borrow (disposal) site operations will affect a site listed in, eligible for 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 reclamation 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.

VIII. DISPOSAL OF UNSUITABLE MATERIAL

All waste areas shall be obtained in accordance with Special Provisions Section VII (Borrow/Disposal Areas) 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 Sections 4.2.8 of these Specifications. Wood may be burned in conformity with Sections 4.2.7 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 VII of these Specifications.

IX. 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.

X. 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.

XI. REGULATIONS

All appropriate townships, 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. The Contractor shall keep the existing roads open and safe to public vehicular traffic as shown on the DOH approved Traffic Control Plan and Permit. The contractor shall provide appropriate barriers and warning devices as directed by the Engineer.

XII. 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.

XIII. PERMITS, LICENSES AND FEES

The Contractor shall procure all 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 not be limited to: Water Quality Certification from WVDEP and burning permits from WVDNR and WVDEP Office of Air Quality. A copy of the permit/permits as procured shall be furnished to the Owner prior to initiation of the work under this Contract. The WVDEP will obtain the Permits (MM 109 Form) from WVDOH and NPDES from WVDEP and an OCOE Regional permit if required. The contractor, after the award of the Contract, shall become a Co-Applicant to the NPDES permit as per the Article II, Section 5 of these specifications.

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.

The WVDEP DWWM will notify the Contractor and WVDEP-AML when 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 submittal 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 area 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 the 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.

XIV. ELECTRICITY, WATER SUPPLY AND SANITARY FACILITIES

There are no available supplies of electricity, water or sanitary facilities at the site. Arrangements for connecting to 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 Department.

XV. 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 Owner. 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 Engineer immediately and make, or have made, all necessary repairs and bear the expense thereof and resulting damages caused thereby. It shall be the responsibility of the Contractor to arrange for relocating the utility lines, where required and as directed by the Engineer, 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. 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 name and phone number of the WVMIS Utility location service and of the utility companies are as follows: WVMIS1-800-245-4848.

XVI. 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. The Contractor shall be responsible for the removal of the project sign prior to the final inspection of the project, and upon approval from the WVDEP.

XVII. ROCK BLASTING

All blasting operations shall be conducted in strict accordance with applicable state and federal laws relating to rock blasting and the storage and use of explosives. The contractor shall maintain and keep in full force and effect blasting insurance to protect and indemnify the Owner and/or his agents or representative from claims for damages and shall defend all suits at law. The Contractor shall submit to the Owner a request for permission to blast rock, a reclamation plan for the area to be disturbed, and proof of 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. There shall be no blasting permitted on this project.

XVIII. 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 access roads shall be approved by the Engineer 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 Engineer.

XIX. 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 and filling operations. Ground water may be encountered at various locations within the proposed work areas.

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

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 for taking 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 disturbed by construction under this contract to original condition or better.

The Contractor shall be responsible for the replacement of any existing boundary or survey corner markers disturbed by construction activities.

XX. 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 Department's Field Representative and/or Engineer at the site is to provide the Department 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.

XXI. 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

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.

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 sites and for the establishment of the Contractor's offices, 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 the Contractor's office 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, restoration of any damage to existing site improvements resulting from the Contractor's activities at the site; and installation of the project sign. All equipment and material storage areas shall be approved by WVDEP.

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 all "As-Built" drawings are submitted and approved by WVDEP.

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 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

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/waste 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 Engineer. Additionally, this item shall also include the preparation of "As-Built" Plans including the Reclamation Plan and any others specifically requested by the WVDEP. All of these "As-Built" Plans shall be provided prior to the Final Inspection Meeting. Upon receipt and approval of the "As-Built" Plans by WVDEP, the final one-half of the amount bid for Mobilization under Section 1 shall be released with the estimate payable.

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.

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 Engineer. The Contractor shall furnish a copy of his/her survey records for review by the Engineer and for the Owner's permanent file. These records shall be furnished as they are completed during the progress of the work.

Any inspection or review of the Contractor's layout by the Engineer 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.

1.3.4 The Contractor shall exercise care in the preservation of stakes and benchmarks, including existing property line 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 done under the supervision of, or directed by, a Registered Professional Civil Engineer or Licensed Land Surveyor registered in the State of West Virginia.

1.3.5 As-Built plans shall be provided to the Engineer prior to the Final Inspection Meeting. The As-Builts shall include two copies of the plans on CD-ROM or DVD and two paper copies of the plans with the same size and scale as contained on the original plans. The As-Builts shall show all horizontal and vertical dimensions of all installed components (i.e. pipes, drop inlets and manholes). The As-Builts submitted on the CD-ROM or DVD shall be in the AutoCAD 2007 format.

2.4 Measurement and Payment

Measurement and payment 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". The lump sum payment also shall include the cost for providing the Engineer pre- and post- construction ground line cross-sections for all disturbed or re-graded areas including borrow areas and "As-Built" Plans as described herein. Said lump sum bid cannot be more than 5% of the TOTAL AMOUNT BID for the project. Neither deduction nor increase will be made in the lump sum "Construction Layout" item amount regardless of decreases or increases in the final total contract amount or for any other cause.

2.5 Pay Item

Item 2.0, "Construction Layout", per lump sum cannot be more than 5% 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.

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 Engineer for all offsite 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, concrete and grout to be used in this project. As a minimum, these tests will include moisture content & density tests of the soil 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, compressive strength test for grout in accordance with ASTM C109, and for concrete in accordance with ASTM C31 & C39.

3.3 Construction Methods

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. The laboratory must be approved by the Owner.

3.3.2 Testing for compaction, soil nutrient and lime requirements for soil, compressive strength tests for concrete and grout, shall be performed as required by these specifications and /or ordered by the Engineer in writing. The Engineer 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, 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 Engineer for approval of compaction criteria prior to compacting the fill material and after fill material is placed to verify that the required compaction is obtained.

3.3.4 Only new and first class materials, which conform to the requirements of these Specifications, shall be used unless specified otherwise. When requested by the Owner, 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 Engineer before delivery is started. If, at any time, sources previously approved fail to produce materials acceptable to the Owner, 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 3% of the TOTAL AMOUNT BID for the project. No deduction nor 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 3% 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.

This work shall also include the preservation from injury to all vegetation, utilities or other objects to remain. It will be the contractor's responsibility for the replacement of any damaged or removed landscaping such as trees, scrubs, flower with nursery stock as approved by the WVDEP.

4.1.2 Access Road Construction

Access roads constructed 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, where applicable. The access road shall be reclaimed and re-vegetated according to Section 6.0 upon completion of the construction activities, as deemed necessary by the WVDEP, with associated costs being incidental. Any additional access shall require the Contractor to obtain written permission from the respective land owner. The existing access roads shall be maintained during construction and shall be left in a condition equal to, or better than, the existing condition upon completion of construction. 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.

4.2 Materials

4.2.1 Access Road Stone

Stone to be placed for access road stone shall conform to the requirements for No. 1 Stone as outlined in Section 704 of the WVDOT Standard Specifications for Roads and Bridges, adopted 2010.

4.2.2 Gravel Drive Rehabilitation Stone

Stone to be placed for gravel drive rehabilitation shall conform to the requirements for Class I Aggregate (1-1/2" Crusher Run) as described in Section 704 of the WVDOT Standard Specifications for Roads and Bridges.

4.3 Construction Methods

4.3.1 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, backfill, soil borrow or drainage structure installation.

4.3.2 The Contractor shall clear the site within the limits of the areas to be re-graded. The WVDEP shall exercise control over clearing and shall designate all trees, plants and other objects to be removed or to remain.

4.3.3 Clearing and grubbing shall be completed prior to initiation of earthwork operations only to the extent necessary to complete the work. The Contractor shall confine his operations strictly to required areas. If he 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 that existing prior to start of work.

4.3.4 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.

4.3.5 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 sub-grade 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.

4.3.6 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.

4.3.7 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. 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.

4.3.8 All other materials generated from required clearing shall be removed and

disposed of by the Contractor. All garbage, construction debris, structure debris, etc., shall be disposed of in approved waste areas or landfills. 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 VII 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. A copy of any and all property owner agreements must be submitted to the WVDEP prior to work being done.

4.3.9 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 XV "Utilities and Other Obstructions", of these specifications for more information on utilities.

4.3.10 Should offsite disposal or borrow be necessary, the Contractor shall observe the NEPA Compliance Schedule as per Section VII of the Special Provisions.

4.3.11 Existing site access roads shall provide safe, all-weather access to the site. These existing roads, including stoned and paved 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 and constructions during access road grading and maintenance.

4.3.12 Access road stone shall be placed as approved by the WVDEP to gain access to the sits. In areas that will not support the stone due to soft conditions, stabilization fabric will be required. The stabilization will not be paid for but will be considered incidental to the cost of the stone.

4.3.13 Gravel Drive Rehabilitation stone shall be placed in a 3 inch layer of 1-1/2" crusher run. In areas that will not support the stone due to soft conditions, stabilization fabric will be required. The stabilization fabric will not be paid but will be considered incidental to the cost of the stone.

4.4 Method of Measurement

4.4.1 There shall be no measurement of the "Site Preparation" item as it is a lump sum.

4.4.2 The method of measurement for the "Access Road Stone" item shall be per ton of stone acceptably placed as determined by the WVDEP.

4.4.3 The method of measurement for the "Gravel Drive Rehabilitation" item shall be per ton of stone acceptably placed as determined by the WVDEP.

4.5 Basis of Payment

4.5.1 This item shall be paid at the bid lump sum price. The amount shall not exceed 10% of the TOTAL AMOUNT BID for each bid. Payment shall be full compensation for doing all the work herein prescribed in a workman like and acceptable manner; including the furnishing of all labor, materials, tools, equipment, supplies, and incidental necessary to complete the work. Neither deduction nor increase will 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.

4.5.2 Payment for Access Road Stone shall be based upon weigh tickets from the commercial supplier of the stone that is delivered and placed at the locations identified on the plan drawings.

4.5.3 Payment for Gravel Drive Rehabilitation shall be based upon weigh tickets from the commercial supplier of the stone that is delivered and placed at the locations identified on the plan drawings.

4.6 Pay Items

Item 4.0,"Site Preparation", per lump sum cannot be more than 10% of the TOTAL AMOUNT BID" for the project.

Item 4.1, "Access Road Stone", per ton

Item 4.2, "Gravel Drive Rehabilitation", per ton

5.0 SEDIMENT AND EROSION CONTROL

5.1 Description

This item shall consist of furnishing all materials, equipment, labor and incidentals necessary for the installation of silt fence sediment control structures, rock check dams and silt fence erosion control structures as designated in the drawings. Sediment control shall be placed on re-graded outslope areas concurrent with construction and prior to re-vegetation. Additional quantities may be added at the discretion of the WVDEP.

The CONTRACTOR shall be given a NPDES Permit with an approved erosion and sediment control plan at the pre-construction meeting. This plan shall include measures to be utilized for temporary and permanent sediment and erosion control. This plan shall also include the measures as outlined herein. The NPDES approved plan **does not** relieve the CONTRACTOR of his/her 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.

NOTE: Silt fencing shall be required on the perimeter of the project site for sediment control in accordance with the NPDES requirements. The silt fence for sediment control shall be place before any construction work begins. This fence shall remain and be maintained during the entire construction process.

The following are the minimum requirements of the NDPES Permit;

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 seven 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, (e.g., the total time period that construction activity is temporarily halted is less that 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.

EROSION & SEDIMENT CONTROL CONSTRUCTION SEQUENCE

- Install stabilized construction entrance as shown on site plans.
- Install perimeter sediment control devices as shown on site plans.
- Clear and grub site.
- Provide sediment control for any topsoil stockpiles.
- Commence rough grading of site. Continue to maintain and inspect all erosion and sediment controls.
- Install additional erosion and sediment controls as shown on site plans.
- Fine grade site.
- Permanently seed and mulch all disturbed areas within 7 days of reaching final grade and install erosion control wattles.
- Upon completion of project including adequate stabilization, remove all remaining erosion and sediment controls.

5.2 Materials

5.2.1 Silt Fence: Silt fencing shall be used for sediment control barrier around all areas as shown on the NPDES Sediment Control Plan. Silt fencing shall meet all applicable requirements of Section 715.11.5 and 642.6 of the West Virginia Division of Highways **Standard Specifications for Roads and Bridges,** Adopted 2010. A silt fence installation detail section is shown on the plans.

5.2.2 Erosion Control Wattles: Straw wattles or approved equals, shall be installed at locations shown on the plans. Straw wattles shall be 12 inches in diameter and 25 feet in length. Straw wattles shall consist of an internal fill material of straw and an exterior encasement of a heavy duty biodegradable knitted cylindrical tube. The wattles shall be install as shown on the typical detail. The wattles shall be staked with 1" x 1" x 24" wooden stakes. The stakes will be placed one stake at the beginning and 4' on center along the entire length of the wattle. One stake will be placed at the end of each section on wattle.

5.2.3 Stone Construction Entrance: A stone construction entrance shall be required at the access point of the construction site. The stone construction entrance shall consist of filter fabric and a minimum of six (6) inches of 1 1/2"" stone. The stone entrance shall be a minimum of seventy (70) foot long and twelve (12) foot in width. This stone construction access must conform to the detail drawings shown in the plans

5.2.4 Rock Check Dams: Rock check dams shall be required at the locations as shown on the plans. The rock check dams shall be constructed with 3"-6" stone and filter cloth. The stone shall extend from side to side of the drainage channel and shall at each edge to the top of the existing ground. The center height of the check dam shall be 6" lower than the outer edge height. Filter cloth shall consist of Mirafi 140N or an approved equal.

5.2.5 Matting: Matting shall consist of a straw / coconut fiber blanket such as North American Green SC150 or an approved equal.

5.3 Maintenance

- 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.

5.4 Installation

Silt fence, Construction Entrance and Erosion Control Wattles shall be installed at all locations as shown on the NPDES Sediment Control plan.

5.4.1 Silt Fence

Silt Fence shall be installed at the locations and details sown on the drawings. The silt fence shall be trenched as shown on the details and cleaned and repaired as required.

5.4.2 Wattle Installation

Lay the first Straw Wattle snugly in the trench. **No daylight should be seen under the Wattle.** Pack soil from trenching against the Wattle on the uphill side. When installing running lengths of Straw Wattles, butt the second Wattle tightly against the first. **DO NOT overlap the ends.** Stake the Straw Wattles at each end and four foot on center. For example:

A 25 foot Wattle uses 6 stakes

A 20 foot Wattle uses 5 stakes

A 12 foot Wattle uses 4 stakes

Stakes should be driven through the middle of the Wattle, leaving 2 - 3 inches of the stake protruding above the Wattle. A heavy sediment load will tend to pick the Wattle up and could pull it off the stakes if they are driven down too low. It may be necessary to make a hole in the Wattle with the pick end of your maddox in order to get the stake through the straw. When Straw Wattles are used for flat ground applications, drive the stakes straight down; when installing Wattles on slopes, drive the stakes perpendicular to the slope.

Drive the first end stake of the second Wattle at an angle toward the first Wattle in order to help abut them tightly together. If you have difficulty driving the stake into extremely hard or rocky slopes, a pilot bar may be needed to begin the stake hole.

5.4.3 Stone Construction Entrance

Stone Construction Entrances shall be constructed at the locations and details shown on the drawings. The construction entrances shall be maintained as necessary.

5.4.4 Rock Check Dams

Rock Check Dams shall be constructed at the locations and details shown on the drawings. The check dams shall be wrapped in filter cloth. The check dams shall be cleaned and maintained to insure function. Damaged filter cloth shall be immediately repaired as approved by the WVDEP.

5.4.5 Matting

Matting shall be placed at the locations shown on the drawing and anchored according to manufacturer's recommendations. The areas to be matting shall require Revegetation prior to matting placement.

5.5 Method of Measurement

5.5.1 The method of measurement for Silt Fence and Straw Wattle 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 sediment removal and disposal.

5.5.2 The method of measurement for the Stoned Construction Entrance shall be on a per ton basis and shall include all necessary materials, labor and equipment for installation and maintenance. Certified weigh tickets shall be submitted for payment.

5.5.3 The method of measurement for the Rock Check Dam shall be on a per each basis and shall include all necessary materials, labor and equipment for installation and maintenance and repair.

5.5.4 The method of measurement for matting shall be per square yard installed and shall include purchase and placement of materials, labor and equipment.

5.6 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 of the sediment material.

5.7 Pay Item

Item 5.0, "Silt Fence", per Linear foot.

Item 5.1, "12" Straw Wattles", per Linear foot

Item 5.2, "Stone Construction Entrances", per ton

Item 5.3, "Rock Check Dam", per each

Item 5.4, "Matting" per square yard

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 re-vegetated 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 10-20-10 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 a minimum of 10% $MgCO_3$ and 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 rate shall be formulated from soil test results. In the absence of soil testing, a rate of three (3) tons per acre will serve as a preferred minimum.

Lime shall be applied immediately to all areas requiring seeding reaching final grade by 1 of the 2 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.

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 re-disturbed shall be fertilized with 500 lbs/acre of 10-20-10. 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.

6.2.3.2 Lawn Seed Mixture

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

Rate lb/1000 sq. ft.	Seed Variety	Minimum Specifications 0% 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 1 and prior to 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 March 15 - May 15 or August 15 - October 15 shall be seeded with the appropriate temporary seed mixture according to 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.

Variety of Seed *	SPRING 3/15 - 5/15 ----------lbs/acre----------	FALL 8/15 - 10/15
Orchardgrass (Dactylis glomerata)	30	30
Birdsfoot Trefoil (1) (Lotus corniculatus)	15	15
Red Clover (Trifolium pratense)	10	10
Annual Ryegrass (2) (Lolium multiflorum)	25	25
Spring Oats or Winter Wheat	35 0	0 90

(1) Herbaceous legumes must be treated with the appropriate bacterium before seeding. On areas which are steeply sloping (steeper than 1.7:1) or slide prone, substitute Crownvetch (Coronilla varia) at 20 lbs./acre for Birdsfoot Trefoil.

(2) Use Annual Ryegrass only in mixtures seeded after August 1 and before May 1.

*Use only certified "blue tag" seed. Seed-rate suggested is for pure live seed (PLS) in lbs/acre.

6.2.4 Mulch Material

Mulching procedures shall take place immediately following seeding. Mulch material shall consist of erosion matting, 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. **(No baled grass hay shall be used in yard areas.)** The straw mulch shall be anchored with 100 gallons/acre asphalt emulsion or 750 lbs/acre wood cellulose fiber.

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. A 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 Construction Methods

6.3.1 All revegetation 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.

6.3.3 Seedbed preparation and seeding shall take place progressively as various re-graded 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 re-inoculated 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, re-limed, re-fertilized and re-mulched 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, re-fertilizing, re-liming, re-seeding, and re-mulching 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.

6.3.8.1 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 much 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 re-vegetation will be per lump sum. Payment to include all temporary seeding, lime, fertilizer, seed and mulch for the first seeding only. Subsequent seeding will not be measured or paid for but will be considered incidental to initial seeding.

The Contractor shall be paid only for those areas disturbed and re-vegetated during operations necessary for completion of the work. The quantity shall not include areas disturbed for storage facilities and staging areas unless prior approval was obtained from the WVDEP. No payment shall be made for any seeding conducted after the final inspection; this work is considered warranty.

6.5 Basis of Payment

6.5.1 Payment will be made at the contract per lump sum 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 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.

6.6 Pay Items

Item 6.0 "Revegetation", per lump sum.

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 channels, pipes, manholes and drop inlets.

7.2 Materials

7.2.1 Rock

Rock for riprap shall consist of hard, durable limestone or sandstone and shall have a D_{50} of 12 inches. The rock shall range in size from 6 inches minimum to 18 inches maximum diameter with no more than 15 percent by weight less than 6 inches. The rock riprap shall have a maximum weighted loss of thirty percent when subjected to five (5) cycle of the sodium sulfate soundness test according to ASTM C88-05. The use of on-site rock materials for riprap must be first approved by the WVDEP and must meet all specifications. Shale shall not be used.

7.2.2 Grout

Grout to be used in the grouted riprap channels shall consist of one part sulfate resistant type II Portland Cement and three parts sand, using water to produce a workable consistency and strength requirements.

The minimum required compressive strength of the grout shall be 200 psi @ 28 days. All testing shall be the responsibility of the contractor. Two sets (4 cylinders) of test cylinder per day shall serve as a minimum. Grout test cylinders shall be made and tested in accordance with ASTM C-31 and C-39 respectively. One cylinder shall be tested at 7 days age, one test cylinder shall be tested at 14 days age, one test cylinder shall be tested at 28 days age and one cylinder shall be held as a spare.

7.2.3 Pipe

Drainage pipe for Site 1 shall consist of 24 inch diameter HDPE pipe, such as ADS Hi-Q or an approved equal.

Drainage pipe for Site 2 shall consist of 12 inch diameter HDPE pipe, such as ADS Hi-Q or an approved equal.

7.2.4 Pipe Bedding / Backfill

Pipe bedding and backfill shall consist of materials shown on the detail drawings.

7.2.5 Drop Inlets

Drop inlets shall be a Type G Inlet in accordance with Section 605.2 of the

WVDOH Standard Specifications for Roads and Bridges, Adopted 2010. Grate for inlet shall be Type G, Type 1 Grate.

7.2.6 Manholes

Manholes shall be a Type A in accordance with Section 605.2 of the WVDOH **Standard Specifications for Roads and Bridges**, Adopted 2010.

7.2.7 Trash rack shall be required on the 24" HDPE at the end of Channel A. Trash rack will be constructed using 1" diameter bars and installed as per drawings.

7.3 Construction Methods

7.3.1 Grass Lined Channel

The grass lined channel shall be constructed at Site 1 at the location and details shown on the drawings. This channel shall be revegetated according to Section 6.0 Revegetation" prior to placement of the P-300 matting. The matting shall be placed and trenched according to the details. The matting shall be flat against the ground surface and stapled according to manufacturer's recommendations.

7.3.2 Grouted Rock Riprap Channels

The grouted rock riprap channels shall be constructed to the approximate line, grade, and templates as shown on the drawings. The rock shall be cleaned of trash, dirt, and organic matter prior to placement of the grout.

Grout shall be applied as soon as possible after placement of the riprap. The stone shall be thoroughly wet immediately before grout is applied. As soon as grout is deposited it shall be thoroughly worked into the joints to achieve 100 percent penetration. The stones shall be brushed so their top surfaces are exposed. The grout shall be protected from running water to prevent damage until sufficiently cured.

Grout keys shall be installed at the upper end of each grouted riprap channel to direct the flow into the channel and prevent undercutting of the grouted riprap. The grout keys shall be installed to the dimensions shown on the drawings.

7.3.3 Pipe

The 12-inch and 24-inch HDPE pipes shall be installed at the location shown on the drawings. The trench for the pipes shall be excavated in accordance with the detail provided in the drawings. Pipe bedding shall be placed in the bottom of the trench to facilitate leveling. The pipe shall be placed with joints connected as per manufacturer's recommendations. The joints shall be water tight. The pipe shall be backfilled as per the details shown on the drawings and compacted to 95 percent of the

maximum dry density obtained by ASTM Method D698 (Standard Proctor). Compaction tests shall be taken twice per day during pipe backfill.

7.3.4 Drop Inlets / Manholes

The drop inlets and manholes shall be installed at the locations shown on the drawings. The tops of the manholes shall be installed flush with the surrounding ground surface. The top of the drop inlets will be installed flush with the surface to allow easy access for water intake. Pipe shall be connected to the drop inlets and manholes and grouted water tight as per manufacturer's recommendations.

Backfill around the manholes and drop inlets shall match the backfill requirements for the connecting pipe placed in loose lifts not exceeding 8 inches and compacted by use of WVDEP approved mechanical tampers. Compaction shall be no less than 95 percent of maximum dry density as determined in accordance with ASTM D698. Frequency of density tests shall be 1 test per structure per day.

7.3.5 Trash Rack

The trash rack shall be fitted to the 24 inch HDPE pipe at the end of Channel A. The trash rack shall be placed and anchored during the channel grouting process. The trash rack bars shall be welded at all intersections.

7.4 Method of Measurement

7.4.1 The method of measurement for the grass lined channels shall be on a linear foot basis and shall include excavation, disposal of material, equipment, labor and purchase and placement of matting.

7.4.2 The method of measurement for grouted rock riprap channels shall be on a linear foot basis and shall include excavation, disposal of material, purchase and placement of rock, grout, labor and equipment. No additional payment shall be made for the grout keys.

7.4.3 Pipe

The method of measurement for the 12 inch and 24 inch HDPE pipes shall be on a linear foot basis and shall include excavation, disposal of material, bedding, backfill, purchase and placement of pipe, labor and equipment.

7.4.4 Drop Inlets / Manholes

The method of measurement for the drop inlets and manholes shall be on a per each basis and shall include excavation, disposal of material, bedding, backfill, grout connection of the pipe, purchase and placement of the drop inlets, manholes, grates, manhole covers, labor and equipment.

7.4.5 Trash Rack

The method of measurement for the trash rack shall be on a per each basis and shall include the purchase and placement of the steel, welding, labor and equipment.

7.5 Pay Items

Item 7.1, "4' Grass Lined V-Ditch", per linear foot

Item 7.2, "4' Grouted Rock Riprap V-Ditch", per linear foot

Item 7.3, "6' Grouted Rock Riprap Ditch", per linear foot

Item 7.4, "8' Grouted Rock Riprap Ditch", per linear foot

Item 7.5, "12" HDPE Pipe", per linear foot

Item 7.6, "24" HDPE Pipe", per linear foot

Item 7.7, "Drop Inlets", per each

Item 7.8, "Manholes", per each

Item 7.9, "Trash Rack", per each

8.0 UNCLASSIFIED EXCAVATION

8.1 Description

This work shall consist of excavating, transporting, stockpiling, placing and compacting mine spoil, soil, rock, coal refuse or other materials encountered in the re-grading, backfill and any other indicated incidental work.

8.2 Materials

8.2.1 This work consists of the re-grade area shown on the plans. This item covers the excavation and re-grading backfill on the Wet Mine Seal area and on Access Road re-grading.

On-site soil encountered in areas of proposed disturbance (excavated channels) 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 in a suitable location, at the discretion of the WVDEP. Where required, strip soil 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.

The regrading plan shall be conducted in a manner such that a 12- inch thick layer of soil material is uniformly spread over any areas of exposed refuse or unsuitable material resulting from the regrading operation. 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 Revegetation 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.

8.3 Construction Methods

8.3.1 Unclassified Excavation and Soil Cover

The unclassified excavation and soil cover shall be completed on the areas designated on the plans as re-grade areas. The re-graded areas will require soil cover over any areas that do not have sufficient soil to establish vegetation. In these areas a minimum of 1' of soil cover is required.

8.4 Method of Measurement

8.4.1 The method of measurement for excavation shall be by lump sum. No separate payment will be made for ditch, underdrain, or any other incidental work referred to under "Unclassified Excavation ".

8.5 Basis of Payment

8.5.1 Payment for material excavated, transported, and backfilled to achieve the final grades will be by the unit price bid for "Unclassified Excavation".

8.6 Pay Item

Item 8.0, "Unclassified Excavation", per lump sum.

9.0 MINE SEAL

9.1 Description

This work shall consist of excavating the mine opening and placing Wet/Modified Mine Seal in the open mine portals to plan grade.

9.2 Materials

9.2.1 Stone

The stone used in the Wet/Modified Mine Seal shall consist of sound, durable 3"- 6" non-calcareous sandstone. The 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,** Adopted 2010. Stone shall have a maximum weighted loss of twelve 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**. 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.

9.2.2 Filter Fabric

Filter Fabric shall be meet the standards in the following table or equal as specified in Section 715.11.4 of the WVDOT **Standard Specifications for Roads and Bridges**, Adopted 2010.

PROPERTY	TEST METHOD	ENGLISH	METRIC
Weight - Typical	ASTM D-5261	NA	NA
Tensile Strength	ASTM D-4632	120 lbs	500 N
Elongation @ Break	ASTM D-4632	50%	50%
CBR Puncture	ASTM D-6241	310 lbs	1,380 N
Trapezoidal Tear	ASTM D-4533	50 lbs	200 N
Apparent Opening Size	ASTM D-4751	70 US Sieve	.212 mm
Permittivity	ASTM D-4491	1.7 Sec-1	1.7 Sec-1
Water Flow Rate	ASTM D-4491	135 g/min/sf	5,550 l/min/sm
UV Resistance @ 500 Hours	ASTM D-4355	70%	70%

9.2.3 Mine Seal

The Wet/Modified Mine Seal shall be excavated to the coal pavement. The mine seal shall be installed as shown on the plan.

9.3 Construction Methods

9.3.1 Excavation of the mine opening for the Wet/Modified Mine seals shall proceed in a manner which will control the release of any water in the mine. The openings shall be cleaned of debris to the satisfaction of the Engineer. Once the opening has been cleaned filter fabric shall be placed on the mine floor (if needed) and a layer of stone shall be placed to the elevation as shown on the plans.

The Contractor shall be solely responsible for any damages caused by dewatering activities.

9.3.2 A Dewatering Plan shall be submitted and approved by the Engineer prior to any work taking place. The Contractor shall install and operate a water treatment system utilizing soda ash briquettes in a manner approved by the engineer to maintain a pH between 6.0 and 9.0 in all water above base flow while dewatering mine.

9.3.3 The contractor is also advised that abandoned mine workings could contain dangerous gases such as methane and blackdamp. The contractor shall be responsible for worker safety when working around mine openings.

9.3.4 Construction of the Wet/Modified Mine Seals shall be in accordance with the plan details. Filter fabric shall separate all aggregate and soil interfaces. The Contractor shall adhere to OSHA Regulation 29 CFR Part 1926 during all excavation and trenching activities.

9.3.5 Any monitoring wells or piezometers which have been left on this project for whosoever'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 costs for removal and abandonment shall be considered as incidental to mine seal installation.

9.4 Method of Measurement

9.4.1 Wet/Modified Mine Seals shall be measured per each seal installed and approved at the unit price bid per each and shall include all excavation, stone, filter fabric, drainage pipe system on the Wet/Modified Mine Seals. Excavation, furnishing and placement of the stone, drainage system,

including all ancillary materials and operations required to construct the Wet/Modified Mine Seal as planned and specified, will not be measured, but shall be considered incidental to this construction.

9.4.2 The method of measurement for the construction of the SDR 35 "12-Inch PVC mine seal conveyance pipe" shall be on a linear foot basis of the un-perforated pipe as measured from the limits of the Wet/Modified Mine Seal pipe to the inlet of the drainage channel. Conveyance pipe shall be measured in place per single run of pipe. Trench excavation, furnishing and placement of the pipe and fittings, any necessary cleanouts, compacted on-site backfill, and minor grading, including all ancillary materials and operations required to construct the drainage conveyance pipes, will not be measured, but shall be considered incidental to this construction.

9.4.3 Soda Ash Briquettes shall be measured per 50# bag used.

9.5 Pay Items

Item 9.0, "Wet/Modified Mine Seal.

Item 9.1, "12" Mine Seal Conveyance Pipe", per linear foot.

Item 9.2, "Soda Ash Briquettes (50 lb bag)", per each.

10.0 UTILITIES

10.1 Description

This work shall consist of all necessary measures to relocate, maintain and protect all utilities within the limits of work specified herein and on the construction drawings.

The contractor shall notify the utility in writing at least fifteen (15) but preferably thirty (30) days prior to the time work within the area will be done.

The Contractor shall be responsible for making all necessary arrangements and/or performing all necessary work to the satisfaction of the affected utility company and/or the West Virginia Department of Highways in connection with any disturbances within their right-of-way or services.

The Contractor shall be solely responsible for locating all utilities within the limits of work. All damage made to existing utilities by the Contractor shall be the sole responsibility of the Contractor. In the event damage does occur, the Contractor shall notify the affected utility and the WVDEP immediately and make or have made all necessary repairs and bear the expenses thereof and resulting damage caused thereby.

The Contractor shall obtain right-of-entry and/or any necessary permits for repairs or relocation.

Utility Companies Contacts
Miss Utility of West Virginia 1-800-245-4848

10.2 Materials

All materials used for utility related disturbance shall be in accordance with these specifications or as indicated by the affected utility.

10.3 Construction Methods

All work shall be in accordance with these specifications or in accordance with those methods as indicated by the affected utility.

10.4 Method of Measurement

The Contractor will not bid on utility work but will be reimbursed the actual approved invoice cost. The Contractor shall submit an estimate for utility relocation to the WVDEP for approval. Only utilities affected by the proposed reclamation will be reimbursed.

There are gas line, phone lines, water lines and house utility lines located on the site.

11.0 UNDERDRAIN

11.1 Description

This work shall consist of constructing subsurface drains (French Drain) at the locations (Site 2) and to the dimensions shown on the plans or as directed by the Engineer to control groundwater within the construction limits.

11.2 Materials

11.2.1 The stone shall consist of sound, durable 3" – 6" non-calcareous sandstone adherent coating and meeting the requirements of **Section 703.1** of the **WVDOH Standard Specifications**. Stone shall have a maximum weighted loss of twelve 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**. 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.

11.2.2 Filter fabric for the underdrain shall be non-woven type, meeting the requirements of Section 715.11.4 of the WVDOH **Standard Specifications for Roads and Bridges**, Adopted 2010.

11.2.3 Pipe shall consist of perforated 12-inch diameter PVC SDR 35 grade within the underdrain.

11.3 Construction Methods

11.3.1 The underdrains shall be constructed at the locations and to the lines, grades, and cross-section as directed by the Engineer based on the field conditions encountered.

11.3.2 Trench width for the underdrain shall be not less than three (3) feet, measured at the bottom of the trench for the underdrain. Trenching will involve excavation of in-place material including soil and rock. Filter cloth and pipe shall be placed in the trench as shown on the details. The stone for the underdrain will be filled to a depth of three (3) feet. The stone will be backfilled to the surface.

11.3.3 Trench exceeding 5 feet in depth shall be supported in compliance with the OSHA requirements. Trench bottom shall be cleared of any loose debris and any standing water.

11.3.4 The underdrain shall connect to a Type G drop inlet as shown on the drawings.

11.4 Pay Items

Item 11.0, "Underdrain", per linear foot.

12.0 ASPHALT PAVEMENT

12. 1 Description

Bituminous paving materials for Asphalt Pavement shall be provided in accordance with this Section.

12.2 Materials

12.2.1 Asphalt

Asphalt cement and aggregate shall be provided by a plant meeting the requirements of Section 401 of the WVDOT **Standard Specifications for Roads and Bridges,** Adopted 2010. The materials provided shall meet the requirements of Item 401002 hot-mix asphalt wearing course in Table 401.14 of the WVDOT **Standard Specifications for Roads and Bridges,** Adopted 2010.

12.2.2 Shoulder Stone

Shoulder stone shall consist of ¾ inch crusher run stone.

12.3 Method of Construction

Site preparation and placement of asphalt pavement will be in accordance with the requirements of Division 400 of the WVDOT **Standard Specifications for Roads and Bridges,** Adopted 2010.

The pavement to be removed shall be saw cut and the material disposed. The 2 inch minimum hot mix asphalt wearing course shall be placed flush with the existing pavement surface.

Shoulder stone shall then be placed and compacted with rollers as approved by the WVDEP.

12.4 Method of Measurement

12.4.1 Asphalt

The method of measurement for Asphalt shall be on a per square yard basis and shall include demolition and disposal of existing asphalt, temporary measures to allow flow of traffic, purchase and placement of asphalt, labor and equipment. No additional compensation will be made to the Contractor for delays to weather or asphalt plants shutting down.

12.4.2 Shoulder Stone

The method of measurement for shoulder stone shall be on a per ton basis from certified weigh tickets and shall include the purchase and placement of stone and necessary labor and equipment.

12.5 Pay Item

Item 12.1, "Asphalt", per square yard

Item 12.2 "Shoulder Stone", per ton

13.0 TRAFFIC CONTROL

13.1 Description

This work shall consist of all necessary measures to maintain and to protect traffic; to protect the work in progress; to protect adjacent property from excess dust resulting from the construction area, and to maintain traffic through, around, or adjacent to the construction area, in accordance with these specifications or as directed by WVDEP.

13.2 Materials

All materials used for traffic control shall be in accordance with the current WV Division of Highways Manual **"Traffic Control for Streets and Highway Construction and Maintenance Operations."**

13.3 Construction Methods

Control and protection of traffic through work areas shall comply with the current WV Division of Highways Manual **"Traffic Control for Streets and Highway Construction and Maintenance Operations".** All traffic plans must be coordinated through the WVDOH.

The Contractor shall be responsible for developing a traffic control plan that complies with the WVDOH requirements. A copy of the traffic control operational plan and WVDOH's approval of said plan shall be submitted to the WVDEP Representative for approval prior to its implementation. Access to residences shall be maintained during construction. The Contractor shall give the WVDOH seven (7) working days notice prior to the beginning of work so the public can be made aware of forthcoming construction activities.

13.4 Method of Measurement

The method of measurement for determining the quantity of work done as described above for Traffic Control work will not be a separate pay item, but will be considered incidental to all other work associated with the construction of this Project as described in these Specifications, and as shown as on the Plans.

Permit fees and other miscellaneous associated costs associated with and required for any Traffic Control work shall also be considered incidental to all other work associated with the construction of this Project as described in these Specifications, and as shown on the Plans. No separate pay item exists for Traffic Control work.

Boring Logs

NGE
Environmental & Geotechnical Engineering Solutions

Project Name: **Switzer (Ellis) Drainage**
Logan County, West Virginia

Project Number: **W13053**

BORING NO.
B-1

Location: Offset:
Surface El.: ---

Split Spoon | Shelby Tube | Rock Core | Bag Sample

Depth, feet	Material Description	Recovery %	RQD	Penetration Blows / 6 inches	Silt and Clay %
0	Brown **SANDY CLAY** with rock fragments				
6.0					
	Brown and gray **SANDSTONE**	67	0		
		100	64		
	- w/shale laminations from 13.0 ft.				
	- lost drilling water return @ 15.0 ft.	70	36		
		100	36		
23.0					
	Brown and gray **SILTY SHALE**, soft	66	52		
30.7					
31.5	**COAL**	62	8		
32.2	Gray **CLAYSTONE**, soft				
33.2	**COAL**				
	Gray **SANDSTONE**	100	74		
		100	96		
43.0					
	Botttom of Test Boring @ 43.0 ft.				

PL(%) NM(%) LL(%)
● SPT bpf
10 20 30 40

Completion Depth:	**43.0 ft.**
Date Boring Started:	**5/29/13**
Date Boring Completed:	**5/29/13**
Engineer/Geologist:	**CEM**
Driller:	**NGE**

Remarks:

Depth to Water @ 24 hrs.: ---

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

BASIC NGE LOG W13053 LOGS.GPJ NGELOG.GDT 6/11/13

NGE
Environmental & Geotechnical Engineering Solutions

Project Name: **Switzer (Ellis) Drainage**
Logan County, West Virginia

Project Number: **W13053**

BORING NO.
B-1A

Location: Offset:
Surface El.: ---

Split Spoon | Shelby Tube | Rock Core | Bag Sample

Depth, feet	Sample Type	Symbol / USCS	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows / 6 inches	Silt and Clay %
0			Brown **SANDY CLAY** with rock fragments				
7.0							
7.5			Brown and gray **SANDSTONE**	75	58		
10				95	88		
15			- lost drilling water return @ 16.0 ft.	100	70		
18.0							
20			Brown **SHALE** soft	76	18		
23.0							
25			Brown **SANDSTONE** with shale laminations, fractured	64	0		
28.0							
28.7			Gray **CLAYSTONE**				
30			**COAL**	32	0		
33.0							
33.5			**SANDSTONE**				
34.5			**COAL**				
35			Gray **SANDSTONE**	100	50		
40							

PL(%) NM(%) LL(%)
● SPT bpf
10 20 30 40

Completion Depth:	63.0 ft.
Date Boring Started:	5/29/13
Date Boring Completed:	5/29/13
Engineer/Geologist:	CEM
Driller:	NGE

Remarks:

Depth to Water @ 24 hrs.: ---

BASIC NGE LOG W13053 LOGS.GPJ NGELOG.GDT 6/11/13

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

NGE
Environmental & Geotechnical Engineering Solutions

Project Name: **Switzer (Ellis) Drainage**
Logan County, West Virginia

Project Number: **W13053**

BORING NO.
B-1A

Location: Offset:

Surface El.: ---

Split Spoon | Shelby Tube | Rock Core | Bag Sample

Depth, feet	Sample Type	Symbol / USCS	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows / 6 inches	Silt and Clay %
45			Gray **SANDSTONE**	100	95		
				96	94		
50				100	68		
55				100	76		
60				96	54		
			63.0				
			Bottom of Test Boring @ 63.0 ft.				
65							
70							
75							
80							

PL(%) NM(%) LL(%)

● SPT bpf

10 20 30 40

Completion Depth:	**63.0 ft.**
Date Boring Started:	**5/29/13**
Date Boring Completed:	**5/29/13**
Engineer/Geologist:	**CEM**
Driller:	**NGE**

Remarks:

Depth to Water @ 24 hrs.: ---

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

BASIC NGE LOG W13053 LOGS.GPJ NGELOG.GDT 6/11/13

NGE
Environmental & Geotechnical Engineering Solutions

Project Name: **Switzer (Ellis) Drainage**
Logan County, West Virginia

Project Number: **W13053**

BORING NO.
B-1B-1

Location: Offset:

Surface El.: ---

Split Spoon | Shelby Tube | Rock Core | Bag Sample

Depth, feet	Sample Type	Symbol / USCS	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows / 6 inches	Silt and Clay %	PL(%) NM(%) LL(%) / SPT bpf (10 20 30 40)
0			Brown **SANDY CLAY** with rock fragments					
10.0			Brown **SANDSTONE** with shale laminations					
12.5			**VOID**					
16.0			Brown and gray **SANDSTONE**					
20.0			Bottom of Test Boring @ 20.0 ft. Note - boring abandoned @ 20.0 ft. due to augers misaligned in borehole.					

Completion Depth:	**20.0 ft.**
Date Boring Started:	**5/30/13**
Date Boring Completed:	**5/30/13**
Engineer/Geologist:	**CEM**
Driller:	**NGE**

Remarks:

Depth to Water @ 24 hrs.: ---

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

BASIC NGE LOG W13053 LOGS.GPJ NGELOG.GDT 6/11/13

NGE
Environmental & Geotechnical Engineering Solutions

Project Name: **Switzer (Ellis) Drainage**
Logan County, West Virginia

Project Number: **W13053**

BORING NO.
B-1B-2

Location: Offset:
Surface El.: ---

Split Spoon | Shelby Tube | Rock Core | Bag Sample

Depth, feet	Sample Type	Symbol / USCS	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows / 6 inches	Silt and Clay %
0			Brown **SANDY CLAY** with rock fragments				
10			10.0				
			Brown and gray **SANDSTONE**	89	47		
			- w/shale laminations (10.0 - 13.0 ft.)	96	64		
20			20.3	62	46		
			VOID				
			22.5				
			Gray **SANDSTONE**	100	46		
25			25.0				
			Bottom of Test Boring @ 25.0 ft.				
			Note - Boring abandoned @ 25.0 ft. after tools became misaligned				
30							
35							
40							

PL(%) NM(%) LL(%)
● SPT bpf
10 20 30 40

Completion Depth:	**25.0 ft.**
Date Boring Started:	**5/30/13**
Date Boring Completed:	**5/30/13**
Engineer/Geologist:	**CEM**
Driller:	**NGE**

Remarks:

Depth to Water @ 24 hrs.: ---

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

BASIC NGE LOG W13053 LOGS.GPJ NGELOG.GDT 6/11/13

NGE Environmental & Geotechnical Engineering Solutions

Project Name: **Switzer (Ellis) Drainage**
Logan County, West Virginia

Project Number: **W13053**

BORING NO.
B-1B-3

Location: Offset:

Surface El.: ---

Split Spoon | Shelby Tube | Rock Core | Bag Sample

Depth, feet	Sample Type	Symbol / USCS	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows / 6 inches	Silt and Clay %
0			Brown **SANDY CLAY** with rock fragments				
			17.0				
			Gray and brown **SANDSTONE**				
			- soft (20.0 - 22.0 ft.)				
			- soft (24.0 - 27.0 ft.)				
			30.0				
			Gray and brown **CLAYSTONE**	86	47		
			35.0				
			COAL	88	12		
			37.6				
			Gray **SANDSTONE** 38.0				
			39.0				
			COAL				

PL(%) NM(%) LL(%)

● SPT bpf

10 20 30 40

Completion Depth:	**73.0 ft.**
Date Boring Started:	**5/31/13**
Date Boring Completed:	**5/31/13**
Engineer/Geologist:	**CEM**
Driller:	**NGE**

Remarks:

Depth to Water @ 24 hrs.: ---

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

BASIC NGE LOG W13053 LOGS.GPJ NGELOG.GDT 6/11/13

NGE
Environmental & Geotechnical Engineering Solutions

Project Name: **Switzer (Ellis) Drainage**
Logan County, West Virginia

Project Number: **W13053**

BORING NO.
B-1B-3

Location: Offset:

Surface El.: ---

Split Spoon | Shelby Tube | Rock Core | Bag Sample

Depth, feet	Sample Type	Symbol / USCS	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows / 6 inches	Silt and Clay %
			Gray **SANDSTONE**	100	70		
45				98	94		
50				100	90		
55				98	282		
60				100	76		
65				96	86		
70				100	96		
			73.0				
75			Bottom of Test Boring @ 73.0 ft.				
80							

PL(%) NM(%) LL(%)

● SPT bpf

10 20 30 40

Completion Depth:	**73.0 ft.**
Date Boring Started:	**5/31/13**
Date Boring Completed:	**5/31/13**
Engineer/Geologist:	**CEM**
Driller:	**NGE**

Remarks:

Depth to Water @ 24 hrs.: ---

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

BASIC NGE LOG W13053 LOGS.GPJ NGELOG.GDT 6/11/13

NGE Environmental & Geotechnical Engineering Solutions

Project Name: **Switzer (Ellis) Drainage**
Logan County, West Virginia

Project Number: **W13053**

BORING NO.
B-2

Location: Offset:

Surface El.: ---

Split Spoon | Shelby Tube | Rock Core | Bag Sample

Depth, feet	Sample Type	Symbol / USCS	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows / 6 inches	Silt and Clay %
0			Brown **SANDY CLAY** with rock fragments				
15							
15			Brown and gray **SANDSTONE**	92	87		
20				100	76		
25				94	60		
28.0							
30			Gray **CLAYSTONE**	78	78		
32.0							
35			**VOID**	3	0		
40				20	0		
43.0							
45			Gray **SANDSTONE**	60	35		
46.0							
50			Bottom of Test Boring @ 46.0 ft. Installed piezometer @ 46.0 ft. w/10 ft. screen				

PL(%) NM(%) LL(%)

● SPT bpf

10 20 30 40

Completion Depth:	**46.0 ft.**
Date Boring Started:	**5/31/13**
Date Boring Completed:	**5/31/13**
Engineer/Geologist:	**CEM**
Driller:	**NGE**

Remarks:

Depth to Water @ 24 hrs.: ---

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

BASIC NGE LOG W13053 LOGS.GPJ NGELOG.GDT 6/11/13

NGE Environmental & Geotechnical Engineering Solutions

Project Name: **Switzer (Ellis) Drainage**
Logan County, West Virginia

Project Number: **W13053**

BORING NO.
B-3

Location: Offset:

Surface El.: ---

Split Spoon | Shelby Tube | Rock Core | Bag Sample

Depth, feet	Sample Type	Symbol / USCS	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows / 6 inches	Silt and Clay %
0			Brrown **SANDY CLAY** with rock fragments				
25.0							
25			**SANDSTONE BOULDERS** mixed with some clay and numerous rock and coal fragments	17	0		
30				88	0		
35				100	10		
35.9			Gray **SANDSTONE** with shale laminations				
40							

PL(%) NM(%) LL(%)

● SPT bpf

10 20 30 40

Completion Depth:	**78.0 ft.**
Date Boring Started:	**6/3/13**
Date Boring Completed:	**6/3/13**
Engineer/Geologist:	**CEM**
Driller:	**NGE**

Remarks:

Depth to Water @ 24 hrs.: ---

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

BASIC NGE LOG W13053 LOGS.GPJ NGELOG.GDT 6/11/13

NGE
Environmental & Geotechnical Engineering Solutions

Project Name: **Switzer (Ellis) Drainage**
Logan County, West Virginia

Project Number: **W13053**

BORING NO.
B-3

Location: Offset:

Surface El.: ---

☒ Split Spoon ☒ Shelby Tube
■ Rock Core ☐ Bag Sample

Depth, feet	Sample Type	Symbol / USCS	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows / 6 inches	Silt and Clay %	PL(%) NM(%) LL(%) ● SPT bpf 10 20 30 40
45			Gray **SANDSTONE** with shale laminations	100	80			
				100	92			
50				100	100			
55				100	46			
60				70	22			
65				100	98			
70				100	86			
75				100	94			
			78.0					
80			Bottom of Test Boring @ 78.0 ft.					

Completion Depth:	**78.0 ft.**
Date Boring Started:	**6/3/13**
Date Boring Completed:	**6/3/13**
Engineer/Geologist:	**CEM**
Driller:	**NGE**

Remarks:

Depth to Water @ 24 hrs.: ---

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

BASIC NGE LOG W13053 LOGS.GPJ NGELOG.GDT 6/11/13

NGE
Environmental & Geotechnical Engineering Solutions

Project Name: **Switzer (Ellis) Drainage**
Logan County, West Virginia

Project Number: **W13053**

BORING NO.
B-3B

Location: Offset:

Surface El.: ---

☒ Split Spoon ☒ Shelby Tube
▮ Rock Core ▯ Bag Sample

Depth, feet	Sample Type	Symbol / USCS	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows / 6 inches	Silt and Clay %
0			Brown **SANDY CLAY** with rock fragments				
3.0							
5			Brown **SANDSTONE**, very soft and weathered, coarse grained, loosely cemented				
10							
15							
20							
20.0			Gray **SHALE**				
25.0			Gray **SANDSTONE**				
25							
30							
35							
40				100	100		
45				94	52		
50							

PL(%) NM(%) LL(%)

● SPT bpf

10 20 30 40

Completion Depth:	**98.0 ft.**
Date Boring Started:	**6/3/13**
Date Boring Completed:	**6/4/13**
Engineer/Geologist:	**CEM**
Driller:	**NGE**

Remarks:

Depth to Water @ 24 hrs.: ---

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

BASIC NGE LOG W13053 LOGS.GPJ NGELOG.GDT 6/11/13

NGE Environmental & Geotechnical Engineering Solutions

Project Name: **Switzer (Ellis) Drainage**
Logan County, West Virginia

Project Number: **W13053**

BORING NO.
B-3B

Location: Offset:

Surface El.: ---

☒ Split Spoon ⧓ Shelby Tube
▮ Rock Core ▯ Bag Sample

Depth, feet	Sample Type	Symbol / USCS	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows / 6 inches	Silt and Clay %
55			Gray **SANDSTONE**	100	80		
60				100	85		
65				100	60		
70				100	30		
75				100	86		
80				100	88		
85				100	98		
90				100	100		
95			91.8 COAL with interbedded shale	100	66		
100			98.0 Bottom of Test Boring @ 98.0 ft.	100	80		

PL(%) NM(%) LL(%)

● SPT bpf

10 20 30 40

Completion Depth:	**98.0 ft.**
Date Boring Started:	**6/3/13**
Date Boring Completed:	**6/4/13**
Engineer/Geologist:	**CEM**
Driller:	**NGE**

Remarks:

Depth to Water @ 24 hrs.: ---

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

BASIC NGE LOG W13053 LOGS.GPJ NGELOG.GDT 6/11/13

NGE
Environmental & Geotechnical Engineering Solutions

Project Name: **Switzer (Ellis) Drainage**
Logan County, West Virginia

Project Number: **W13053**

BORING NO.
B-5

Location: Offset:
Surface El.: ---

Split Spoon | Shelby Tube | Rock Core | Bag Sample

Depth, feet	Sample Type	Symbol / USCS	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows / 6 inches	Silt and Clay %
0			Brown **SANDY CLAY** with rock fragments				
25.0			Gray **SANDY SHALE**				
30.0			Gray **SANDSTONE**	100	73		
				100	86		
40							

PL(%) NM(%) LL(%)
● SPT bpf
10 20 30 40

Completion Depth:	**60.0 ft.**
Date Boring Started:	**6/4/13**
Date Boring Completed:	**6/4/13**
Engineer/Geologist:	**CEM**
Driller:	**NGE**

Remarks:

Depth to Water @ 24 hrs.: ---

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

BASIC NGE LOG W13053 LOGS.GPJ NGELOG.GDT 6/11/13

NGE Environmental & Geotechnical Engineering Solutions

Project Name: **Switzer (Ellis) Drainage**
Logan County, West Virginia

Project Number: **W13053**

BORING NO.
B-5

Location: Offset:

Surface El.: ---

☒ Split Spoon ☒ Shelby Tube
■ Rock Core ▯ Bag Sample

Depth, feet	Sample Type	Symbol / USCS	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows / 6 inches	Silt and Clay %	PL(%) NM(%) LL(%) ● SPT bpf 10 20 30 40
45			Gray **SANDSTONE**	100	94			
				100	96			
50				100	80			
55				100	100			
				100	100			
60			60.0 Bottom of Test Boring @ 60.0 ft.					
65								
70								
75								
80								

Completion Depth:	**60.0 ft.**
Date Boring Started:	**6/4/13**
Date Boring Completed:	**6/4/13**
Engineer/Geologist:	**CEM**
Driller:	**NGE**

Remarks:

Depth to Water @ 24 hrs.: ---

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

BASIC NGE LOG W13053 LOGS.GPJ NGELOG.GDT 6/11/13

NGE Environmental & Geotechnical Engineering Solutions

Project Name: **Switzer (Ellis) Drainage**
Logan County, West Virginia

Project Number: **W13053**

BORING NO.
B-6

Location: Offset:

Surface El.: ---

Split Spoon | Shelby Tube | Rock Core | Bag Sample

Depth, feet	Sample Type	Symbol / USCS	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows / 6 inches	Silt and Clay %
			Brown **SANDY CLAY** with rock fragments				
			5.0				
5			Brown **SANDY SHALE**	90	11		
10				100	46		
15			16.0	100	38		
			Gray **CLAYSTONE**				
			18.0				
20			Gray and brown **SANDSTONE**	100	50		
25				96	76		
			- gray from 28.0 ft.				
30				100	96		
35			- w/shale laminations (36.0 - 38.0 ft.)	100	96		
40				96	92		
45							

PL(%) NM(%) LL(%)

● SPT bpf

10 20 30 40

Completion Depth:	**83.0 ft.**
Date Boring Started:	**6/6/13**
Date Boring Completed:	**6/6/13**
Engineer/Geologist:	**CEM**
Driller:	**NGE**

Remarks:

Depth to Water @ 24 hrs.: ---

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

BASIC NGE LOG W13053 LOGS.GPJ NGELOG.GDT 6/11/13

NGE Environmental & Geotechnical Engineering Solutions

Project Name: **Switzer (Ellis) Drainage**
Logan County, West Virginia

Project Number: **W13053**

BORING NO.
B-6

Location: Offset:

Surface El.: ---

Split Spoon | Shelby Tube | Rock Core | Bag Sample

Depth, feet	Sample Type	Symbol / USCS	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows / 6 inches	Silt and Clay %
50			Gray **SANDSTONE**	98	88		
				100	88		
55				96	96		
60			- w/shale laminations (58.0 - 64.0 ft.)	100	56		
			64.0				
			VOID 65.0	90	56		
65			Gray **SANDSTONE**				
70			70.8	100	56		
			COAL	100	0		
75			79.3				
80			Gray **SANDSTONE**	100	65		
			83.0				
85			Bottom of Test Boring @ 83.0 ft.				
90							

PL(%) NM(%) LL(%)

● SPT bpf

10 20 30 40

Completion Depth:	**83.0 ft.**
Date Boring Started:	**6/6/13**
Date Boring Completed:	**6/6/13**
Engineer/Geologist:	**CEM**
Driller:	**NGE**

Remarks:

Depth to Water @ 24 hrs.: ---

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

BASIC NGE LOG W13053 LOGS.GPJ NGELOG.GDT 6/11/13