

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

COUNTY
OF
MINGO

NAME OF PROJECT
OLDFIELD BRANCH (HALL) 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

ARTICLE I - DEFINITIONS

- 1.0 "Bidder" refers to the person, firm, or company offering to furnish the work called for by the specifications herein.**
- 2.0 "Chief" shall mean the Chief of the West Virginia Department of Environmental Protection's, Office of Abandoned Mine Lands & Reclamation.**
- 3.0 "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

ARTICLE II – GENERAL CONDITIONS

Sections Included:

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

ARTICLE II - GENERAL CONDITIONS

1.0 ENUMERATION OF CONTRACT DOCUMENTS

1.1 Drawings

Construction drawings (13 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

ARTICLE II - GENERAL CONDITIONS

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

ARTICLE II - GENERAL CONDITIONS

of a trade guarantee custom or a special guarantee provision, the work, both as to the materials and workmanship, shall upon acceptance of final 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.

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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: _____

ARTICLE II - GENERAL CONDITIONS

8.0 SAFETY REQUIREMENTS

- 8.1 Particular attention is directed to the "West Virginia Safety Code for Building Construction" as published by the West Virginia Department of Labor. Observance of and compliance with said laws, regulations and codes shall be solely with and without qualification the responsibility of the Contractor.
- 8.2 The Contractor, subcontractors, other contractors and all employees and workers shall comply with the provisions of the Occupational Safety and Health Act 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.

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- 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.

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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.

ARTICLE II - GENERAL CONDITIONS

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

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

ARTICLE II - GENERAL CONDITIONS

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

ARTICLE II - GENERAL CONDITIONS

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

11.3 **Wages.**

Attention is called to the prevailing rates of wages to be paid for labor on public improvements in Mingo 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.

ARTICLE II – GENERAL CONDITIONS

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.

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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.

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14.4 Payments Withheld.

The Regional Engineer or his representative 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.

ARTICLE II - GENERAL CONDITIONS

- (c) **The processing of final payment and the processing of payment of retained percentage shall constitute a waiver of all claims by DEP except those arising from:**
 - (i) **Unsettled liens.**
 - (ii) **Faulty or defective work appearing after final completion.**
 - (iii) **Failure of the work to comply with requirements of the contract documents.**
 - (iv) **Terms of any special warranties required by the contract documents.**
 - (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
DESIGN INVOICE FOR PAYMENT

Revised 5/09

Page 1 of _____



Project Name: _____ Purchase Order No: _____ Inv. No. _____ WD# _____
 Consultant: _____ Invoice Date: _____
 Address: _____ Performance Period From: _____ To: _____

ATTN (Project Manager): _____

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 \$ _____
 INVOICES PAID TO DATE \$ _____
 CURRENT PAYMENT DUE \$ _____
 TOTAL BILLED TO DATE \$ _____

% COMPLETE: _____

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

Date: _____	Signed: _____, Project Mgr.	Office/App
PO#: _____		Date
PI#: _____		
FEIN/SS#: _____		
FIMS Vendor #:		
FUND	FY	ACT
8708	20	130
		GRANT#
		PROJECT #

Consultant: _____ Original Signature (Blue Ink)
 Date: _____

CONTINUATION SHEET OF APPLICATION AND CERTIFICATE FOR PAYMENT

Project Name: _____ Application No: _____

Page ___ of ___ pages

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

ARTICLE II - GENERAL CONDITIONS

15.0 SURETY BONDS

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

ARTICLE II - GENERAL CONDITIONS

- (c) **The cost or credit to DEP resulting from a change in the work shall be determined in one or both of the following ways:**
 - (i) **By mutual acceptance of a lump sum properly itemized.**
 - (ii) **By unit prices stated in the contract documents or subsequently agreed upon.**
- (d) **If none of the methods set forth in 16.1(c) above is agreed upon, or the work to be performed is agreed by DEP and Contractor to be of such nature that it cannot be estimated in advance with sufficient exactness for mutual agreement, then DEP may direct the Contractor to perform the work by change order in accordance with the following provisions, and the Contractor shall promptly proceed with the work:**
 - (i) **The work shall then be performed for an amount equal to the actual and necessary net cost to the Contractor for material and labor cost necessarily used therein, including all taxes and delivery costs for materials, all required extra costs on labor, plus cost for superintendents, power, use of tools, equipment, plant, plus the Contractor's normal charge under the contract for overhead and profit. The Contractor shall keep and present to DEP for inclusion in the change order complete itemized accounting for all materials, complete identified time and payment records for all employees, and workmen actually performing the work covered by the change order, the cost accounting of work performed by subcontractors for work covered by the change order. DEP reserves the right to require verifications of all costs covered under the change order.**
 - (ii) **The amount of credit to be allowed by the Contractor to DEP for any deletion or change which results in a net decrease in the contract sum will be the actual net cost. When both additions and credits covering related work or substitutions are involved in one change, the allowance for overhead and profit shall be figured only on the basis of the increase, if any, with respect to that change.**

- 16.2 The 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.

ARTICLE II - GENERAL CONDITIONS

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

ARTICLE II - GENERAL CONDITIONS

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

17.3 Acceptance of Non-Conforming Work.

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

18.0 ASSIGNMENT OF CONTRACT

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

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:

Provide sediment control as shown on plans, install mine seals, install drainage structures, construct a retainage wall, revegetate all disturbed areas, and final site cleanup.

ARTICLE III - GENERAL REQUIREMENTS

2.0 QUALITY STANDARDS, APPROVALS

- 2.1 Notwithstanding reference in the specifications or on the drawings to any article, item, product, material, equipment, or system by name, brand, make, or manufacturer, such reference shall be intended and interpreted as establishing a standard of quality, and shall not be taken, regarded, or construed as limiting competition.
- 2.2 Any article, item, product, material, equipment, or system which will perform adequately and satisfactorily the duties imposed by the general design will be considered equally acceptable to that specified or referenced, providing the article, item, product, material, equipment, or system so proposed is equal in quality, substance, design, manufacture, function and performance as that specified or referenced, and adjudged and determined to be so in the opinion of the Construction Supervisor and is approved by him/her. The approval of the 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

ARTICLE III - GENERAL REQUIREMENTS

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

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

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

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

All potential bidders are requested to arrive prior to the starting time for the pre-bid. Bidders who arrive 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 Regional 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.

ARTICLE III - GENERAL REQUIREMENTS

- (e) No portion of the work requiring submission of a shop drawing, product data, or sample shall be commenced until the submittal has been approved by the 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.

ARTICLE III - GENERAL REQUIREMENTS

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

ARTICLE III - GENERAL REQUIREMENTS

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

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

11.0 PROTECTION OF WORK; DAMAGES

11.1 Protection and Replacement of Work.

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

11.2 Damages to Existing Work.

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

12.0 TEMPORARY FACILITIES

12.1 Utilities

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

ARTICLE III - GENERAL REQUIREMENTS

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

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

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

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



Earl Ray Tomblin
Governor



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



77 1/4"

1 1/2" 17 1/4" 1 1/8" 15 3/4"



**STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

27 3/4"

Office of Abandoned Mine Lands & Reclamation

7 7/8" Earl Ray Tomblin
Governor

3 3/4" Project Cost: \$XXX,XXX.00
Funding: US Department of the Interior – OSM with fees paid by the Coal Industry



7 7/8" Randy C. Huffman
Cabinet Secretary

AML

Robert Rice
Chief

Project Name:
DEP#

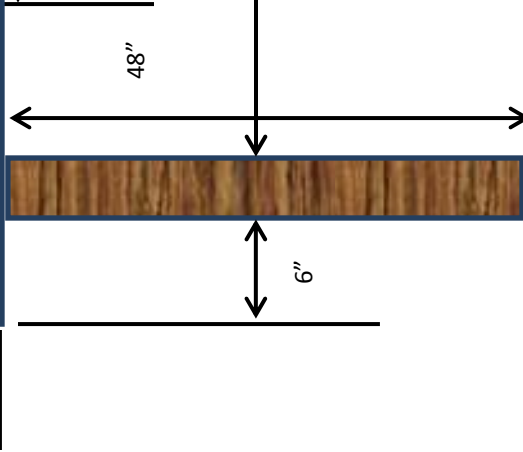
Contractor: Joe Smith Contracting

Project Start Date: 01/01/01

18"

2 1/4"

6" 48" 6" 36" 36" 73 7/8" 6"



96"



STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Office of Abandoned Mine Lands & Reclamation

Earl Ray Tomblin
Governor



Randy C. Huffman
Cabinet Secretary

AML

Robert Ride
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

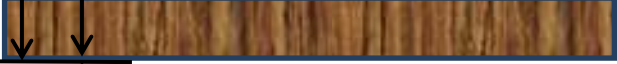
48"

5 1/4"

7 7/8"

9 3/8"

81 3/8"



17 1/2"



Earl Ray Tomblin
Governor



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 1/4"

1 1/2"

2 1/4"

3 3/4"

2 1/4"

1 1/2"

2"

3 3/4"

1 1/2"

4 7/8"

2 1/4"

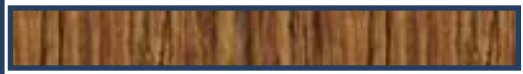
1 1/2"

2 1/4"

4 7/8"

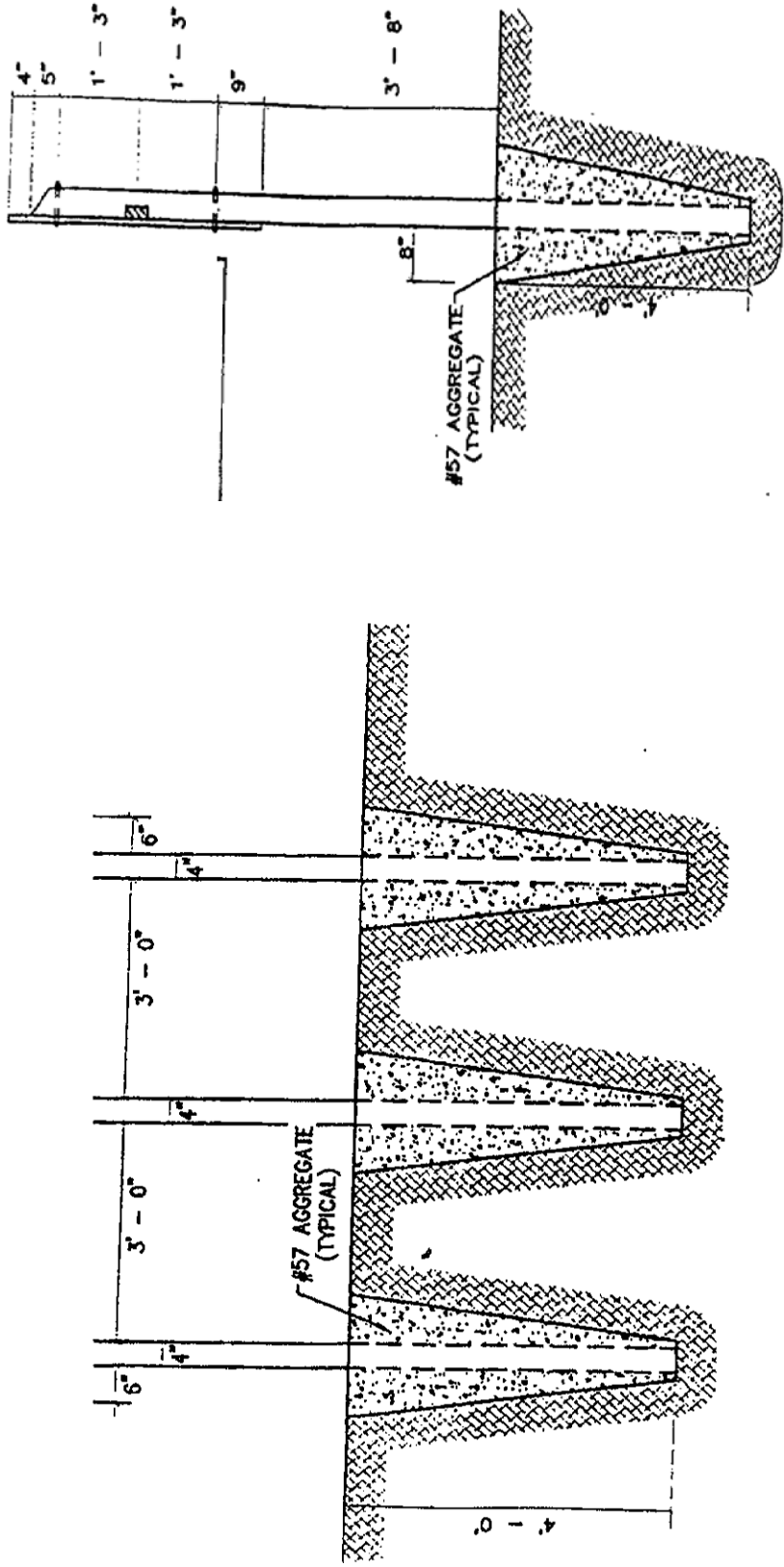
1 1/2"

3 3/4"



Notes:

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



ARTICLE III - GENERAL REQUIREMENTS

14.0 CLEANING & FINAL CLEAN-UP

14.1 Housekeeping - Periodic Cleaning.

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

14.2 Final Clean-Up.

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

14.3 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 MINE LANDS & RECLAMATION**

Report for Week Ending: _____ Project Name: _____

By: _____ Location: _____

Title: _____ Contractor: _____

DATE

Daily Activity Summary

Sunday	NO WORK
Monday	Weather: _____ *F Conditions: _____
Tuesday	Weather: _____ *F Conditions: _____
Wednesday	Weather: _____ *F Conditions: _____
Thursday	Weather: _____ *F Conditions: _____
Friday	Weather: _____ *F Conditions: _____
Saturday	Weather: _____ *F Conditions: _____

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 subcontract 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 subcontractors 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 Environmental Sediment Control 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

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

Approved by OMB

0348-0046

(See reverse for public burden disclosure.)

1. Type of Federal Action: <input type="checkbox"/> a. contract <input type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance	2. Status of Federal Action: <input type="checkbox"/> a. bid/offer/application <input type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award	3. Report Type: <input type="checkbox"/> a. initial filing <input type="checkbox"/> b. material change For Material Change Only: year _____ quarter _____ date of last report _____
4. Name and Address of Reporting Entity: <input type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier _____, <i>if known</i> : Congressional District, if known: 4c	5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime: Congressional District, if known:	
6. Federal Department/Agency:	7. Federal Program Name/Description: CFDA Number, <i>if applicable</i> : _____	
8. Federal Action Number, if known:	9. Award Amount, if known: \$ _____	
10. a. Name and Address of Lobbying Registrant <i>(if individual, last name, first name, MI):</i>	b. Individuals Performing Services <i>(including address if different from No. 10a)</i> <i>(last name, first name, MI):</i>	
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

**SPECIFICATIONS
OLDFIELD BRANCH (HALL) DRAINAGE
MINGO COUNTY, WEST VIRGINIA**

Prepared by:

**GAI Consultants, Inc.
300 Summers Street, Suite 1100
Charleston, West Virginia 25301**

For the:

**West Virginia Department of Environmental Protection
Office of Abandoned Mine Lands and Reclamation
Charleston, West Virginia**

Project E130024.00

June 2014



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I. SPECIAL PROVISIONS

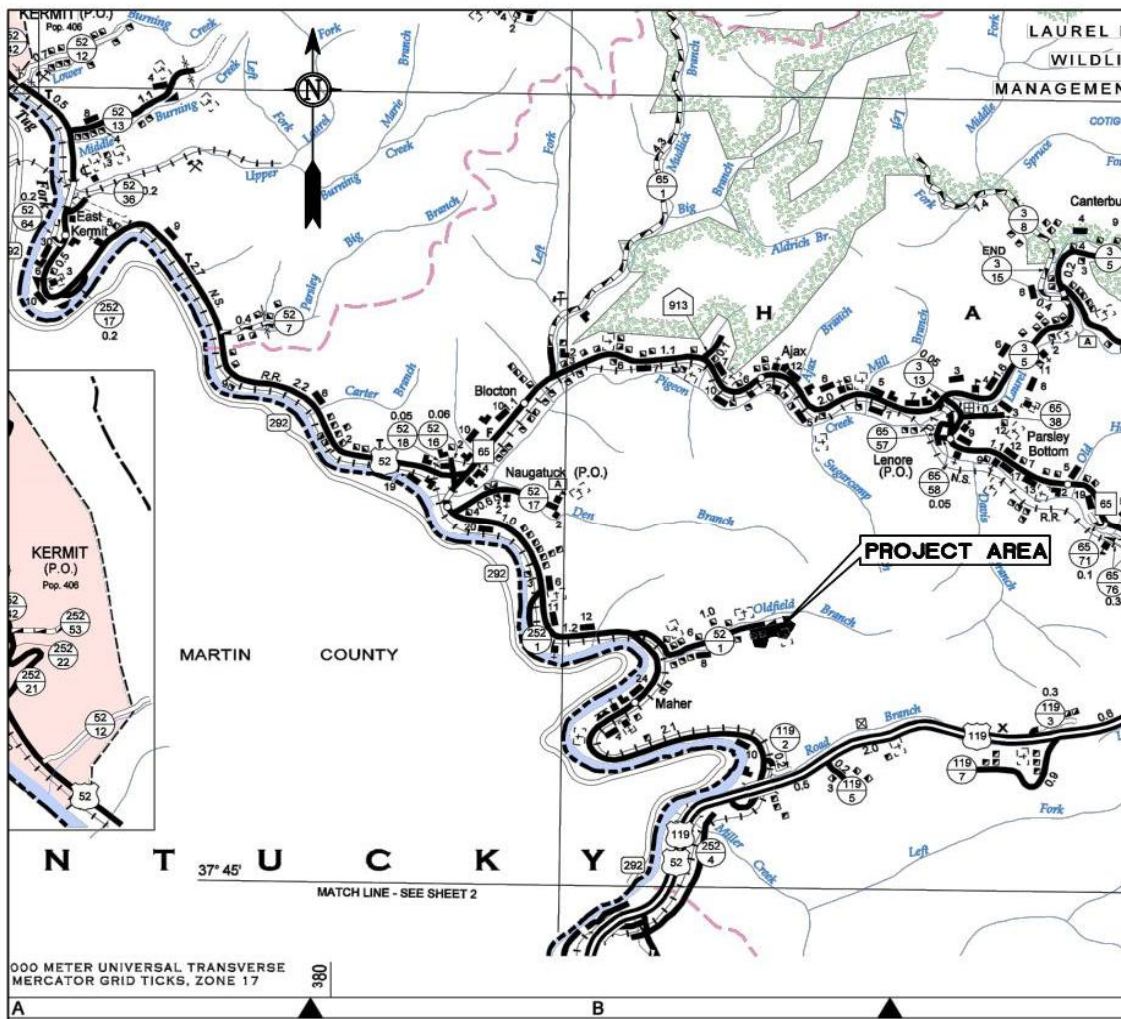
I. LOCATION / SITE DESCRIPTION

The Oldfield Branch Drainage project is located near Naugatuck, Mingo County, West Virginia. The project consists of 5 mine portal closures, slip removal, and redi-rock retaining wall construction.

The project area can be accessed from Charleston, I-64, Exit 58A to US 119 (Oakwood Rd., Logan). Continue 72.2 miles south on US 119 to US 52. Turn left onto US 52. Follow US 52 for 2.9 miles and turn right onto County Route 52/1 (Oldfield Branch Rd.) The first portal is located approximately 0.5-mile on the right.

COUNTY HIGHWAY MAP

SCALE: 1 INCH = 1 MILE



MAPPING REFERENCE
 MINGO COUNTY, WEST VIRGINIA
 GENERAL HIGHWAY MAP
 (2011)

Subsurface Information

The subsurface investigation consisted of a total of 5 borings. The borings were completed between September 30 and October 9, 2013; the approximate locations of the borings are shown on the Drawings. Elevations and locations of the borings were established by field survey. The field classification sheets for the borings are included in Appendix A. A summary of the borings is included on the Drawings.

II. REFERENCE SPECIFICATIONS / DEFINITIONS

The West Virginia Division of Highways' publications entitled "Standard Specifications, Roads and Bridges" adopted 2000, "Supplemental Specifications" latest revision, and "Standard Details Book, Volume 1, Drainage, Guardrail, Pavement, Fence and Markers" (Standards) latest revision, are incorporated by reference. These publications are herein referred to as WVDOH and WVDOH Standards, respectively. Also incorporated by reference are the latest revisions of the book of standards of the American Wood - Preservers' Association (AWPA).

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 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 reference to "AMD" shall be understood to mean all acid or alkaline mine drainage discharges from the project site.

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

III. SCOPE OF WORK

The scope of work involves determining a mitigation plan for the landslide. The portals will either be closed by using wet seals or bat gates and providing proper drainage control measures.

The work covered by these Specifications consists of furnishing all supervision, labor, plant, power, equipment, supplies, and performing all operations in connection with this project. The project work includes: installation of temporary shoring and bracing, as required, to protect workers; erosion and sedimentation control; installation of mine drainage structures; installation of mine seals or bat gates; drains and other drainage structures; installation of a retaining wall; upgrading access road and revegetating disturbed areas; cleanup of the areas upon completion of the work; installation of mine seals, as required; and all other such operations as necessary to complete the work as specified herein. The purchase and delivery of materials to the site will be the responsibility of the Contractor unless otherwise specified.

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

Damage of structures, drainage structures, utilities, etc. that are not intended to be demolished shall be repaired by the Contractor to the satisfaction of the Engineer and the appropriate property owner/lessee (or both) at no cost to the Owner or appropriate property owner/lessee. Likewise, provision taken to protect such structures from drainage shall be considered incidental to construction.

Except where the Contractor is an individual and gives his personal superintendence to the work, the Contractor shall provide a competent superintendent satisfactory to the Engineer on the work site at all times during working hours with full authority to act for the Contractor. It is required that the Contractor shall have on site at all times a full set of plans and specifications during construction activities.

Environmental Control

The Contractor shall conduct all work to minimize the amount of dust, erosion, and damage to local flora and fauna. The Contractor shall use Engineer approved temporary methods of stabilization consisting of water sprinkling, chemical treatment, light bituminous treatment or similar methods. Sprinkling shall be repeated at such intervals to keep all parts of the disturbed areas at least damp at all times, and the Contractor shall have sufficient equipment to accomplish this. Dust control shall be performed as the work proceeds and whenever a dust nuisance or hazard occurs. Calcium chloride, ASTM D 98, shall be the only approved chemical treatment. General site cleanup shall be performed upon the completion of work and/or on a daily basis as determined by the Engineer. The project area shall be kept clean of all rubbish and debris resulting from the work. All barrels, cans, drums, rubbish, waste, or other debris shall be disposed in an approved landfill or other appropriate location. Additional requirements are included in Section 5.0, "EROSION AND SEDIMENT CONTROL."

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 or test borings etc., at the site, they should obtain their own permission from the landowners.

The Contractor shall make interpretations of the surface and subsurface conditions that may affect methods or costs of the execution of work. All prospective Contractors shall obtain their own permission from the landowners for subsurface investigations, samplings, tests, etc. The Contractor herein agrees to make no claim for damage or compensation should the Contractor find conditions during the progress of the work different from those calculated or anticipated. The estimated number of units shown on the Title and Index Sheet and the Contractor's Bid Sheet (Appendix B) are for bidding purposes only. The actual quantities may vary from those shown. The Contractor is responsible for verifying these quantities and bringing any discrepancies to the attention of the Owner three days prior to the submittal of the bid.

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 work hours on all AML Contracts shall be between 7:00 AM and 7:00 PM. This shall exclude work on Sunday and major holidays, as defined by the Engineer.

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.

VI. MEASUREMENT AND QUANTITIES

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

VII. BORROW (DISPOSAL) AREA

If off-site borrow/waste areas outside the construction work limit are utilized by the Contractor the following requirements will apply. Owner approval will be required for each borrow/waste area prior to disturbance. The Contractor shall be responsible to obtain right-of-entry agreements to include the Owner with the right of inspection with the property owner indemnifying and holding the Owner harmless from any injury or damage whatsoever resulting from the Contractor's use of the property. 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 obtain the rights of entry; failure to utilize appropriate language in the right of entry agreement; or failure to obtain permission and signature of all persons or entities holding a legal interest in the subject property(ies) covered by the rights of entry. The Contractor shall be responsible for obtaining National Environmental Protection Act (NEPA) compliance for all off-site waste areas. The Contractor shall be responsible for obtaining an NPDES permit (if required) for off-site waste areas.

The following procedures will be observed relative to selecting and utilizing any borrow/waste site(s).

- a. No borrow/waste site operations will affect a site listed in, eligible, or proposed to be listed in the National Register of Historic Places.
- b. No borrow/waste 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/Waste site operations will not cause a significant encroachment within the base floodplain (E.O. 11988: Floodplain Management).
- d. Borrow/Waste site operations will not be located in or affect a critical habitat of a Federal listed endangered or threatened species under 16 USC 1531, et. seq.
- e. No borrow/waste operations will occur in wetland areas which are designated by appropriate agencies.
- f. Borrow/Waste site operations will be consistent with any approved plans governing ambient air quality.
- g. Adherence to these mitigations does not relieve the grantee or recipient of the obligation or responsibility to obtain any other Federal, State, or local approvals required to use borrow/waste and conduct such activities.
- h. Documentation: Copies of borrow/waste site approvals, and concurrences will be submitted to the Owner prior to the commencement of reclamation activities.
- i. Site Monitoring: Borrow/Waste activities will be monitored by the Owner 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 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 construction work limit conforming to the requirements of Sections 4.3 of these Specifications. Wood may be burned in conformity with Sections 4.3 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. The Owner 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 OSHA are in effect for this Contract. The Owner 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 WVDOH Section 107.7 regarding public convenience and safety.

All Contractors' equipment shall be in satisfactory operating condition and be capable of safely and efficiently performing the work required. Qualified operating personnel shall be provided by the Contractor for the operation of this equipment. The Contractor shall furnish and install, at the Contractor's own expense, all fuel, oil, grease, cables, repair parts, tools and all other miscellaneous supplies and parts necessary for the efficient operation of each unit. Leakage of any fluids from any equipment shall be corrected immediately, otherwise, the Engineer, should he feel it necessary, shall halt operations until the problem is corrected.

XI. REGULATIONS

All appropriate Municipal, Township, County, State, and Federal Regulations shall apply to this Contract. It shall be the Contractor's sole responsibility to be aware of these regulations and to comply with them. The Owner 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 at all times and 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 the Owner 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 WVDEP shall provide the NPDES Storm water permit from the Division of Water and Waste Management, a WVDOH Encroachment permit if required, the Water Quality Certification from the Division of Water and Waste Management and an ACOE Regional permit, if required. The Contractor shall procure all other permits and licenses, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the work. Permits required for this project may include but are not limited to: a Stream Activity permit from the WV Division of Natural Resources and burning permits from the WV Division of Forestry and WVDEP, Division of Air Quality. A copy of the permits as procured shall be furnished to the Owner prior to initiation of the work under this Contract.

Anticipated Permit	Responsible Party for Obtaining
USCOE 401/404	Owner
USFWS Clearance	Owner
WVSHPO Section 106 Clearance	Owner
Applicable Burning	Contractor
Applicable Blasting	Contractor
WVDEP Storm water Construction	Owner
WVDNR Right of Entry	Contractor
All other applicable permits and licenses	Contractor

XIV. ELECTRICITY, WATER SUPPLY AND SANITARY FACILITIES

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

XV. UTILITIES AND OTHER OBSTRUCTIONS

It shall be the sole responsibility of the Contractor to locate and avoid all utilities, facilities and other structures and obstructions. For that purpose, the Contractor shall employ all necessary precautions and methods to ensure avoidance of and damage to such conditions. In the event such damage does occur, the Contractor shall notify the affected owner and the Engineer immediately, make or have made all necessary repairs, and bear the expense of repairs for the damage thereof and any resulting damage caused thereby. If utility relocations are necessary, as determined by the Engineer, the Contractor shall be reimbursed for the relocation per utility company invoice. The Contractor shall first submit

a written cost estimate for all utility relocations required to the Engineer for approval prior to performing or arranging for any utility relocation. The utility locations shown on the Drawings are approximate and should be field verified by the Contractor prior to the initiation of work.

The utility owners are as follows:

Electric:	American Electric Power, 800-277-2177
Telephone:	Frontier, 877-798-0874
Miss Utility	811 (1-800-245-4848)
	www.WV811.com

If the Contractor encounters any underground utilities not shown on the Drawings (including service taps), the Contractor shall not disturb them and shall notify the Engineer immediately for determination of subsequent actions.

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 construction work limit. 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 Owner immediately and make or have made all necessary repairs and bear the expenses thereof and resulting damage caused thereby.

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 Owner for approval. The Owner will not reimburse the Contractor for any WVDOH costs. Only utilities affected by the proposed reclamation will be reimbursed.

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.

XVII. ROCK BLASTING

No blasting shall be performed.

XVIII. TEMPORARY ACCESS ROADS

The Contractor shall utilize existing access roads and construct only those roads necessary to complete the work. The Contractor shall submit a plan for temporary access

roads to the Engineer at the pre-construction conference. Access roads located outside of the construction work limit shall follow the procedures of Section 4.0, "SITE PREPARATION."

The width and type of access roads constructed, and materials used, shall be at the discretion of the Contractor with approval of the Engineer. The roads must be of sufficient quality and adequately maintained so that the Contractor can complete the work. No separate payment will be made for reconstruction or maintenance of these roads, or any area constructed for access to the project area, or for the storage of materials or equipment.

Road construction shall be performed in such a way as to minimize erosion and shall not bypass erosion and sedimentation controls and as described in Section 4.3.3, "Access Road Construction." Upon completion of the project, temporary roads shall be removed and existing roads shall be brought back to their original condition, or better, as approved by the Engineer. Disturbed areas shall then be regraded and reseeded with appropriate drainage and sediment control installed, as approved by the Engineer.

The Owner has obtained rights-of-entry on only those parcels shown on the Drawings that are within the construction work limit. If the Contractor requires additional rights-of-entry, it will be the Contractor's responsibility to obtain them. In the right-of-entry agreements between the Contractor and landowner, the landowner shall indemnify and hold the Owner harmless from any injury or damages whatsoever resulting from the use of the property. The Contractor shall indemnify and hold the Owner harmless for any damage to public or private property. All proposed routes of access shall be subject to the approval of the Engineer and shall be constructed as outlined in Section 4.3.3, "Access Road Construction" and as approved by the property owner. The Contractor shall be responsible for replacing or repairing all fences and gates in exact pre-existing locations for all fences and gates damaged or removed during construction and providing any temporary fencing or gates required, all at his own expense.

The Contractor shall maintain roadways and access throughout the construction process. The costs associated with maintaining access shall be considered incidental to the project.

The Contractor shall be responsible for erecting any temporary barriers and warning signs necessary to limit access to the construction areas.

XIX. TRAFFIC CONTROL

The Contractor shall maintain and protect traffic, protect the work in progress, protect adjacent property from excess dust resulting from the construction and maintain traffic through, around, or adjacent to the construction area. All materials used for traffic control shall be in accordance with the current WVDOH manual: "Traffic Control for Streets and Highway Construction and Maintenance Operations." A copy of the operational plan accepted by the WVDOH shall be submitted to the Owner for approval prior to its implementation. All traffic control required during the work shall be considered incidental to the project.

XX. SITE CONDITIONS AND ENVIRONMENTAL PROTECTION

Conditions at the site shall be examined by the Contractor, and the Contractor 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.

The Contractor shall be responsible for controlling and handling water encountered during construction, including dewatering of mine pools for mine seal installations, by providing equipment and labor to insure safe and proper construction. The Contractor shall submit a plan to the Owner at the pre-construction meeting for approval. The Owner's approval of this plan does not relieve the Contractor of his responsibility for controlling water.

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

The Contractor shall be responsible for furnishing all materials, equipment, labor and incidentals necessary for the installation of silt barriers and check dams as designated in the drawings. Sediment control shall be placed on regraded areas concurrent with construction and prior revegetation.

The Contractor shall be responsible for implementing the measures called for in the NPDES Storm water permit provided by the WVDEP for erosion and sediment control. Sediment control measures shall be in-place and operational prior to any disturbance occurring in the project area. The Owner's approval of this plan does not relieve the Contractor of his responsibility to be in compliance with any laws and/or permits.

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

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

The Contractor shall be responsible for the repair or replacement of streets or driveways (blacktop, gravel & concrete), trees, shrubs, fences, and any other physical features that are disturbed by construction which were not included in the proposed scope of work for the project to original condition or better at his own expense.

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

XXI. 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 Owner's Field Representative and/or Engineer at the site is to provide the Owner 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.

The Engineer reserves the right to approve and disapprove all facets of the project. However, such approval does not relieve the Contractor of the responsibility for site safety or the proper completion of the work.

XXII. CITATION OF OTHER SPECIFICATIONS

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

ASTM American Society for Testing Materials

ASA American Standards Association

AWWA American Water Works Association

AASHTO American Association of State Highway and Transportation Officials

ACI American Concrete Institute

WVDOT West Virginia Department of Transportation

WVDOH West Virginia Division of Highways

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

XXIII. NPDES STORMWATER PERMIT GUIDELINES

VEGETATIVE PRACTICES

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

- Where the initiation of stabilization measures by the seventh 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 than 14 days) then stabilization measures do not have to be initiated on that portion of the site by the seventh day after construction activities have temporarily ceased.

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

Diversions must be stabilized prior to becoming functional.

MAINTENANCE & INSPECTION

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

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

Inspection and maintenance records must be kept onsite.

EROSION & SEDIMENT CONTROL CONSTRUCTION SEQUENCE

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

II. TECHNICAL SPECIFICATIONS

1.0 MOBILIZATION AND DEMOBILIZATION

1.1 Description

This work shall consist of the performance of construction preparatory operations, including the movement of personnel and equipment to the project site and for the establishment of the Contractor's office(s), buildings and other facilities necessary to begin work on a substantial phase of the Contract. It shall also include all demobilization activities. This work shall include installation of the project sign.

The location of Contractor's office facilities and equipment storage areas shall be subject to approval of the Owner.

1.2 Materials

As required.

1.3 Mobilization

Upon receipt of a notice to proceed, the Contractor shall initiate and complete measures necessary to commence the work. Mobilization shall also consist of delivering to the site and assembling in working order all necessary equipment, materials, and supplies to be furnished by the Contractor to complete the work.

1.4 Demobilization

Demobilization shall consist of the removal from the site of all the Contractor's equipment and materials after completion of the work and cleanup of the site. Work shall be done to the satisfaction of the Engineer.

1.5 Method of Measurement

The method of measurement for determining the quantity of work done as described above will be on a lump sum basis. The project sign shall be considered incidental to this item.

1.6 Basis of Payment

The quantity of work done will be paid at the Contract lump sum price bid for this item, which price and payment shall be full compensation for doing all the work herein described in a workmanlike and acceptable manner; including the furnishing of all labor, materials, tools, equipment, supplies and incidentals necessary to complete the work. The amount shall not exceed ten percent (10%) of the Total Amount Bid for the project.

Partial payments for "Mobilization and Demobilization" will be as follows:

- a. One-half of the amount bid will be released to the Contractor with the first estimate submitted 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 Owner and when all "As-Built" drawings are submitted and approved.

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.

1.7 Pay Items

Item 1.0, "Mobilization and Demobilization," per lump sum. Cannot be more than 10% of the Total Amount Bid for the project.

2.0 CONSTRUCTION LAYOUT STAKES

2.1 Description

This item consists of furnishing, placing, replacing and maintaining construction layout stakes, baseline stations, primary control points and any disturbed property location monuments as necessary for the proper performance of the work under this Contract. It further consists of determining the exact units of measure for payment. It also consists of checking and making any field adjustments to the plan grades and elevations that may be necessary due to the inconsistency in material characteristics (change in shrink or swell other than that used in design).

Additionally, this item also includes, prior to any excavation work taking place, the generation of cross-sections of the site indicating pre- and post-construction ground lines and proposed plan grade for submission to the Engineer.

2.2 Materials

Conventional survey stakes, flagging, drafting media, etc.

2.3 Construction Methods

The Contractor shall provide a field work force and shall set all additional stakes 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. The Contractor shall be responsible for having the layout staking work conform to the lines, grades, elevations, and dimensions called for on the Drawings. The Contractor shall furnish a copy of his survey records for checking to the Engineer and for the permanent file. These records shall be furnished as they are completed during the progress of the work. Any inspection or checking 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 responsibility to secure the proper dimensions, grades, and elevations.

The Contractor shall use primary control points for re-establishing baseline stations wherever previously surveyed stations have been destroyed or removed. At a minimum, the Contractor shall confirm the location of existing baseline stations by field survey of each station's relationship to a suitable primary control point. Should any discrepancies be found, primary control points shall supersede any existing baseline stations.

The Contractor shall use competent personnel and suitable equipment for the layout work required. Work shall be done under the supervision of, or directed by a Licensed Land Surveyor in West Virginia.

The Contractor shall provide the Engineer an existing site conditions plan (with baselines) and ground line cross-sections and notes for acceptance prior to any earthwork activities and as-built plans and ground line cross-sections and notes as soon as practical after the completion of construction. Failure to do so could either preclude any future alteration to the total amount bid for earthwork and/or retard the final installment payment for earthwork, and final mobilization/demobilization payment.

Acceptable plans (with the same baselines shown on the plans) and cross-sections shall consist of hard copies (with proposed grade lines) and be on disk in AutoCAD 2007 format. Drawings shall be 22" X 34" blackline drawings. Station numbers, elevations, baseline offset distances, cross-section lines and types, date, responsible parties and a legend shall be clearly illustrated. Cross-sections that do not encompass all areas of both earthwork excavation and fill placement shall be considered incomplete without exception.

All survey notes, calculations, sections, plans, or other documents produced pursuant hereto shall be certified as correct by a Licensed Land Surveyor in West Virginia.

The Engineer shall be allotted sufficient time to reasonably review submitted cross-sections and investigate any and all discrepancies, throughout the course of construction. Unacceptable and/or incomplete cross-sections shall be returned to the Contractor for necessary revision. No earthwork, nor any other directly related work item, shall be initiated prior to the Engineer's acceptance of a complete set of pre-construction cross-sections. Costs incurred by the Contractor from the delay of any construction activities required by the Engineer to recover, review, and investigate project cross-sections as described herein shall be the sole responsibility of the Contractor.

The As-Built plans shall include the vertical and horizontal locations of all buried components depicted on the plans and herein specified:

- a. As-Built plans shall include the vertical and horizontal locations of all installed pipes and associated drop inlets and/or manholes.
- b. In addition, As-Built plans shall show the vertical and horizontal location of any and all mine seals and subsurface drains, including bottom of drain, pipe inverts, and top of buried subsurface drain, installed for this project

Additionally, this item shall also include the preparation of "As-Built" drawings, which include Pre-Construction, Plan, and Post-Construction cross sections; plans, and any others specifically requested by the Owner. All of these "As-Built" drawings shall be provided prior to Final Inspection Meeting and final "Mobilization and Demobilization" payment.

2.4 Method of Measurement

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

2.5 Basis of Payment

The quantity of work done will be paid at the Contract lump sum price bid, which price and payment shall be full compensation for doing all the work herein described in a workmanlike manner; including the furnishing of all labor, materials, tools, equipment, supplies and incidentals as necessary to complete the work. Payment shall also include furnishing, setting, maintaining and resetting the stakes, when necessary, and for providing the Engineer pre- and post-construction ground line cross-sections with plan grade and "As-Built" drawings as described herein. The amount shall not exceed three percent (5%) of the Total Amount Bid for the project.

No deduction will be made nor will any increase be made, in the lump sum construction layout item amount regardless of decreases or increases in the final total contract amount or for any other cause.

2.6 Pay Items

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 of all off-site materials to be incorporated into the work. Written approval from the Engineer will be required prior to incorporation of these items into the work.

3.2.2 The Contractor shall submit a minimum of 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 D 698 (standard Proctor), field density tests following compaction, soil tests to determine the lime and nutrient requirements of the areas to be revegetated, compressive strength test for grout in accordance with ASTM C 109, and for concrete in accordance with ASTM C 31 & C 39.

3.3 Construction Methods

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 Engineer in West Virginia. The laboratory must be approved by the Engineer.

Testing for strength, slump, compaction, aggregate, rock, soils, nutrient and lime requirements, etc., shall be performed as required by these Specifications or as ordered by the Engineer in writing. The Engineer will determine the need, locations, extent, and time of any testing herein specified or in addition to that which is herein specified.

The Contractor shall be responsible to perform laboratory tests of the various fill materials (soils, coal refuse, etc.) to identify the standard Proctor (ASTM D 698) density. If, in the opinion of the Engineer, the materials have changed, then a retest may be required.

The fill materials shall be compacted to a minimum of 90% of their maximum standard Proctor density, unless otherwise noted. Each fill material considered for use in the construction activities shall be tested by the Contractor and approved by the Engineer prior to placement. In addition, field density tests shall be performed in accordance with these Specifications. All tests shall be submitted to the Engineer for approval prior to compacting the fill and after fill compaction to verify that the compaction criteria are obtained.

Only first-class materials conforming to the requirements of these Specifications shall be incorporated into the work. All materials shall be accepted by the Engineer prior to use in this project. The Contractor shall furnish a written statement of the origin, composition, and manufacturer of any or all materials (manufactured, produced, or grown) 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 Engineer, the Contractor shall furnish materials from other approved sources.

Whenever these Specifications require that a product be in accordance with Federal or State regulations, ASTM designations or other association standards, the Contractor shall present a certification from the manufacturer that the product complies therewith. When requested or specified, the Contractor shall also submit supporting test data to substantiate compliance.

3.4 Method of Measurement

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

3.5 Basis of Payment

The quantity of work done will be paid at the Contract lump sum price bid for this item, which price and payment shall be full compensation for doing all the work herein described in a workmanlike and acceptable manner; including the furnishing of all labor, materials, tools, equipment, supplies and incidentals as necessary to complete the work. The amount shall not exceed three percent (3%) of the Total Amount Bid for the project.

No deduction will be made, nor will any increase be made, in the lump sum quality control item amount regardless of decreases or increases in the final total Contract amount or for any other cause.

3.6 Pay Items

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

Work in this Section shall be performed in accordance with the Drawings and as specified herein. The work shall include, but not necessarily be limited to, the following:

- a. Clearing and grubbing;
- b. Trash, Debris and Equipment Removal and Disposal; and
- c. Construction of temporary access roads within the project site.
- d. Placement of Construction Fence around the cemetery.

4.2 Materials

Site preparation shall utilize materials discussed in the following sections.

4.3 General Requirements

The Contractor shall conduct his operations in such a manner as to minimize soil erosion.

4.3.1 Clearing and Grubbing

The work areas within the construction work limit indicated on the Drawings shall be cleared and grubbed to the extent required to do the work by removing all standing or felled trees, stumps, brush, trash and other objectionable matter to the satisfaction of the Engineer. All materials from the required clearing and grubbing operations shall be either removed from the site and placed at a location approved by the Engineer, chipped for later use as mulch, or burned completely to ash (if not prohibited by local, State, and Federal regulations). Any timber eight inches in diameter or greater shall be stockpiled for the property owner at a location designated by the Engineer. All timber eight inches in diameter and larger at stump height, shall be saw cut prior to grubbing operations. Timber shall be topped with the branches removed, stacked and stockpiled in an appropriate manner in an accessible location approved by the Engineer 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.

There will be no additional compensation for accessing, furnishing, clearing, grubbing, grading, restoring, fertilizing, seeding, and mulching of off-site waste areas. The Contractor shall submit a site (waste area) grading and operations plan to the Engineer for review and approval.

All materials to be burned shall be piled in such a manner and in such locations as to cause minimum fire hazard. All burning shall be so thorough that the materials will be reduced to ashes. No burning shall take place on coal refuse material, near open coal mine portals, or near utilities. If the Contractor does utilize burning he shall conduct the operation to prevent causing a coal refuse or coal mine fire. The Contractor shall obtain all permits and licenses required prior to burning the material. A plan showing the location of the material to be burned and all fire control measures to be implemented, including

copies of permits and licenses, shall be submitted to the Owner's representative at the site for approval.

The Contractor shall have available at all times, for use in preventing and suppressing fires, suitable and operational fire-fighting equipment. When the fire hazard is great, additional fire-fighting equipment shall be provided or the burning shall be deferred until such time that the fire hazard is no longer great.

The Contractor shall acquaint himself with and conform his operations to Federal, State, and local laws and regulations pertaining to open-burning and preventing forest and brush fires. The Contractor shall be liable for any damage caused by his burning operations.

All other materials generated from required clearing and grubbing operations shall be removed and disposed by the Contractor. All garbage, construction debris, mining debris, etc., shall be disposed 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 or 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 shall provide a reclamation plan for approval. In addition, for all waste and borrow areas outside the construction limits, the Contractor shall 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.

4.3.2 Trash, Debris and Equipment Removal and Disposal

The Contractor shall remove and dispose of trash and debris. Removal shall be at areas (not identified on the Drawings) as identified by the Engineer. Candidate items are anticipated to include household waste and other items.

Laboratory analysis (if required) for off-site disposal shall be performed by the Contractor, and the cost is considered incidental to Pay Item 4.1, "Site Preparation."

Disposal shall be at an off-site regulatory permitted disposal area, unless otherwise approved by the Engineer.

Any materials that are considered to be recyclable shall be recycled.

Contractor shall notify the Engineer immediately if any suspected hazardous or questionable materials are encountered during the removal/disposal activities. It is the Contractor's responsibility to remove/dispose of any and all materials encountered.

4.3.3 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 Owner, where applicable. If the Contractor constructs such travel routes, they shall be reclaimed and revegetated according to Section 6, "REVEGETATION," upon completion of the construction activities, as deemed necessary by the Owner, with associated costs being incidental. Any additional access shall require

the Contractor to obtain written permission from the respective land owner and a copy provided to the Engineer. The existing access roads shall be maintained during construction (except when culvert, ditch and road construction are being performed), and shall be left in a condition equal to, or better than, the existing condition upon completion of construction. Resurfacing and/or stabilization stone will be incidental to the cost of the work described herein, except where designated on the Drawings, for any road upgrading required for construction entry, as deemed necessary by the Owner, 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.

Temporary culverts shall be placed at locations shown on the Drawings and as directed by the Engineer. HDPE pipe shall be corrugated high density polyethylene pipe as manufactured by Hancor, Inc. of Findlay, Ohio, or an Engineer approved equal. The pipe shall be Hi-Q Sure-Lok 10.8 pipe. The pipes shall have the diameters noted on the Drawings. The temporary culverts shall be removed at the completion of use of the access road.

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.

Existing access roads shall be maintained at their present condition and repaired (method described above) at the Contractor's expense if damaged by the Contractor. The portions of unpaved access roads and/or driveways relocated or damaged by the construction shall be resurfaced to existing conditions or better. Resurfacing shall be performed at the completion of construction unless otherwise approved by the Engineer.

Water bars shall be placed in locations on the existing access roads as shown on the Drawings. Water bars shall be considered incidental to Site Preparation.

Access for users of the existing roads and residences shall be maintained at all times. The Contractor shall maintain unrestricted access.

4.3.4 Construction Fence

The cemetery shown on the Drawings shall be protected from disturbance by installing construction fence around the perimeter of the cemetery. Contractor shall use caution while installing the fence to prevent any disturbance of the cemetery. The fence shall be removed at the completion of the project. The installation and removal of the fence shall be considered as part of Site Preparation.

4.3.5 Multi Pipe Stream Crossing

The multi pipe stream crossing shall be located as shown on the Drawings. The construction method and materials shall be as shown in the Detail on the Drawings. The stream crossing shall be removed at the completion of the project.

4.4 Method of Measurement

The method of measurement for determining the quantity of work will be on a lump sum basis except for those items described below.

The method of measurement for "Class 1 Aggregate" shall be per ton of stone placed in the area designated on the Drawings as road and parking area resurfacing when construction is completed. Once construction is complete per the template shown on the Drawings; with any other areas being incidental to the cost of the work described herein, and shall consist of the Contractor furnishing, spreading and compacting one or more courses of stone on a prepared surface in accordance with these Specifications, matching the existing road way, or as approved by the Owner. Actual tare ticket weight documentation shall be used to determine the quantity and provided to the Engineer.

The method of measurement for "Temporary Culvert" shall be on a per linear foot basis. The per linear foot basis shall include the necessary earthwork, subgrade preparation, pipe, materials and removal of the pipe, and other incidental to the proper installation.

The method of measurement for "Multi Pipe Stream Crossing" shall be on a per each basis. The per each basis shall include the necessary earthwork, subgrade preparation, culverts, stone, geotextile, other materials and removal of the crossing, and other incidental to the proper installation.

4.5 Basis of Payment

The quantity of work done will be paid at the Contract prices 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, including the removal and disposal of trash, debris, and mining equipment. Site preparation shall not exceed ten percent (10%) of the Total Amount Bid for the project.

No deduction will be made, nor will any increase be made, in the lump sum site preparation item regardless of decreases or increases in the final Contract amount or for any other cause.

4.6 Pay Items

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

Item 4.2, "Class 1 Aggregate," per ton.

Item 4.3, "Temporary Culvert," per linear foot.

Item 4.4, "Multi Pipe Stream Crossing," per each.

5.0 EROSION AND SEDIMENT CONTROL

5.1 Description

This item shall consist of furnishing all materials, equipment, labor and incidentals necessary for the installation of silt fence for sediment and erosion control. Erosion control shall be placed on regraded outslope areas concurrent with construction and prior to revegetation. The intent of the project is to utilize silt fence. Additional quantities may be added at the discretion of the Owner or Engineer.

5.2 Materials

Erosion and sediment control shall utilize materials discussed in the following sections.

5.2.1 Silt Fence

Silt fencing shall meet all applicable requirements of WVDOH Sections 715.11.7 and 642.6.

The Contractor shall construct, as necessary, sediment and erosion control facilities at the work areas prior to beginning any type of excavation. No separate payment will be made to the Contractor for reconstruction, relocation, or continued maintenance of the sediment and erosion control facilities.

5.2.2 Stone for Stabilized Construction Entrance

The stone shall be AASHTO No. 1 or 2. The geotextile shall be a GTF 130 EX or Engineer approved equal...

5.2.3 Stone for Rock Check Dams

The stone shall be 3-inch to 6-inch riprap. The geotextile shall be a GTF 130 EX or Engineer approved equal.

5.3 Construction Methods

Silt barriers for sediment control during construction shall be silt fence and shall be placed in those locations approved by the Engineer. The Contractor shall install silt barriers downgrade of stockpiled areas, temporary access roads and other disturbed areas to confine sediment. Sediment shall be removed after each storm event and as approved by the Engineer. Sediment removal is considered incidental to this work and no additional payment will be made. If damaged or destroyed, the silt barriers shall be immediately repaired or replaced at no additional cost.

The Contractor shall comply with and conform his operations to all applicable Federal, State, and local laws and regulations.

The Contractor shall place rock check dams in locations identified by the Engineer to help control road runoff.

The temporary silt barriers shall be removed during the second seeding if requested by the Engineer.

The stabilized construction entrances shall be placed in the locations shown on the Drawings. The placement shall be in accordance with the requirements of the WVDEP NPDES Storm water Permit.

Rock check dams shall be placed in locations identified by the Engineer. The placement shall be in accordance with the requirements of the WVDEP NPDES Storm water Permit.

At minimum all erosion and sedimentation controls on the site shall be inspected at least once every seven calendar days and within 24 hours after any storm event of greater than 0.5 inches of precipitation per 24-hour period.

5.4 Method of Measurement

The method of measurement for silt fence installation and maintenance in conformance with these Specifications and accepted by the Owner 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.

Any additional sediment control, i.e. stone check dams, sumps etc., installed by the contractor to meet any applicable State or Federal Law or Regulation shall be the Contractor's sole responsibility and all costs pursuant thereto shall be borne fully by the Contractor.

The method of measurement for stabilized construction entrance and rock check dams shall be on a per each basis to include stone, geotextile, all necessary materials, supplies, labor, and equipment for installation and maintenance.

5.5 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.

Failure to control sediment and erosion may result in non-payment of other items until sediment and erosion control problems are sufficiently addressed to the satisfaction of the Engineer.

5.6 Pay Items

Item 5.1, "Silt Fence," per linear foot.

Item 5.2, "Stabilized Construction Entrance." per each.

Item 5.3, "Rock Check Dams," per each.

6.0 REVEGETATION

6.1 Description

This work shall cover all operations incidental to the establishment of vegetation within the limits of construction as shown on the Drawings and in any other areas as directed and 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, and the furnishing and planting of permanent riparian vegetation that include permanent tree and wood species cover, compatible with surrounding native forest lands, all in accordance with these Specifications and as designated herein.

Areas outside the construction work limit, disturbed by the Contractor shall be revegetated by the Contractor at no expense to the Owner.

All revegetation activities shall be conducted immediately following completion of final grade so as to utilize the fine soil material as a seedbed before this material is lost due to erosion from subsequent rainfall.

6.2 Seedbed Preparation

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 depth of six (6) inches. Discing, 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. "Tracking in" shall take place by operating the equipment up and down the regraded slope such that the cleat marks are parallel to the final contours.

Rocks larger than approximately 6 inches in diameter, trash, weeds, cleared and grubbed material, and other debris that will interfere with seeding or maintenance shall be removed and disposed as approved by the Engineer. Areas within existing yard areas shall be hand raked to remove all rocks 2 inches in diameter or larger.

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

6.3 Materials

The materials to be used for revegetation shall conform to the applicable requirements of these Specifications.

6.3.1 Fertilizer

The commercial fertilizer to be used shall consist of a 10-20-20 grade of uniform composition and be 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, and
- c. Guaranteed nutrient percentages.

Fertilizer rates shall be formulated from soil test results. In the absence of soil testing, a rate of 1,000 pounds per acre shall serve as a preferred minimum.

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 or
- b. Apply fertilizer in hydroseeding mixture following seedbed preparation.

6.3.2 Limestone

The lime to be used shall be an agricultural grade pulverized dolomitic limestone containing a minimum of 10% MgCO₃ and not less than 75% total carbonates. Fineness shall be such that no less than 75% shall 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 3 tons per acre shall serve as a preferred minimum.

Lime shall be applied immediately to all areas reaching final grade by one of the two methods listed in Section 6.3.1, "Fertilizer."

6.3.3 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:

- a. Lot number,
- b. Seed producer's name,
- c. Percent purity,
- d. Percent germination,
- e. Date of germination testing, and
- f. 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 5 times the recommended rate except when used in a hydroseeding mixture. When hydroseeding, the rate will be 10 times the recommended rate.

6.3.3.1 Temporary Seed Mixture

All stockpiles or other disturbed areas, which will require further disturbance that will be delayed for a period of 14 days or longer, shall be vegetated according to the following guidelines:

Variety of Seed	Spring 3/15 – 5/31	Summer 5/31 – 8/15	Fall 8/15 – 10/15	Winter 10/15 – 11/15
	lb/acre			
Annual Ryegrass (<i>Lolium multiflorum</i>)	40		40	
German Millet* (<i>Setaria italica</i>)		40		
Cereal Rye (<i>Secale cereale</i>)				170
*Do not use Japanese Millet				

All areas to be temporarily seeded which are to be redisturbed shall be fertilized with 500 pounds per acre of 10-20-20. All areas reaching final grade to be temporarily seeded shall be fertilized according to Section 6.3.1, "Fertilizer." Lime shall be applied according to Section 6.3.2, "Limestone." Mulch shall be applied according to Section 6.3.4.4, "Mulch."

6.3.3.2 Lawn Seed Mixture

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

Rate lbs / 1,000 sq. ft.	Seed Variety	Minimum Specifications	
		% Purity	% Total Germination
0.45	Red Fescue (<i>Pennlawn</i>)	98	85
0.90	Kentucky Bluegrass	85	75
0.70	Merion Bluegrass	90	75
0.20	Annual Ryegrass*	95	85

* Use Annual Ryegrass only in mixtures seeded after August 15 and before May 15

6.3.3.3 Permanent Seed Mixture

Permanent vegetation shall be established on all areas reaching final grade or other areas not likely to be disturbed by further construction activities. Any areas that reach final grade between May 15 - August 15 or October 15 - November 15, shall be seeded with appropriate temporary seed mixture according to Section 6.3.3.1, "Temporary Seed Mixture." These areas shall then be reseeded with the appropriate permanent seed mixture, without Annual Ryegrass, during the next defined seeding period according to this Section. The actual date of permanent seeding will require approval of the Engineer.

General Mixture

Variety of Seed*	Spring 3/15 – 5/15	Fall 8/15 – 10/15
	lb/acre	
Orchardgrass	30	30

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

For the horse pasture area identified on the Drawings, the permanent seed mixture shall be used, except increase the Red Clover to 15 lb/acre.

6.3.3.4 Mulch

Mulching procedures shall take place immediately following seeding. Mulch material shall consist of straw, grass hay, or wood cellulose fiber. High velocity curlex erosion control blanket as manufactured by American Excelsior Company of Arlington, Texas or Engineer approved equal shall be used in lieu of mulch where approved by the Engineer.

6.3.3.4.1 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 per acre. The straw mulch shall be anchored with 100 gallons per acre of asphalt emulsion, or 750 pounds per acre of wood cellulose fiber.

6.3.3.4.2 Wood Cellulose Fiber

Wood cellulose fiber shall be used only on slopes steeper than 2 horizontal to 1 vertical at a rate of 1,500 pounds per acre. Mulch for use with the hydraulic application of seed, fertilizer and lime shall consist of wood cellulose fiber. It shall be processed in such a manner that it will contain no growth or germination inhibiting factors and shall be dyed green. It shall be manufactured in such a manner that (1) after addition and agitation in slurry tanks with fertilizer, lime, seed, 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 the absorption of moisture, and will allow rainfall to percolate to the underlying soil.

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% moisture. Each package of the cellulose fiber shall be marked by the manufacturer to show the air dry weight content.

6.3.4 Water

Water for hydroseeding 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 Engineer.

6.4 Construction Methods

All seeding operations shall be performed immediately following seedbed preparation in such a manner that the seed is uniformly applied in the specified quantities on the designated areas.

In addition to the lime applied to areas achieving final grade, lime shall be applied at a rate of 3 tons per acre unless otherwise adjusted by site specific testing.

Seedbed preparation and seeding shall take place progressively as various regraded areas are brought to final grade.

Seed application shall consist of approved hydroseeding methods where feasible. Any seed left in the hydroseeder overnight shall be reinoculated before that seed is applied. Other methods of seed application may be utilized for site specific reasons if approved by the Engineer.

Any area failing to establish a vegetative stand due to weather or adverse soil conditions shall be reseeded, relimed, refertilized and remulched.

6.4.1 Maintenance of Seeded Areas

The Contractor shall maintain all seeded and planted areas during construction and for the 1-year maintenance period. All areas shall be protected from any further equipment traffic and any damaged areas shall be repaired and reseeded. Maintaining seeded areas shall consist of watering, refilling, refertilizing, reliming, reseeding and remulching erosion gullies and all bare areas.

6.4.2 Second Step Seeding

The second step seeding will take place during the first defined seeding period following the initial seeding. The following shall be used as a guide for second step application:

- a. For areas with less than a 50% stand or subject to severe erosion, apply the complete amount of seed, fertilizer, lime and mulch as specified above.
- b. For areas with over a 50% stand or subject to mild erosion, apply one half the original amounts of seed, fertilizer, lime, and mulch as specified above.

6.5 Method of Measurement

The method of measurement for determining the quantity of work done as described above will be on a per plan view acre basis for revegetation including seeding (including seedbed preparation, fertilizer, limestone, seed, seedlings, mulch, and water). There will be no additional compensation for accessing, furnishing, clearing, grubbing, grading, restoring, fertilizing, seeding, and mulching of borrow area(s) (either on-site or off-site). All lime, fertilizer and seed tickets shall be provided to the Engineer prior to payment.

6.6 Basis of Payment

Payment will be made at the Contract unit prices bid for this item, which price and payment shall be full compensation for doing all the work herein described in a workmanlike and acceptable manner; including the furnishing of all labor, materials, tools, equipment, supplies and incidentals as necessary to complete the work. Payment for seeding includes all seeding (i.e. first and second seeding) including horse pasture seeding. Payment for seeding is on a one-time basis only. No additional payment will be made for second or subsequent seedings. Temporary seeding is considered incidental to construction and no separate payment will be made.

6.7 Pay Items

Item 6.0, "Revegetation," per plan view acre.

7.0 DRAINAGE STRUCTURES

7.1 Description

Work in this Section shall be performed in accordance with the Drawings and as specified herein. The work shall include, but is not necessarily limited to, the following:

- a. Installation of temporary site drainage, at the discretion of the Contractor or as approved by the Engineer: during construction, site drainage shall be handled in accordance with Section 8.7, "Water Handling," unless otherwise noted.
- b. Installation of permanent subsurface and surface drainage. Permanent drainage items include channels and culverts.

7.2 Materials

Drainage systems shall be constructed of materials discussed in the following sections.

7.2.1 Stone

The Contractor should be aware that no provisions have been made to obtain rock on site. All rock riprap used throughout the project site shall consist of stone (except as noted otherwise) meeting the following requirements. The rock riprap shall have a maximum weighted loss of 30% when subjected to 5 cycles of Sodium Sulfate Soundness Test, ASTM C 88 as modified by AASHTO T-104. Stone shall meet the sizing requirements as identified on the Drawings.

Riprap for non-grouted channels shall be composed of stones having the dimensions specified, each stone being firmly bedded on the slope in such a manner that it abuts against other stones to form a layer. The dimensions of each stone in a plane parallel to the plane of the slope shall be not less than 3 inches by 12 inches. Unless otherwise specified, the longer dimension shall be placed horizontally. The surface of each stone shall not vary more than 3 inches from the specified surface plane. The average depth of the stone placed in the riprap shall be not less than the specified depth of the riprap. The first row of stone shall be firmly bedded on the invert of the trench so as to form a firm foundation, and the construction shall progress up the slope by fitting additional and abutting stones with well broken joints and in such a manner that the most compact mass of riprap is developed.

Riprap for grouted channels shall be composed of stones having the dimensions specified, each stone being firmly bedded on the slope in such a manner that it abuts against other stones to form a layer. The dimensions of each stone in a plane parallel to the plane of the slope shall be not less than 3 inches by 12 inches. Unless otherwise specified, the longer dimension shall be placed horizontally. The surface of each stone shall not vary more than 3 inches from the specified surface plane. The average depth of the stone placed in the riprap shall be not less than the specified depth of the riprap. The first row of stone shall be firmly bedded on the invert of the trench so as to form a firm foundation, and the construction shall progress up the slope by fitting additional and abutting stones with well broken joints and in such a manner that the most compact mass of riprap is developed.

The use of rock borrow areas located outside of the construction work limit shall require the Contractor to obtain the appropriate right of entry agreements in accordance with Section 8.8, "Borrow Excavation." The Contractor shall submit a plan of reclamation for any borrow areas prior to conducting any activities for the approval of the Engineer.

7.2.2 Grout

Grout to be used in the grouted riprap channels shall consist of a cubic yard mixture as follows:

Cement - 470lbs

Fly Ash - 220lbs

Water - 316lbs

Air Entrainment - 6% +/- 2%

Sand – 2676lbs

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

The minimum required compressive strength of the grout shall be 2,000 psi @ 28 days. All testing shall be the responsibility of the Contractor as part of Section 3.0, "QUALITY CONTROL" of these specifications. Two sets (4 cylinders) of test cylinders per day shall serve as a minimum. The water shall be approved by the Engineer.

7.2.3 Erosion Control Matting

The matting shall be North American Green S150™ as manufactured by North American Green of Evansville, Indiana, or an Engineer approved equal. It shall contain a nylon or polypropylene fiber matrix sewn between a UV stabilized top and bottom net. The weight of the mat shall be a minimum of 0.8 pounds per square yard.

7.3 Construction Methods

Drainage systems shall be constructed as discussed in the following sections. All excavation and fill placement shall be in accordance with Section 8.0, "UNCLASSIFIED EXCAVATION."

7.3.1 Riprap Placement

Riprap shall be placed at locations shown on the Drawings or as approved by the Engineer. Riprap shall be required for the Channels. Riprap placement shall include preparing the subgrade to receive riprap. The riprap stone shall be firmly bedded on the slopes in such a manner that the individual pieces abut each other to form a layer, the interstices of which are filled with spalls and grouted with cement grout. Riprap shall be placed in accordance with WVDOH Specification 218.3.2. The riprap shall extend around the culverts with payment incidental to the channel.

7.3.2 Grouting for Channels

The Contractor shall grout the riprap lined channels at locations shown on the Drawings with grout free of foreign material, sticks, debris, etc. Grouting, where required to be placed on riprap, shall be applied as soon as possible after placement of riprap. The

stone shall be thoroughly wet immediately before grout is applied. As soon as grout is deposited on the surface, it shall be thoroughly worked into the joints to achieve 100 percent penetration. The stones shall then be brushed so that their top surfaces are exposed. The grout shall be protected from running water to prevent damage until sufficiently cured. Grout shall be free of foreign material, sticks, debris and etc.

Curing shall be accomplished by one of two means:

- a. A liquid membrane-forming compound for curing concrete may be sprayed on the brushed grouted surface. Curing compounds shall conform to the requirements of WVDOH Specification 707.9.
- b. Alternately, the grouted surface may be covered with white polyethylene sheeting (film) for curing concrete immediately after the stones have been brushed. The sheeting shall conform to WVDOH specification 707.10.

Grouting of riprap shall not be initiated unless adequate materials for curing the grouted channels are available on-site. Curing shall be left in place a minimum of 72 hours prior to introduction of water. Test cylinders shall be stored as near as permissible to the grouted channel tested and protected in the same manner as the protection placed for the grouted channel so as to achieve field curing conditions and shall not be moved for a period of eight hours minimum.

The Contactor shall prepare one set of test cylinders for every 20 cubic yards of grout applied to ditches for compressive strength testing in accordance with these Specifications. For ditches that receive less than 20 cubic yards of grout, a minimum of one set of test cylinders shall be prepared per ditch. A set shall be comprised of four (4) cylinders sampled and made in accordance with ASTM C 31 and C 39.

7.3.3 Erosion Control Matting

The Contractor shall install Erosion Control Matting at the locations shown on the Drawings. The matting shall be installed using wooden stakes with a minimum top width of one inch and a length of six inches.

The Contractor shall install the matting as recommended by the manufacturers.

7.4 Method of Measurement

The method of measurement for determining the quantity of work done as described above will be on a per linear foot basis for channels. The per linear foot basis shall include the necessary earthwork, subgrade preparation, lining materials, material(s), and all other items incidental to a proper installation. Transition zones shall be paid at the unit price of the channel type immediately upstream from the transition zone.

This Section is not to be considered all inclusive, therefore, if items of work are not specifically identified for measurement and payment but are necessary to complete and operate the system as intended by these Specifications, they are to be considered subsidiary obligations and all costs for these items shall be included in the measurement items listed below.

7.5 Basis of Payment

Payment will be made at the Contract prices bid for the items listed in Section 7.6, "Pay Items," which price and payment includes 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.

7.6 Pay Items

Item 7.1, "2-Foot Deep Vee Grouted Riprap Channel," per linear foot.

Item 7.2, "1-Foot Deep Trapezoidal ECM Channel," per linear foot.

8.0 UNCLASSIFIED EXCAVATION

8.1 Description

The work to be performed under this Section shall be in accordance with the Drawings and as specified herein. The terms for earthwork used in the remainder of this Section imply unclassified excavation in native materials such as for the drainage channels and soil cover. The Contractor, with approval of the Engineer, shall adjust the final grades as necessary to create a balanced project. There will be no compensation for cut (excavation) beyond the lines and grades shown on the Drawings without prior approval of the Engineer. The work under this Section shall also include, but not necessarily be limited to, the following:

- a. Excavation for drainage channels and drainage structures. Payment for drainage channel is included in the linear foot prices for Channels. (See Section 7.0, "DRAINAGE STRUCTURES").
- b. Excavation for erosion and sedimentation control. Payment for erosion and sedimentation control excavation is included in the pay item for sediment control (See Section 5.0, "EROSION AND SEDIMENT CONTROL").
- c. Earthwork for mine seal construction and associated subsurface drainage structures. Payment is included in the pay items section 9.0, "MINE SEALS".
- d. Excavation for underdrain(s). Payment for the excavation necessary for the underdrain(s) is included in the linear foot price for underdrain(s)
- e. Final grading, shaping, and contouring of the excavation areas, the fill areas and any temporary construction roads. This work is considered incidental to other pay items.

8.2 Materials

As required for excavation, or as noted.

8.3 Construction Methods

All areas to be excavated or filled shall be cleared and grubbed as specified in Section 4.3.1, "Clearing and Grubbing." At fill locations, all topsoil, soil (to be used for soil placement), or unsuitable foundation material shall be removed and segregated before any fill material is placed. In foundation areas for the toe of an embankment, the Engineer may require proof rolling by the Contractor to determine if unsuitable materials exist. The Engineer shall be the judge as to what materials constitute unsuitable foundation material. The topsoil and/or unsuitable material shall be stockpiled separately in accordance with Section 8.5, "Excavated Materials." All work shall comply with the "Erosion and Sedimentation Control" procedures specified in Sections XX and XIII and Section 5.0, or as approved by the Engineer.

The Contractor shall excavate to the lines and grades shown on the Drawings. The Contractor shall perform all excavation of every description and of whatever substances encountered to the depths indicated on the Drawings. All excavation required under this contract is unclassified; no additional compensation will be considered for rock (or reddog clinkers) excavation. Over-excavation and/or fill not shown on the Drawings or specified herein shall be at the Contractor's expense, unless approved by the Engineer prior to commencing such work. If unsuitable materials exist below the grades shown on the

Drawings, this material shall be removed with the prior approval of the Engineer. Excavation operations shall be conducted so that material outside the construction work limit shown on the Drawings shall not be removed or loosened; material removed or loosened shall be restored to its original condition at the Contractor's expense. Bottoms of excavations shall be shaped to a smooth and uniform surface, free from bumps and hollows, and sloped as indicated.

The Contractor shall immediately inform the Engineer of any signs of instability during the course of the reclamation program. Work shall be halted only in area(s) of instability until a plan of action for construction of the work is agreed to by the Engineer.

8.4 Excavation

All current local, State (including WVDOH Section 107.7) and Federal regulations covering safety for excavation and for construction shall be followed as applicable specifically, or by similarity of operation, or as may be necessary for personal and property safety. The Contractor must provide any shoring, bracing, and roof support as necessary to properly protect workers in excavations.

Blasting shall not be allowed

Approval by the Engineer of the Contractor's procedures does not relieve the Contractor of responsibility for site safety.

8.5 Excavated Materials

All suitable material that is excavated during construction shall be retained for later use as backfill and recontouring of the site. Topsoil shall be segregated during regrading operations for utilization as cover material since no specific borrow areas have been identified. Unsuitable material shall be disposed within the construction work limit as approved by the Engineer. Soil shall be temporarily stockpiled separately. The stockpile(s) shall have side slopes not steeper than 2 horizontal to 1 vertical and shall be placed in areas approved by the Engineer. Temporarily stockpiled material shall not be compacted. The stockpile(s) shall be shaped and maintained in such a manner that the top surface shall remain free of puddles and the side slopes shall not be unduly rutted. Silt barriers shall be installed in accordance with Section 5.0, "EROSION AND SEDIMENT CONTROL" Temporary stockpiles shall be seeded in accordance with Section 6.0, "REVEGETATION."

Material shall not be placed in areas where water is ponded. Stockpiled topsoil shall be used in the final soil cover layer in accordance with these Specifications.

After completion of construction, all suitable excess excavated material shall be used in regrading and recontouring the construction areas such that it will not interfere with the drainage of the areas, as approved by the Engineer.

8.6 Fill and Compaction

Soil to be used on this project shall be placed in maximum 12-inch thick lifts and compacted to achieve a minimum of 90% of the laboratory maximum dry density as determined by ASTM D 698. Material shall be placed at between plus three (+3) percent

and minus two (-2) percent of optimum moisture content. The Engineer can require a reduction of lift thicknesses as conditions dictate in order to achieve satisfactory compaction or material placement. Frequency of density tests shall be a minimum of 1 test per 5,000 cubic yards of material placed, one test per day (minimum), or as approved by the Engineer. Tests at the Contractor's cost will be conducted by a testing firm approved by the Engineer. Large rock shall be disposed of on-site as approved by the Engineer.

No frozen material shall be placed as fill nor shall fill be placed over frozen material. No fill shall be placed in standing water. Excessively wet material shall be allowed to dry prior to incorporating it as fill. Excessively wet material on the subgrade shall be bladed off and allowed to dry prior to using as fill or disposed as unsuitable material.

At the close of each day's work, or when work is to be stopped for a period of time, the entire surface of the compacted fill shall be sealed by a method approved by the Owner. If, after a prolonged rainfall, the top surface of the embankments are too wet and plastic to work properly, the top material shall be removed to expose firm material. Ruts in the surface of any layer shall be suitably filled or eliminated by grading before compaction. The disturbed areas shall be revegetated according to Section 6.0, "Revegetation."

8.7 Water Handling

The Contractor shall provide a system for diverting water around the work area(s) to the proper down-gradient drainage systems. This will improve working conditions, and decrease the potential sediment load carried by the water as a result of excavation in the area. The Contractor can install any water handling systems that will maintain relatively dry excavation areas.

The Contractor shall handle all surface and/or ground water so as not to damage adjacent property, or pollute streams and/or waterways. The Contractor's plan for diversion of ground water and/or surface water during construction shall be subject to approval by the Engineer. The plan may be placed in operation upon approval. Nothing in this Section shall relieve the Contractor from full responsibility for the adequacy of the diversion and protective works.

Excavation areas shall be maintained so that they will drain properly at all times. The Contractor shall construct and maintain any and all necessary channels, flumes, pipes, sumps and/or other temporary diversion and protective works; shall furnish all materials required therefore; and shall furnish, install, maintain, and operate all necessary pumps and other equipment for removal of ground water and/or surface water from the work area. After having served their purpose, all of the above shall be removed from the work area. Temporary water handling/diversions shall be considered incidental to the project.

8.8 Borrow Excavation

This work shall consist of using borrow areas as a source for soil material. Topsoil shall be segregated during regrading operations for utilization as cover material since no specific borrow areas have been identified. On-site and off-site borrow areas must be approved by the Engineer. Clearing and grubbing shall be in accordance with Section 4.3.1, "Clearing and Grubbing." The Contractor is also responsible for obtaining NEPA compliance and a NPDES storm water permit (if required) for all off-site borrow areas.

The Contractor shall be reimbursed for revegetating on-site borrow areas as part of Pay Item 6.1, "Revegetation."

There will be no additional compensation for accessing, furnishing, clearing, grubbing, grading, restoring, fertilizing, seeding, and mulching of off-site borrow areas. The Contractor shall submit a site grading and operations plan to the Engineer for review and approval which is compatible to the reclamation project for borrow areas and related disturbance. Highwalls shall not be allowed within on-site or off-site borrow areas for soil and/or rock whether created by the Contractor during borrow operations or pre-existing. The Contractor's borrow area grading plan shall include the reclamation of highwalls. Reclamation and revegetation of the borrow sites shall be considered incidental to the borrow operations and shall be included in the unit price bid for earthwork.

Material shall not be moved from one landowner to another landowner without right-of-entry agreements as outlined.

8.9 Final Shaping and Contouring

Except at locations where excavation of unsuitable material is required, care shall be taken not to excavate below the depths specified. Over-excavation will be backfilled and compacted in accordance with these Specifications to the proper grade with suitable material at the expense of the Contractor, unless approved by the Engineer prior to commencing such work. Final shaping and contouring of the areas shall be performed to the satisfaction of the Engineer.

8.10 Method of Measurement

Any earthwork for the project shall be considered incidental to the associated items of the project.

9.0 MINE SEALS

9.1 Description

Work in this Section shall be performed in accordance with the Drawings and as specified herein. The work shall include, but is not necessarily limited to, the following:

- a. Installation of temporary site drainage, at the discretion of the Contractor or as approved by the Engineer. The Engineer's approval does not relieve the Contractor of his responsibilities. During construction, site drainage shall be handled in accordance with Section 8.7, "Water Handling," unless noted.
- b. Installation of permanent subsurface drainage.
- c. Installation of mine seals/bat gates which entails: excavation of existing unclassified materials in and around the mine portals so that the wet seals can be constructed and potential treatment and dewatering of portals prior to wet mine seal construction.

Seals of mine portals shall be constructed at locations shown on the Drawings and, at any additional portals that are discovered that need wet seals, as approved by the Engineer.

The Contractor shall be solely responsible for site safety, especially with regard to bracing and supporting excavations for drainage trenches and mine seals. The Contractor shall comply with the applicable regulations covering site safety.

As mine portals may be open for some time before the seals are installed, the Contractor shall ensure that the portals are not accessible to entry by unauthorized personnel or the general public.

A sample for water quality was collected from the discharge from Portal 4. The results are included in Appendix B.

9.2 Materials

Mine seals shall be constructed of materials discussed in the following sections.

9.2.1 Geotextile

Geotextile shall be GTF-130EX, as supplied by Thrace-Linq or an Engineer approved equal.

9.2.2 Stone

The bulkhead stone for wet, modified wet mine seals, and bat gates shall consist of sound, durable 3-inch to 6-inch non-calcareous stone such as that commercially available. Crushed stone shall consist of particles of clean, hard, tough, durable rock, free from adherent coating and meeting the requirements of WVDOH Specification Section 703.01. Stone shall have a maximum weighted loss of twelve (12) percent when subjected to five (5) cycles of Sodium Sulfate Soundness Test (ASTM C 88), as modified by AASHTO T-104. Non-calcareous stone shall exhibit a fizz of 0 when subjected to hydrochloric acid.

A laboratory certification of soundness and fizz shall be submitted to the Owner prior to delivery.

In addition, sufficient 3-inch to 6-inch non-calcareous stone shall be obtained to level the pipe in the wet and/or modified wet mine seals as shown on the Drawings.

The bedding stone for bat gate mine seals shall comply with the stone for wet and/or modified wet mine seals, except the stone shall comply to the requirements for #57 stone as described in Table 703.4 of the WVDOH Standard Specifications.

Stone for splash pads shall be as dimensioned on the Drawings.

9.2.3 Pipe Skimmer

The pipe skimmer for the wet seals shall be an 18-inch diameter perforated SDR 35 PVC pipe cap. The 18-inch skimmers shall have A307 stainless steel bolts and treated wood spacers as shown on the Drawings. Perforation and bolt spacings shall be as shown on the Drawings.

9.2.4 Anchor Plates

The anchor plates and rod U-bolts shall be A36 steel and the size as indicated on the Drawings.

9.2.5 Backfill

Provide backfill in accordance with Section 8.6, "Fill Compaction."

9.2.6 Drain Pipe

The pipe for the drainage systems shall be 12-inch diameter perforated and solid wall SDR 35 PVC pipe meeting the minimum requirements of ASTM D 2241, being manufactured of material conforming to ASTM D 1784, Class 12454A or Class 12454B.

9.2.7 Random Backfill Material

Random backfill material shall consist of in-place excavated material free of particles larger than 3 inches and shall be free from cinders, ash, refuse, vegetation or other organic material. The backfill material shall not be excessively wet or frozen.

9.2.8 Animal Barrier

Animal barriers shall consist of 3/8-inch diameter stainless steel rods spaced 3 inches center to center at the end of the piping with locking nuts.

9.2.9 Bat Gates

Culverts for the bat gates shall be HDPE circular pipe culverts with 5-inch by 1-inch or 3-inch by 1-inch corrugations. The sizes are shown on the Drawings. Culverts shall meet the requirements of WVDOH Section 604. Steel components of the bat gate installation shall be Grade 50 steel meeting the requirements of ASTM A709. Steel components

include 4-inch by 4-inch by 3/8-inch structural tubing, 6-inch by 6-inch by 3/8-inch angle, 4-inch by 4-inch by 3/8-inch angle, 6-inch by 3/8-inch plate steel, and nuts, bolts, and washers all sized and dimensioned as shown on the Drawings. Welding of components shall be required. Clay used for sealing beneath the pipe arch shall be the best on-site clayey material found during excavation and approved by the Engineer.

9.2.10 Conveyance Pipe

Conveyance pipe shall be 12-inch diameter solid wall pipe in accordance with Section 9.2.6, "Drain Pipe and Fittings."

9.3 Construction Methods

Drainage systems shall be constructed at the approximate locations shown on the Drawings and as discussed in the following sections. Deviations from this shall be only at the approval of the Engineer. All excavation shall be in accordance with Section 8.0 "UNCLASSIFIED EXCAVATION."

9.3.1 Dewatering Operations

Dewatering of the mines prior to wet seal installation shall be completed. A Dewatering Plan shall be submitted and approved by the Engineer prior to dewatering. The contractor shall be solely responsible for any damages resulting from dewatering regardless of a Dewatering Plan approved by the Engineer. Drainage of any pooled water inside the mine shall be performed in a controlled manner as needed to facilitate the construction of mine drainage systems. Such drainage must be controlled to slowly relieve any built-up head conditions to prevent a sudden release of water or "blowout" to avoid flooding problems downstream and to prevent excessive erosion. Pumping may be required if suitable gravity flow cannot be established. The Contractor shall demonstrate, to the satisfaction of the Engineer, that the mine has been dewatered prior to commencing installation of the wet seals. Water handling shall be in accordance with Section 8.7, "Water Handling." Payment for dewatering shall be considered incidental.

The Contractor is also cautioned of the possibility of flowable iron-oxide and aluminum precipitate discharging from the mine and of low pH water. If iron-oxide, manganese, and/or aluminum precipitate is discharging from the mine, the Contractor shall devise a method, acceptable to the Engineer, for temporary control and disposal or treatment of precipitates. Control methods shall include retention in sumps/ponds, chemical treatment, and/or the use of straw bales in trenches and ditches. The Contractor shall prevent these precipitates from entering streams. The Contractor shall hold the Owner harmless for any damage to public or private property and from any violation of applicable laws and regulations.

Water discharged shall have a pH greater than or equal to 6.0 and less than or equal to 9.0. Discharges that cause distinctly visible color in receiving drainage paths or streams shall not be permitted. Control methods shall include retention in sumps/ponds, chemical treatment, and/or the use of straw bales in trenches and ditches.

If required, as determined by the Engineer, the Contractor shall provide a treatment system that may include soda ash briquettes for adjusting pH and a sump for settling iron and manganese precipitates. The soda ash briquettes, cost of sump excavation, sump

cleanout, and disposal of precipitates shall be considered incidental to the operation. The application rate of soda ash briquettes shall be as approved by the Engineer based on pH and iron analyses performed by the Contractor.

The Contractor shall be responsible for handling and disposing any waste sludge produced during treatment. This shall include containment, excavating, hauling, and disposal. The cost of handling of waste sludge is considered incidental to the mine seals.

9.3.2 Potential Gases and Oxygen Deficiency

During excavation for the mine seals, methane or other gases may be encountered which may be combustible or otherwise harmful to people. Furthermore, the air surrounding the excavations and mine entries may be oxygen deficient. The Contractor must have equipment capable of detecting the presence of toxic and combustible gases and the absence of oxygen in the excavation, and must have personnel trained in the use of such equipment. The Contractor shall test for harmful gases at a minimum of 2 times daily (first sample taken prior to commencing work in the morning and the second sample taken prior to commencing work after lunch). If any of the harmful conditions are encountered, the Contractor must have equipment available either to permit personnel to work in the condition encountered, or to change the condition by removing any gases or blowing breathable air into the excavation. The Contractor shall follow OSHA and other applicable regulations and adhere to all MSHA Standard Training and Specifications.

Approval by the Engineer of the Contractor's procedures does not relieve the Contractor of responsibility for site safety.

9.3.3 Mine Seals

The Contractor shall install the mine seals at the locations shown on the Drawings.

9.3.3.1 Wet Seals

The Contractor shall install wet seals including the stone bulkhead, dual 12-inch diameter PVC SDR 35 drain pipes, stone bedding, skimmers, anchors, geotextile, animal barrier, conveyance pipe, and any other incidentals necessary to properly construct and drain the portals and pipe the drainage to the locations shown on the Drawings. The Contractor shall dewater the mine as outlined in Section 9.3.1, "Dewatering Operations." The Contractor shall excavate the mine portals to expose the portals to the extent necessary to construct the proper wet seal, or as approved by the Engineer. The Engineer shall determine the final location of the in-place wet seals.

Once the opening has been excavated to the satisfaction of the Engineer, geotextile and 3-Inch to 6-inch stone shall be placed as pipe bedding. Two (2) runs of pipe with perforated risers, stubs and attached trash racks and steel stability plates shall be placed in each opening. A minimum of two (2) joints of pipe shall extend from the highwall into the opening prior to bulkhead placement. Pipes shall be installed with the perforations down. The stone bulkhead shall consist of the 3-Inch to 6-inch stone so that no gaps exist between the coal pavement (bottom), ribs (sides), and roof (top). The outside of the stone bulkhead shall be covered with geotextile and the 1-foot minimum of compacted "best on-site clayey material" available, as approved by the Engineer, placed atop the geotextile. The site is then backfilled to the lines and grades shown on the Drawings.

Conveyance pipes carrying flow from the wet seals shall discharge into a channel as described in Section 7.0, "DRAINAGE STRUCTURES."

9.3.3.2 Modified Mine Seals

The Contractor shall install modified mine seals including the stone bulkhead, dual 12-inch diameter PVC SDR 35 drain pipes, stone bedding, geotextile, animal barrier, conveyance pipe, and any other incidentals necessary to properly construct and drain the portals and pipe the drainage to the locations shown on the Drawings.

Modified mine seals shall be placed to collect the mine drainage flow emanating from a collapsed portal area. The modified wet seal shall be located and become the lowest point and center of the stone bulkhead. The Contractor shall excavate the mine portals to expose the highwall and collapsed portal to the extent necessary to construct the proper modified wet seal, or as approved by the Engineer. The Engineer shall determine the final location of the in-place modified wet seals.

The stone bulkhead shall extend from the apparent collapsed coal entry rib to collapsed coal entry rib and an additional ten feet, minimum in each direction along the bottom of the highwall from the edge of the collapsed coal entry rib. From the two outermost points, the bottom of the highwall and stone bulkhead shall be graded to slope to the outlet conveyance pipes. Geotextile shall be placed along the bottom of the stone bulkhead to provide a clean work environment and support the stone bulkhead. A six (6)-inch layer of 3-Inch to 6-inch stone shall be placed as pipe bedding atop the geotextile. The perforated pipes and connectors shall be placed at the lowest point in the bulkhead as shown on the Drawings. The stone bulkhead shall consist of the 3-Inch to 6-inch stone shall be placed atop the pipes and extend a minimum of ten feet outby the highwall (as measured at the top elevation of the bulkhead) so that no gaps exist between the coal pavement (bottom) and the existing highwall. The entire outside of the stone bulkhead shall be covered with geotextile and the 1-foot minimum of compacted "best on-site clayey material" available, as approved by the Engineer, placed atop the geotextile. The site is then backfilled to the lines and grades shown on the Drawings.

Conveyance pipes carrying flow from the wet seals shall discharge into a channel as described in Section 7.0, "DRAINAGE STRUCTURES."

9.3.3.3 Bat Gates

The Contractor shall install bat gates as shown on the Drawings or as directed by the Engineer.

The Contractor shall dewater the mine as outlined in Section 9.3.1, "Dewatering Operations." The Contractor shall excavate the mine portals to expose the portals to the extent necessary to construct the proper wet seal, or as approved by the Engineer. The Engineer shall determine the final location of the in-place bat gates.

Once the opening has been excavated to the satisfaction of the Engineer, geotextile and No. 57 stone shall be placed as pipe bedding. The bedding stone shall extend two (2)

times the entryway opening height, as approved by the Engineer, plus six (6) feet into the opening and from coal rib to coal rib. The pipe culvert shall be perforated as shown on the Drawings and placed into the mine opening.

A bat gate shall be installed in the pipe culvert as shown on the Drawings. The bat gates shall be constructed as shown on the Drawings and to the satisfaction of the Engineer.

In the absence of surveys conducted to determine if bats are utilizing an open portal, it shall be assumed that bats are present. If the presence of bats is assumed, than bat gates shall only be installed between May 1 and August 31 to avoid disturbing hibernating bats. However, there may be an opportunity to finish gate installation between September 1 and October 1, if the weather is warm enough that bats have not begun to hibernate and the construction equipment will not block the portal entrance at night when bats will be exiting to forage.

9.3.3.4 Geotextile Placement

Geotextile shall be installed in locations as shown on the Drawings or as approved by the Engineer. The geotextile shall be furnished in a protective wrapping which shall protect the fabric from ultraviolet radiation and from abrasion due to shipping and handling. The geotextile shall not be exposed to sunlight for a period of more than 2 weeks. The geotextile to be utilized in conjunction with the project shall be laid smooth and free of tension, stress, folds, wrinkles or creases.

Longitudinal geotextile junctions shall overlap a minimum of 2 feet or shall be sewn in accordance with manufacturer's recommendations. Fabric junctions shall overlap a minimum of 12 inches or shall be sewn in accordance with manufacturer's recommendations. The Contractor shall install geotextile in accordance with manufacturer's recommendations. The surface to receive the geotextile shall be prepared to a relatively smooth condition free of large rocks and obstructions, depressions, debris and soft or low density pockets of material. If the geotextile is damaged during construction, the torn or punctured section shall be repaired by overlaping a piece of geotextile that is large enough to cover the damaged area and meet the overlap requirements.

Geotextile damaged or displaced before or during installation, or during placement of aggregate or rock shall be replaced or repaired at the Contractor's expense.

9.3.3.5 Splash Pads

Splash pads shall be dimensioned and located as shown on the Drawings at the outlets of the piping from the mine seals and bat gates.

9.3.4 Piezometer/Monitoring Well Abandonment

Any monitoring wells or piezometers which have been left on the project within the limits of construction shall be removed and abandoned. The wells shall be abandoned by a person who has been certified by the State of West Virginia in accordance with 47CSR59, "Monitoring Well Regulations." The costs for removal and abandonment shall be considered incidental to mine seal installation.

9.4 Method of Measurement

The method of measurement for the various items will be as described below. This Section is not to be considered all inclusive, therefore, if items of work are not specifically identified for measurement and payment but are necessary to complete and operate the system as intended by these Specifications, they are to be considered subsidiary obligations and all costs for these items shall be included in the measurement items listed below.

Wet and Modified Mine Seals shall be measured as a unit installed and shall include: excavation, geotextile, stone, 12-inch diameter PVC SDR 35 perforated and solid wall pipe, pipe tees, anchorage hardware, skimmer parts, and backfill and all other incidental items. Payment shall include the conveyance pipe. They shall be measured on a per each basis. For this project, the wet seals are anticipated to be typical wet seals.

Bat Gates as described above shall be measured on a per each basis for a unit installed and shall include all labor and materials. The bat gate shall include all pipe culvert required to daylight at the coal bed elevation. This item also includes any bat gates with drains.

The method of measurement for determining the quantity of work done as described above will be on a per linear foot basis for conveyance pipe. The per linear foot shall include the necessary earthwork, subgrade preparation, material(s), fittings and all other items incidental to a proper installation.

The method of measurement for treatment of mine drainage (if required) shall be per 50 pound bag of soda ash briquettes applied. Included shall be labor, materials, piping, containment and handling waste sludge, and laboratory analysis.

Splash pads shall be considered incidental to the mine seals and/or bat gates.

9.5 Basis of Payment

Payment will be made at the Contract prices bid for the items listed in Section 9.6, "Pay Items," which price and payment includes 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.

9.6 Pay Items

- Item 9.1, "Wet/Modified Mine Seal," per each.
- Item 9.2, "Bat Gate," per each.
- Item 9.3, "Conveyance Pipe," per linear foot
- Item 9.4, "Soda Ash Briquettes," per 50 pound bag.

10.0 SUBSURFACE DRAINS (UNDERDRAINS)

10.1 Description

This work shall consist of constructing subsurface drains (underdrains) at the locations and to the dimensions shown on the plans to control seepage. This shall also consist of additional underdrains as required and approved by the Engineer during construction. The

proposed underdrains are intended to intercept subsurface drainage prior to infiltration and safely direct it to a drainage system. The underdrains are to be constructed in accordance with the typical details.

10.1.1 Pipe clean-outs

Pipe clean-outs may be installed if lengths exceed 150 feet, as shown on the Drawings, or whenever required by the Engineer.

10.2 Materials

Subsurface drains shall utilize materials discussed in the following sections.

10.2.1 Pipe

The pipe for the underdrain shall be 12-inch diameter perforated SDR 35 PVC or an Engineer approved equal within the underdrain. Solid 12-inch diameter SDR 35 PVC from the underdrain to the receiving channel. The pipe shall have the structural capacity to support the height of any fill overlying the pipe. Clean outs shall consist of necessary wye fittings and connections compatible with SDR 35 PVC pipe. End caps shall consist of 12-inch diameter SDR 35 PVC.

10.2.2 Stone

Stone for underdrain shall consist of 3-inch to 6-inch non-calcareous stone such as that commercially available. Crushed stone shall consist of particles of clean, hard, tough, durable rock, free from adherent coating and meeting the requirements of WVDOH Specifications 703.1. Stone shall have a maximum weighted loss of twelve (12) percent when subjected to five (5) cycles Sodium Sulfate Soundness Test, ASTM C 88 as modified by AASHTO T-104. Non-calcareous stone shall exhibit a fizz of 0 when subjected to dilute hydrochloric acid. A laboratory certification of the soundness and fizz shall be submitted to the Engineer prior to delivery.

10.2.3 Geotextile

The geotextile for the underdrains shall be in accordance with Section 9.2.1, "Geotextile."

10.3 Construction Methods

10.3.1 Subsurface Drain Installation

Trench width for the sub-surface drains shall be as indicated on the Drawings. Trenching will involve excavation of in-place material including soil and rock.

Trenches exceeding five (5) feet in depth shall be supported in compliance with OSHA requirements. Trench bottom shall be cleared of any loose debris and any standing water.

Geotextile shall be installed in the trench as shown on the drawings. The aggregate shall be placed carefully to prevent puncturing, tearing or shifting of the geotextile. The geotextile shall not be installed over the ends of the sub-surface drains where rock shall daylight directly into existing or modified drainage ways.

Animal guards shall be constructed and installed on the downstream end of each outlet pipe as shown on the Drawings. These guards shall be installed the same day to prevent animal entry during non-work time.

End caps shall be installed on the upstream end of the pipes within the subsurface drain.

10.4 Method of Measurement

Underdrains shall be measured on a per linear foot basis including the necessary excavation, subgrade preparation, geotextile, stone and pipe, and all other items incidental to a proper installation.

In Line cleanouts shall be paid on a per each basis including the necessary excavation, subgrade preparation, geotextile, stone, fittings and pipe, and all other items incidental to a proper installation.

This Section is not to be considered all inclusive, therefore, if items of work are not specifically identified for measurement and payment but are necessary to complete and operate the system as intended by these Specifications, they are to be considered subsidiary obligations and all costs for these items shall be included in the measurement items listed below.

10.5 Basis of Payment

The quantity of work done will be paid at the Contract unit price bid for the items listed in Section 10.6, "Pay 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.

10.6 Pay Items

Item 10.1, "Underdrain," per linear foot.

Item 10.2, "In Line Cleanouts - 12-inch," per each.

11.0 EROSION CONTROL MATTING

11.1 Description

This work shall consist of the installation of erosion control matting to provide a temporary organic cover to reduce erosion, protect seeds, enhance germination, and hasten revegetation.

11.2 Materials

The matting for the diversion swale as shown on the Drawings shall be North American Green S150™ as manufactured by North American Green of Evansville, Indiana, or an Engineer approved equal. It shall contain a nylon or polypropylene fiber matrix sewn between a UV stabilized top and bottom net. The weight of the mat shall be a minimum of 0.8 pounds per square yard.

11.3 Construction Methods

The Contractor shall install Erosion Control Matting at the locations shown on the Drawings. The matting shall be installed using wooden stakes with a minimum top width of one inch and a length of six inches on steep areas.

The Contractor shall install the matting as recommended by the manufacturers.

11.4 Method of Measurement

The Erosion Control Matting will be measured on a per square yard basis. Payment shall include excavation, erosion control matting, installation, and all other items incidental to a proper installation.

11.5 Basis of Payment

The quantity of work done will be paid at the Contract unit price bid for the items listed in Section 11.6, "Pay 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.

11.6 Pay Items

Item 11.0, "Erosion Control Matting," per square yard

12.0 REDI-ROCK WALL

12.1 Description

This work shall consist of the installation of redi-rock retaining wall to provide support of the slope behind the residence.

12.2 Materials

12.2.1 Redi-Rock Wall

The redi-rock wall shall be Ledgestone texture redi-rock wall or Engineer approved equal.

12.2.2 Stone

Stone shall consist of No. 57 stone such as that commercially available. Crushed stone shall consist of particles of clean, hard, tough, durable rock, free from adherent coating and meeting the requirements of WVDOH Specifications 703.1.

12.2.3 Concrete

The concrete shall be Class C in accordance with WVDOH Specifications Section 601.

12.2.4 Rebar

Rebar shall be in accordance with WVDOH Specifications Section 602 and shall be Grade 60 steel.

12.2.5 Pipe

The pipe for the underdrain shall be 4-inch diameter perforated SDR 35 PVC or an Engineer approved equal within the underdrain. Solid 4-inch diameter SDR 35 PVC from the underdrain to the receiving channel. The pipe shall have the structural capacity to support the height of any fill overlying the pipe.

12.3 Construction Methods

The excavation for the wall will include removing the toe of the slope. The Contractor shall be aware of the potential for an unstable slope and provide the required bracing and shoring for a safe work environment.

The wall footing shall be placed in accordance with WVDOH Specifications Sections 601 and 602. The redi-rock wall shall be constructed in accordance with the manufacturer's recommendations and as described on the Drawings. The stone backfill shall be placed as the wall is being constructed.

The perforated pipe underdrain shall be constructed in accordance with Section 10.0, "SUBSURFACE DRAINS (UNDERDRAINS)." The pipe shall be extended to the receiving channel, Channel 2. Animal guards shall be constructed and installed on the downstream end of each outlet pipe as shown on the Drawings. These guards shall be installed the

same day to prevent animal entry during non-work time. End caps shall be installed on the upstream end of the pipes within the subsurface drain. The underdrain pipe will follow along the curved portions of the wall. To make these curves, several angled fittings. The fittings shall be considered incidental to the wall.

12.4 Method of Measurement

The Redi-Rock Wall will be measured on a per linear foot basis. Payment shall include excavation, materials, concrete, rebar, stone, pipe, and all other items incidental to a proper installation.

The Stone Backfill will be measured on a per ton basis. Payments shall include shall include purchase, transportation, placement, and other items incidental to a proper installation. Actual tare ticket weight documentation shall be used to determine the quantity and provided to the Engineer.

12.5 Basis of Payment

The quantity of work done will be paid at the Contract unit price bid for the items listed in Section 12.6, "Pay 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.

12.6 Pay Items

Item 12.1, "Redi Rock Wall," per linear foot.
Item 12.2, "Stone Backfill," per ton

END OF SPECIFICATION

APPENDIX A

Field Classification Sheets



PROJECT Oldfield Branch (Hall) Drainage BORING NO. B-5
 ELEVATION 870± GWL 0 hrs 15.5 PROJECT NO. E130024.00
 STA. OFFSET _____ hrs _____
 DATE 10/9/2013 CLASSIFIED BY Michael Doyle

DEPTH (FT)	BLOWS PER SIX INCHES OR CORE RECOVERY/RUN	SAMPLE NO., TYPE & RECOVERY OR % ROCK RECOVERY	RQD (%) OR TORVANE	DESCRIPTION				USCS OR ROCK BROKENNESS	REMARKS*
				PROFILE	SOIL DENSITY-CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION		
1	2	3	4	5	6	7	8	9	10
0.0	3-3-6	S-1, 1.5'			Med. Stiff	Brown	Silty Clay w/ Sandstone Fragments	CL	
5.0				5.0					
	4-15-50/5	S-2, 1.5'		7.5	Soft	Gray	Decomposed Sandstone		Augered to 7.5'
7.5					Hard	Tan/Gray	Siltstone	VBR-BR	
	3.8 5.0	76%	18%						
12.5									
	5.0 5.0	100%	16%	16.0					
17.5					Very Hard	Gray	Medium Grained Sandstone	BR-BL	
	4.9 5.0	98%	40%						
22.5									
	5.0 5.0	100%	76%						
27.5									
	4.8 5.0	96%	82%						

REMARKS** Enviroprobe Integrated Solutions Inc., CME 45 Wireline Trac Mounted Drillrig, Driller: Ford, Helper: Jim
3 1/4-inch dia. Hollow Stem Soil Augers, Continuous Split Spoon Sampling 1.5-inch dia.

* POCKET PENETROMETER READINGS

** METHOD OF ADVANCING AND CLEANING BORING



PROJECT Oldfield Branch (Hall) Drainage BORING NO. B-5
 ELEVATION 870± GWL 0 hrs 15.5 PROJECT NO. E130024.00
 STA. OFFSET _____ hrs _____
 DATE 10/9/2013 CLASSIFIED BY Michael Doyle

DEPTH (FT)	BLOWS PER SIX INCHES OR CORE RECOVERY/RUN	SAMPLE NO., TYPE & RECOVERY OR % ROCK RECOVERY	RQD (%) OR TORVANE	DESCRIPTION				USCS OR ROCK BROKENNESS	REMARKS*
				PROFILE	SOIL DENSITY-CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION		
1	2	3	4	5	6	7	8	9	10
				30.7					
32.5					Very Hard	Gray	Siltstone	BR- BL	
	4.9 5.0	98%	95%						
37.5									
	4.5 5.0	90%	78%	40.0					
42.5					Very Hard	Gray	Fine Grained Sandstone	BR- BL	Black Streaks
	4.7 5.0	94%	66%						
47.5									
	5.0 5.0	100%	75%						
52.5				52.5					
	4.8 5.0	96%	65%		Soft	Black	Coal	VBR	
57.5				57.0					
					Very Hard	Gray	Sandstone	BL	
	5.0 5.0	100%	95%						

REMARKS** Enviroprobe Integrated Solutions Inc., CME 45 Wireline Trac Mounted Drillrig, Driller: Ford, Helper: Jim
3 1/4-inch dia. Hollow Stem Soil Augers, Continuous Split Spoon Sampling 1.5-inch dia.

* POCKET PENETROMETER READINGS

** METHOD OF ADVANCING AND CLEANING BORING

APPENDIX B

Contractor's Bid Sheet

APPENDIX C

Water Quality Sample Results



22-Oct-2013

Charles Straley
GAI Consultants, Inc.
300 Summers Street, Suite 1100
Charleston, WV 25301

Re: **Old Field Branch Drainage (Hall's)**

Work Order: **1310641**

Dear Charles,

ALS Environmental received 1 sample on 10-Oct-2013 05:05 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 17.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Rebecca Kiser".

Electronically approved by: Rebecca Kiser

Rebecca Kiser
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental

www.alsglobal.com

RIGHT SOLUTIONS. GREAT PARTNERS.

Client: GAI Consultants, Inc.
Project: Old Field Branch Drainage (Hall's)
Work Order: 1310641

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1310641-01	Sample	Water		10/10/2013 15:00	10/10/2013 17:05	<input type="checkbox"/>

Client: GAI Consultants, Inc.
Project: Old Field Branch Drainage (Hall's)
Work Order: 1310641

Case Narrative

Batch 52429, Method ICP_200.8_WW, Sample 1310641-01BMS: The MS and/or MSD recovery was outside of the control; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte: Al

Batch 52429, Method ICP_200.8_WW, Sample 1310641-01BMSD: The MS and/or MSD recovery was outside of the control; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte: Al

Client: GAI Consultants, Inc.
Project: Old Field Branch Drainage (Hall's)
WorkOrder: 1310641

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µmhos/cm @ 25°C	Micromhos per Centimeter at 25 Degrees Celcius
mg/L	Milligrams per Liter
n.t.u.	Nephelometric Turbidity Units
s.u.	Standard Units

ALS Group USA, Corp

Date: 22-Oct-13

Client: GAI Consultants, Inc.
 Work Order: 1310641
 Project: Old Field Branch Drainage (Hall's)

QC BATCH REPORT

Batch ID: 52429 Instrument ID ICPMS2 Method: E200.8

MBLK		Sample ID: MBLK-52429-52429			Units:mg/L			Analysis Date: 10/18/2013 03:38 PM			
Client ID:		Run ID: ICPMS2_131018A			SeqNo:2495354			Prep Date: 10/18/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Calcium	ND	0.50									
Iron	ND	0.080									
Lead	ND	0.0050									
Magnesium	ND	0.20									
Manganese	ND	0.0050									
Potassium	0.06201	0.20								J	
Sodium	0.311	0.20									

MBLK		Sample ID: MBLK-52429-52429			Units:mg/L			Analysis Date: 10/19/2013 04:06 PM			
Client ID:		Run ID: ICPMS2_131019A			SeqNo:2496469			Prep Date: 10/18/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	0.00122	0.010								J	

LCS		Sample ID: LCS-52429-52429			Units:mg/L			Analysis Date: 10/18/2013 03:44 PM			
Client ID:		Run ID: ICPMS2_131018A			SeqNo:2495356			Prep Date: 10/18/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	0.09169	0.010	0.1	0	91.7	85-115	0				
Calcium	9.469	0.50	10	0	94.7	85-115	0				
Iron	9.501	0.080	10	0	95	85-115	0				
Lead	0.09531	0.0050	0.1	0	95.3	85-115	0				
Magnesium	9.184	0.20	10	0	91.8	85-115	0				
Manganese	0.09122	0.0050	0.1	0	91.2	85-115	0				
Potassium	9.47	0.20	10	0	94.7	85-115	0				
Sodium	10.41	0.20	10	0	104	85-115	0			B	

MS		Sample ID: 1310641-01BMS			Units:mg/L			Analysis Date: 10/18/2013 04:13 PM			
Client ID: Sample		Run ID: ICPMS2_131018A			SeqNo:2495366			Prep Date: 10/18/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	4.6	0.010	0.1	3.27	1330	70-130	0			SEO	
Calcium	20.67	0.50	10	11.41	92.6	70-130	0				
Iron	13.1	0.080	10	3.924	91.8	70-130	0				
Lead	0.1075	0.0050	0.1	0.01163	95.9	70-130	0				
Magnesium	13.41	0.20	10	4.39	90.2	70-130	0				
Manganese	0.2802	0.0050	0.1	0.1878	92.4	70-130	0				
Potassium	13.75	0.20	10	4.253	95	70-130	0				
Sodium	12.15	0.20	10	3.907	82.4	70-130	0			B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GAI Consultants, Inc.
 Work Order: 1310641
 Project: Old Field Branch Drainage (Hall's)

QC BATCH REPORT

Batch ID: 52429 Instrument ID ICPMS2 Method: E200.8

MS		Sample ID: 1310793-01AMS				Units: mg/L		Analysis Date: 10/20/2013 07:33 AM			
Client ID:		Run ID: ICPMS2_131019A				SeqNo: 2496636		Prep Date: 10/18/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	0.1055	0.010	0.1	0.005422	100	70-130	0				
Iron	9.732	0.080	10	0.1836	95.5	70-130	0				
Lead	0.09562	0.0050	0.1	0.00003052	95.6	70-130	0				
Magnesium	114.8	0.20	10	104.3	105	70-130	0			O	
Manganese	0.1136	0.0050	0.1	0.0169	96.7	70-130	0				
Potassium	13.99	0.20	10	3.879	101	70-130	0				
Sodium	53.61	0.20	10	46.15	74.6	70-130	0			BO	

MS		Sample ID: 1310793-01AMS				Units: mg/L		Analysis Date: 10/21/2013 11:21 AM			
Client ID:		Run ID: ICPMS2_131020A				SeqNo: 2497977		Prep Date: 10/18/2013		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Calcium	266.4	5.0	10	235.4	310	70-130	0			SO	

MSD		Sample ID: 1310641-01BMSD				Units: mg/L		Analysis Date: 10/18/2013 04:19 PM			
Client ID: Sample		Run ID: ICPMS2_131018A				SeqNo: 2495368		Prep Date: 10/18/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	4.631	0.010	0.1	3.27	1360	70-130	4.6	0.672	20	SEO	
Calcium	20.61	0.50	10	11.41	92	70-130	20.67	0.291	20		
Iron	13.11	0.080	10	3.924	91.9	70-130	13.1	0.0763	20		
Lead	0.105	0.0050	0.1	0.01163	93.4	70-130	0.1075	2.35	20		
Magnesium	13.34	0.20	10	4.39	89.5	70-130	13.41	0.523	20		
Manganese	0.2783	0.0050	0.1	0.1878	90.5	70-130	0.2802	0.68	20		
Potassium	13.65	0.20	10	4.253	94	70-130	13.75	0.73	20		
Sodium	12.3	0.20	10	3.907	83.9	70-130	12.15	1.23	20	B	

MSD		Sample ID: 1310793-01AMS				Units: mg/L		Analysis Date: 10/20/2013 07:38 AM			
Client ID:		Run ID: ICPMS2_131019A				SeqNo: 2496637		Prep Date: 10/18/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	0.1037	0.010	0.1	0.005422	98.3	70-130	0.1055	1.72	20		
Iron	9.601	0.080	10	0.1836	94.2	70-130	9.732	1.36	20		
Lead	0.09444	0.0050	0.1	0.00003052	94.4	70-130	0.09562	1.24	20		
Magnesium	112.7	0.20	10	104.3	84	70-130	114.8	1.85	20	O	
Manganese	0.1118	0.0050	0.1	0.0169	94.9	70-130	0.1136	1.6	20		
Potassium	13.77	0.20	10	3.879	98.9	70-130	13.99	1.59	20		
Sodium	53.43	0.20	10	46.15	72.8	70-130	53.61	0.336	20	BO	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GAI Consultants, Inc.
Work Order: 1310641
Project: Old Field Branch Drainage (Hall's)

QC BATCH REPORT

Batch ID: **52429** Instrument ID **ICPMS2** Method: **E200.8**

MSD		Sample ID: 1310793-01AMSD			Units: mg/L		Analysis Date: 10/21/2013 11:43 AM			
Client ID:		Run ID: ICPMS2_131020A			SeqNo: 2497981		Prep Date: 10/18/2013		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	255.2	5.0	10	235.4	198	70-130	266.4	4.29	20	SO

The following samples were analyzed in this batch: 1310641-01B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GAI Consultants, Inc.
 Work Order: 1310641
 Project: Old Field Branch Drainage (Hall's)

QC BATCH REPORT

Batch ID: R128280 Instrument ID WETCHEM Method: E180.1

MBLK		Sample ID: MBLK-R128280-R128280				Units: n.t.u.		Analysis Date: 10/11/2013 12:37 PM			
Client ID:		Run ID: WETCHEM_131011D				SeqNo:2484751		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Turbidity	ND	0.64									

LCS		Sample ID: LCS-R128280-R128280				Units: n.t.u.		Analysis Date: 10/11/2013 12:37 PM			
Client ID:		Run ID: WETCHEM_131011D				SeqNo:2484752		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Turbidity	19.59	0.64	20	0	98	89.1-106	0				

MS		Sample ID: 1310641-01A MS				Units: n.t.u.		Analysis Date: 10/11/2013 12:37 PM			
Client ID: Sample		Run ID: WETCHEM_131011D				SeqNo:2484755		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Turbidity	94.31	0.64	20	74.48	99.2	87-108	0				

DUP		Sample ID: 1310641-01A DUP				Units: n.t.u.		Analysis Date: 10/11/2013 12:37 PM			
Client ID: Sample		Run ID: WETCHEM_131011D				SeqNo:2484754		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Turbidity	74.5	0.64	0	0	0	0-0	74.48	0.0268	20		

The following samples were analyzed in this batch:

1310641-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GAI Consultants, Inc.
 Work Order: 1310641
 Project: Old Field Branch Drainage (Hall's)

QC BATCH REPORT

Batch ID: R128315 Instrument ID IC3 Method: E300.0

MBLK		Sample ID: CCB/MBLANK-R128315				Units: mg/L		Analysis Date: 10/11/2013 06:21 PM			
Client ID:		Run ID: IC3_131011B				SeqNo:2485804		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Chloride	0.2165	1.0								J	
Nitrogen, Nitrate	ND	0.030									
Sulfate	0.4241	1.0								J	

LCS		Sample ID: CCV/LCS-R128315				Units: mg/L		Analysis Date: 10/11/2013 06:42 PM			
Client ID:		Run ID: IC3_131011B				SeqNo:2485807		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Chloride	9.509	1.0	10	0	95.1	90-110	0				
Nitrogen, Nitrate	0.3834	0.030	0.4	0	95.8	90-110	0				
Sulfate	10.23	1.0	10	0	102	90-110	0				

MS		Sample ID: 1310641-01A MS				Units: mg/L		Analysis Date: 10/12/2013 12:45 AM			
Client ID: Sample		Run ID: IC3_131011B				SeqNo:2485843		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Chloride	10.79	1.0	10	2.012	87.8	80-120	0				
Nitrogen, Nitrate	0.5663	0.030	0.4	0.1464	105	80-120	0				
Sulfate	19.57	1.0	10	10.12	94.4	80-120	0				

MSD		Sample ID: 1310641-01A MSD				Units: mg/L		Analysis Date: 10/12/2013 01:06 AM			
Client ID: Sample		Run ID: IC3_131011B				SeqNo:2485844		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Chloride	10.77	1.0	10	2.012	87.6	80-120	10.79	0.194	20		
Nitrogen, Nitrate	0.5623	0.030	0.4	0.1464	104	80-120	0.5663	0.709	20		
Sulfate	19.59	1.0	10	10.12	94.6	80-120	19.57	0.0996	20		

The following samples were analyzed in this batch:

1310641-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GAI Consultants, Inc.
Work Order: 1310641
Project: Old Field Branch Drainage (Hall's)

QC BATCH REPORT

Batch ID: **R128318** Instrument ID **LACHAT** Method: **A4500-P E-97**

MBLK		Sample ID: WBLKW1-131011-R128318				Units: mg/L		Analysis Date: 10/11/2013 03:29 PM			
Client ID:		Run ID: LACHAT_131011A				SeqNo: 2485937		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Phosphorus, Ortho-P (As P)	0.03859	0.12								J	

LCS		Sample ID: WLCSW1-131011-R128318				Units: mg/L		Analysis Date: 10/11/2013 03:29 PM			
Client ID:		Run ID: LACHAT_131011A				SeqNo: 2485938		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Phosphorus, Ortho-P (As P)	2.396	0.12	2.5	0	95.8	90-110	0				

MS		Sample ID: 1310641-01A MS				Units: mg/L		Analysis Date: 10/11/2013 03:29 PM			
Client ID: Sample		Run ID: LACHAT_131011A				SeqNo: 2485940		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Phosphorus, Ortho-P (As P)	2.386	0.12	2.5	0.04106	93.8	90-110	0				

MSD		Sample ID: 1310641-01A MSD				Units: mg/L		Analysis Date: 10/11/2013 03:29 PM			
Client ID: Sample		Run ID: LACHAT_131011A				SeqNo: 2485941		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Phosphorus, Ortho-P (As P)	2.419	0.12	2.5	0.04106	95.1	90-110	2.386	1.37	20		

The following samples were analyzed in this batch: 1310641-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GAI Consultants, Inc.
Work Order: 1310641
Project: Old Field Branch Drainage (Hall's)

QC BATCH REPORT

Batch ID: **R128494** Instrument ID **WETCHEM** Method: **A2310 B-97**

MBLK		Sample ID: WBLKW1-131015-R128494			Units: mg/L		Analysis Date: 10/15/2013 02:30 PM			
Client ID:		Run ID: WETCHEM_131015K			SeqNo: 2490030		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acidity	ND	12								

LCS		Sample ID: WLCSW1-131015-R128494			Units: mg/L		Analysis Date: 10/15/2013 02:30 PM			
Client ID:		Run ID: WETCHEM_131015K			SeqNo: 2490031		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acidity	72	12	74	0	97.3	75-129	0			

DUP		Sample ID: 1310397-01A Dup			Units: mg/L		Analysis Date: 10/15/2013 02:30 PM			
Client ID:		Run ID: WETCHEM_131015K			SeqNo: 2490034		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acidity	ND	12	0	0	0	0-0	0	0	10	

The following samples were analyzed in this batch: 1310641-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GAI Consultants, Inc.
 Work Order: 1310641
 Project: Old Field Branch Drainage (Hall's)

QC BATCH REPORT

Batch ID: **R128505a** Instrument ID **Titrator 1** Method: **A2320 B-97**

MBLK		Sample ID: WBLKW1-131015-R128505a			Units: mg/L		Analysis Date: 10/15/2013 02:29 PM			
Client ID:		Run ID: TITRATOR 1_131015B			SeqNo: 2490136		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (as CaCO3)	ND	10								
Alkalinity, Carbonate (as CaCO3)	ND	10								
Alkalinity, Total (as CaCO3)	ND	12								

LCS		Sample ID: WLCSW1-131015-R128505a			Units: mg/L		Analysis Date: 10/15/2013 02:29 PM			
Client ID:		Run ID: TITRATOR 1_131015B			SeqNo: 2490137		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Carbonate (as CaCO3)	921	10	925	0	99.6	70-130	0			
Alkalinity, Total (as CaCO3)	933.9	12	1000	0	93.4	90-106	0			

DUP		Sample ID: 1310376-04A DUP			Units: mg/L		Analysis Date: 10/15/2013 02:29 PM			
Client ID:		Run ID: TITRATOR 1_131015B			SeqNo: 2490139		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (as CaCO3)	86.02	12	0	0	0		82.48	4.2	20	

DUP		Sample ID: 1310723-08B DUP			Units: mg/L		Analysis Date: 10/15/2013 02:29 PM			
Client ID:		Run ID: TITRATOR 1_131015B			SeqNo: 2490149		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (as CaCO3)	58.62	12	0	0	0		58.89	0.46	20	

The following samples were analyzed in this batch:

1310641-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GAI Consultants, Inc.
 Work Order: 1310641
 Project: Old Field Branch Drainage (Hall's)

QC BATCH REPORT

Batch ID: **R128505b** Instrument ID **Titrator 1** Method: **E120.1**

MBLK		Sample ID: MB-R128505-R128505b				Units: µmhos/cm @ 25°C		Analysis Date: 10/15/2013 02:29 PM		
Client ID:		Run ID: TITRATOR 1_131015B				SeqNo: 2490155		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductance	ND	5.0								

DUP		Sample ID: 1310376-04A DUP				Units: µmhos/cm @ 25°C		Analysis Date: 10/15/2013 02:29 PM		
Client ID:		Run ID: TITRATOR 1_131015B				SeqNo: 2490158		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductance	1716	5.0	0	0	0	0-0	1727	0.639	5	

DUP		Sample ID: 1310723-08B DUP				Units: µmhos/cm @ 25°C		Analysis Date: 10/15/2013 02:29 PM		
Client ID:		Run ID: TITRATOR 1_131015B				SeqNo: 2490168		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductance	185	5.0	0	0	0	0-0	184.1	0.488	5	

LCS1		Sample ID: WLCS1W1-131015-R128505b				Units: µmhos/cm @ 25°C		Analysis Date: 10/15/2013 02:29 PM		
Client ID:		Run ID: TITRATOR 1_131015B				SeqNo: 2490156		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductance	14.84	5.0	14.9	0	99.6	85-107	0			

LCS2		Sample ID: WLCS2W1-131015-R128505b				Units: µmhos/cm @ 25°C		Analysis Date: 10/15/2013 02:29 PM		
Client ID:		Run ID: TITRATOR 1_131015B				SeqNo: 2490173		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductance	619	5.0	592	0	105	85-107	0			

The following samples were analyzed in this batch: 1310641-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: GAI Consultants, Inc.
 Work Order: 1310641
 Project: Old Field Branch Drainage (Hall's)

QC BATCH REPORT

Batch ID: R128557 Instrument ID LACHAT Method: E365.1 R2.0

MBLK	Sample ID: WBLKW1-131016-R128557		Units:mg/L		Analysis Date: 10/16/2013 10:50 AM					
Client ID:	Run ID: LACHAT_131016C		SeqNo:2491565		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total	ND	0.050								

LCS	Sample ID: WLCSW1-131016-R128557		Units:mg/L		Analysis Date: 10/16/2013 10:50 AM					
Client ID:	Run ID: LACHAT_131016C		SeqNo:2491566		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total	2.445	0.050	2.5	0	97.8	90-110	0			

MS	Sample ID: 1310506-28E MS		Units:mg/L		Analysis Date: 10/16/2013 10:50 AM					
Client ID:	Run ID: LACHAT_131016C		SeqNo:2491568		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total	2.44	0.050	2.5	0.01348	97.1	90-110	0			

MS	Sample ID: 1310693-01A MS		Units:mg/L		Analysis Date: 10/16/2013 10:50 AM					
Client ID:	Run ID: LACHAT_131016C		SeqNo:2491620		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total	2.76	0.050	2.5	0.3059	98.2	90-110	0			

MSD	Sample ID: 1310506-28E MSD		Units:mg/L		Analysis Date: 10/16/2013 10:50 AM					
Client ID:	Run ID: LACHAT_131016C		SeqNo:2491569		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total	2.411	0.050	2.5	0.01348	95.9	90-110	2.44	1.2	20	

MSD	Sample ID: 1310693-01A MSD		Units:mg/L		Analysis Date: 10/16/2013 10:50 AM					
Client ID:	Run ID: LACHAT_131016C		SeqNo:2491621		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total	2.71	0.050	2.5	0.3059	96.2	90-110	2.76	1.83	20	

The following samples were analyzed in this batch: 1310641-01C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



Cincinnati, OH
+1 513 733 5336
Everett, WA
+1 425 356 2600

Fort Collins, CO
+1 970 490 1511
Holland, MI
+1 616 399 6070

Chain of Custody Form
Page 1 of 1
COC ID: **15491**

Houston, TX
+1 281 530 5656
Middletown, PA
+1 717 944 5541
Spring City, PA
+1 610 948 4903
Salt Lake City, UT
+1 801 266 7700
South Charleston, WV
+1 304 356 3168
York, PA
+1 717 505 5280

Environmental

Customer Information		Project Information		ALS Work Order #:														
Purchase Order	E130024.00	Project Name	OLD FIELD BRANCH (HALL'S) DRAINAGE	Parameter/Method Request for Analysis														
Work Order		Project Number	E130024.00	A PH, SPECIFIC CONDUCTIVITY, HOT ACIDITY,														
Company Name	GAI CONSULTANTS, INC.	Bill To Company		B ALKALINITY, CALCIUM, MAGNESIUM, SODIUM,														
Send Report To	CHARLES F. STRALEY	Invoice Attn	CHARLES F. STRALEY	C TOTAL ALUMINUM, POTASSIUM, TOTAL IRON,														
Address	GAI CONSULTANTS, INC. 300 SUMMERS STREET SUITE 1100	Address	GAI CONSULTANTS, INC. 300 SUMMERS STREET SUITE 1100	D TOTAL MANGANESE, CHLORIDE, SULFATES, NITRATES,														
City/State/Zip	CHARLESTON, WV 25301	City/State/Zip	CHARLESTON, WV 25301	E PHOSPHATES, BICARBONATE ALKALINITY, CARBONATE,														
Phone	304-926-8100	Phone	304-926-8100	F TURBIDITY, LEAD														
Fax	304-926-8180	Fax	304-926-8180	G														
e-Mail Address	c.straley@gaiconsultants.com	e-Mail Address	c.straley@gaiconsultants.com	H														
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
1	SAMPLE 1 (GRAB)	10-10-13	3:00 PM			1												
2	SAMPLE 2 (GRAB)	10-10-13	3:00 PM			1												
3	SAMPLE 3 (GRAB)	10-10-13	3:00 PM			1												
4	SAMPLE 4 (GRAB)	10-10-13	3:00 PM			1												
5	SAMPLE 5 (GRAB)	10-10-13	3:00 PM			1												
6																		
7																		
8																		
9																		
10																		

Sampler(s) Please Print & Sign
TERRY W. QUEEN, Terry W. Queen
Relinquished by:
MIKE DOYLE
Relinquished by:
Logged by (Laboratory):
Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C 9-5035

Shipment Method
Required Turnaround Time: (Check Box)
 STD 10 Wk Days 5 Wk Days 24 Hour
 Other

Received by:
Received by (Laboratory):
Checked by (Laboratory):
Time: 5:05 PM
Date: 10-10-13
Time: 1205
Date: 10/10/13

QC Packages: (Check One Box Below)
 Level II Std QC TRRP Checklist
 Level III Std QC/Raw Date TRRP Level IV
 Level IV SW846/CLP Other

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **GAICONS**

Date/Time Received: **10-Oct-13 17:05**

Work Order: **1310641**

Received by: **JAS**

Checklist completed by *Bill Carey*
eSignature

11-Oct-13
Date

Reviewed by: *Rebecca Kiser*
eSignature

11-Oct-13
Date

Matrices: **Water**

Carrier name: **Courier**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	3.8 c		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:			
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:			

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

[Empty text box for comments]

CorrectiveAction:

[Empty text box for corrective action]