State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER	PAGE
DEP14589	1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
CHUCK BOWMAN
304-558-2157

VENDOR
RFQ COPY
TYPE NAME/ADDRESS HERE

SHIP TO
ENVIRONMENTAL PROTECTION
DEPARTMENT OF
OFFICE OF WASTE MANAGEMENT
601 57TH STREET SE
CHARLESTON, WV
25304 304-926-0499

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
07/16/2009				

BID OPENING DATE: 07/30/2009 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT

********** ADDENDUM NO. 03 **********

ADDENDUM ISSUED FOR THE BIG BEAR LANDFILL PROJECT TO DISTRIBUTE THE REVISED PROJECT SPECIFICATION BOOK INDEX PAGE #11 FROM THE ORIGINAL RFQ AND SECTION VI OF THE SPECIFICATION BOOK (TECHNICAL SPECIFICATIONS) INCLUSIVE OF THE REVISED BID SCHEDULE AND THE TEST PIT EXCAVATION LOGS.

BID DATE AND OPENING HAS BEEN EXTENDED FROM 07/22/09 TO 07/30/2009 AT 1:30 PM.

********** NO OTHER CHANGES **********

0001	1	JB		962-73		

RECLAMATION: RESTORATION OF LAND & OTHER PROPERTIES

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE

TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

GENERAL TERMS & CONDITIONS
REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

1. Awards will be made in the best interest of the State of West Virginia.

2. The State may accept or reject in part, or in whole, any bid.

3. All quotations are governed by the ***West Virginia Code*** and the ***Legislative Rules*** of the Purchasing Division.

4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required $125 fee.

5. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.

6. Payment may only be made after the delivery and acceptance of goods or services.

7. Interest may be paid for late payment in accordance with the ***West Virginia Code***.

8. Vendor preference will be granted upon written request in accordance with the ***West Virginia Code***.

9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.

10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.

11. The laws of the State of West Virginia and the ***Legislative Rules*** of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.

12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.

13. BANKRUPTCY: In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.

14. HIPAA BUSINESS ASSOCIATE ADDENDUM: The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (**http://www.state.wv.us/admin/purchase/vrc/hipaa.htm**) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.

15. WEST VIRGINIA ALCOHOL & DRUG-FREE WORKPLACE ACT: If this Contract constitutes a public improvement construction contract as set forth in Article 1D, Chapter 21 of the West Virginia Code ("The West Virginia Alcohol and Drug-Free Workplace Act"), then the following language shall hereby become part of this Contract: "The contractor and its subcontractors shall implement and maintain a written drug-free workplace policy in compliance with the West Virginia Alcohol and Drug-Free Workplace Act, as set forth in Article 1D, Chapter 21 of the West Virginia Code. The contractor and its subcontractors shall provide a sworn statement in writing, under the penalties of perjury, that they maintain a valid drug-free work place policy in compliance with the West Virginia and Drug-Free Workplace Act. It is understood and agreed that this Contract shall be cancelled by the awarding authority if the Contractor: 1) Fails to implement its drug-free workplace policy; 2) Fails to provide information regarding implementation of the contractor's drug-free workplace policy at the request of the public authority; or 3) Provides to the public authority false information regarding the contractor's drug-free workplace policy."

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.

2. SPECIFICATIONS: Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.

3. Complete all sections of the quotation form.

4. Unit prices shall prevail in case of discrepancy.

5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.

6. BID SUBMISSION: All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130

Revised per Addendum #3

PROJECT SPECIFICATION BOOK

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Revised per Addendum #3

TECHNICAL SPECIFICATIONS

Big Bear Landfill Closure Project
Big Bear Lake Campground, Bruceton Mills, West Virginia

Prepared for:

West Virginia Department of Environmental Protection
Landfill Closure Assistance Program
2031 Pleasant Valley Road, Fairmont, West Virginia 26554

Prepared by:

Potesta & Associates, Inc.
125 Lakeview Drive, Morgantown, West Virginia 26508
Telephone: (304) 225-2245 Facsimile: (304) 225-2246
E-Mail: potesta@potesta.com

POTESTA Project No. 0102-08-0075-004

September 3, 2008

POTESTA

PROJECT NARRATIVE

The Big Bear Lake Campground is located approximately 4 miles south of Interstate 68 off of the Hazelton, West Virginia exit (Exit 29) along County Route 5/18. The facility provides seasonal camping and recreational facilities. The historic practice for municipal waste disposal for garbage generated from the facility was an on-site landfill. The landfill was closed on June 10, 1988. Since that time, the property Owner applied for and was accepted into the West Virginia Department of Environmental Protection's (WVDEP) Landfill Closure Assistance Program (LCAP).

The landfill and surrounding disturbed areas will be reclaimed under this contract. The main site closure activities will include:

1. Excavation of existing solid waste material and the hauling of such material to an approved permitted waste disposal facility. The WVDEP will pay the waste disposal costs incurred directly with such facility on a per ton basis.

2. Construction of reclaimed grades.

3. Revegetation of disturbed areas.

The Contractor will be responsible for purchase and installation of all required materials and supplies. The Contractor will also be responsible for completing construction quality assurance testing for certain aspects of construction. In addition, the existing access roads to/from the site are to be maintained to equal to/ better than the existing conditions throughout the project timeframe. No upgrades of the existing roads are contained in the scope of this project. Also, all posted speed limit signs, both within the campground and outside, shall be adhered. Non-compliance with the campground policies and regulations may be cause for immediate dismissal from the project.

This project is to be bid as a lump sum price to complete all of the work described herein. Individual prices are being requested for the various components but the contract will be based on a lump sum price for the overall project. Estimated quantities are provided for reference only. The Contractor is solely responsible for verifying the quantities and including all necessary work to complete the project for the lump sum total bid price. The Contractor may invoice for 5 percent total bid price upon mobilization of equipment to the project site. The remaining bid amount is expected to be invoiced on a monthly basis or at the end of the project.

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TECHNICAL SPECIFICATIONS

Big Bear Landfill Closure Project
Big Bear Lake Campground, Bruceton Mills, West Virginia

1.0 GENERAL

1.1 Site Location

The Big Bear Lake Campground is located approximately 4 miles south of Interstate 68 off of the Hazelton, West Virginia exit (Exit 29) along County Route 5/18. Site location maps are shown on Drawing No. 1.

1.2 Definitions

The following definitions shall be used throughout these specifications:

"Addenda" - Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the Contract Documents. Also called addendum.

"Agreement" - The written Agreement between Owner and Contractor covering the Work to be performed. The term "Agreement" shall be synonymous with the term "Contract."

"Bid" - The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

"Bidder" - Any person, firm, or corporation submitting a Bid for the Work.

"Contract" or *"Contract Documents"* - All legal and technical writings plus Drawings for the Construction including, but not limited to, technical specifications, Drawings, Contracts, Contractor bid forms, bidding instructions, and written communications.

"Contractor" - Denotes the individual or organization that performs the work. The Contractor shall provide all labor, materials, equipment, supervision, tools, services, and incidentals necessary to complete the contract in accordance with the Contract Documents.

"Drawings" - The approved documents or drawings, or exact reproductions of them, show construction requirements for the project. The drawings show the location, character, dimensions, and other details of the prescribed work including layouts, profiles, and cross

sections; however, subsurface soil and geological data are excluded from this definition. The term "Drawings" shall be synonymous with the term "Plans."

"Engineer" - The person and/or company responsible for the project design. The Engineer will review, and monitor the work as requested by the Owner. All questions or changes which may affect the work shall be presented to the Engineer for review. For this project the Engineer is Potesta & Associates, Inc.

"Landowner" - The Owner of the property upon which the project is to be conducted, also known as property Owner. For this project the landowner is Big Bear Campground. The landowner has no ability to control any aspect of the work. For off site borrow sources landowner refers to the particular property Owners of the off site borrow area.

"Owner" - Denotes the individual or organization for which the work is being performed. In the case of this project, the Owner is West Virginia Division of Environmental Protection (WVDEP). The Owner may delegate responsibilities to others in the performance of this work.

"Shop Drawings" - All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the Contractor, a Subcontractor, manufacturer, supplier or distributor to substantiate the design, material or equipment for some portion of the Work.

"Specifications" - A part of the Contract Documents consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards and workmanship.

"Subcontractor" - An individual, firm or corporation having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.

"Work" - All materials, equipment, services, facilities and other related items necessary to produce the construction required by the Contract Documents and all supplies incorporated or to be incorporated in the Work.

1.3 Description of Problems

The project area includes a landfill, monitoring wells, and access roads. The limits of solid waste covers an area approximately 0.6 acres in size based on observations made in several excavated test pits.

The problems with the site include the following:

1. The landfill has not been capped. The waste material present in the landfill was placed without a liner, leachate collection and/or cap. As opposed to constructing an approved cap and assuming the annual operation and maintenance costs associated with a leachate collection system, the WVDEP has opted to consider the facility similar to an "open dump". Therefore, solid waste material is to be excavated out and transported to an approved permitted waste disposal facilities and surrounding ground will be regraded to promote positive drainage toward existing drainage facilities.

1.4 Purpose

The purpose of this construction contract is to complete closure of the site in accordance with the Title 33, Series 1 Solid Waste Management Rules. The following main aspects of site closure are included in this contract.

1. Excavation of existing solid waste material and the hauling of such material to an approved permitted waste disposal facility.
2. Construction of reclaimed grades.
3. Revegetation of the landfill area, existing disturbed soil borrow areas, and borrow areas utilized by the Contractor.

1.5 Subsurface Information

A subsurface exploration was completed on the landfill property including test pits.

Test Pits TP-1 through TP-10 were excavated within the limits of the landfill and around the suspected perimeter of the landfill. These test pits were used to evaluate existing soil cover over solid waste, determine the depth of solid waste contained within the limits of the landfill, and to estimate the location of the edge of solid waste. Copies of test pit excavation logs are attached in **Appendix B.**

2.0 SCOPE OF WORK

2.1 General

The work covered by these Specifications consists of furnishing all supervision, labor, plants, power, equipment and performing all operations in connection with this project. The project work includes, but is not limited to, excavation of solid waste material as previously disposed of

onsite, the loading of and hauling away of solid waste material to an approved permitted solid waste disposal facility, maintenance and upkeep of existing access roads to an equal to/better than condition throughout the project timeframe, regrading of the site to an acceptable reclaimed condition and the revegetation of the project during completion activities. The purchase and delivery of materials to the site will be the responsibility of the Contractor unless otherwise specified.

2.2 Supervision

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 Owner (West Virginia Division of Environmental Protection or their designated representative) on the work site at all times during working hours with full authority to act for the Contractor.

2.3 Environmental Control

The Contractor shall conduct all work to minimize the amount of dust, erosion, and damage to local flora and fauna. Contractor shall be responsible for providing a water truck to control dust, at no additional cost to Owner. General site cleanup shall be performed upon the completion of work and/or on a daily basis as determined by the Owner. 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.

2.4 Site Plans

All of the Drawings in the List of Drawings are part of this Specification and are included separately.

2.5 Additional Specifications

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" latest revision, are incorporated by reference. These publications are referred to as WVDOH in the text. Also incorporated by reference are the latest revisions of the American Society of Testing and Materials (ASTM) Standards, and the American Association of State Highway and Transportation Officials (AASHTO) Standards.

2.6 Proposed Construction Sequence

The proposed construction sequence (major steps only) for this project is outlined below. The Contractor may perform the construction in another sequence with the prior approval of the Engineer and Owner.

1. Approval from WVDEP to begin work.
2. Mobilization and project start-up.
3. Install temporary erosion control (silt barriers) downgradient of work areas.
4. Clear and grub work areas including removal of soil material from the above waste. This soil material is to be stockpiled for use during final grading.
5. Complete the excavation of existing solid waste material as encountered throughout the project. This waste material shall then be loaded onto over the road trucks and disposed of at an approved permitted solid waste disposal facility. Care shall be taken during the removal process to segregate as much soil from the waste as practical.
6. Regrade disturbed areas including addition of leaf waste.
7. Abandon existing monitoring wells.

2.7 Health and Safety Plan

The Contractor shall be required to prepare a Health and Safety Plan addressing his proposed work plan at the site. The Health and Safety Plan will be presented to the Owner prior to commencing work and shall be revised when so directed by the Owner. The Contractor's Health and Safety Plan shall address excavation, hauling, and transportation of waste, emergency response plan, confined space entry, monitoring for explosive conditions, monitoring of workers' health and safety, workers' protective precautions, and any other items as requested by the Owner.

3.0 SITE ACCESS

It is the Contractor's responsibility to determine how he will access the site and obtain what permits and/or rights-of-entry may be required. The WVDEP has obtained rights-of-entry through Big Bear Lake Campground 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 hold the WVDEP harmless from any injury or damages whatsoever resulting from the use of the property. The Contractor shall hold the WVDEP harmless for any damage to public or private property. All proposed routes of access shall be subject to the approval of the Owner and shall be constructed as outlined in Section 15.6, "Temporary Access Roads" and as approved by the property Owner. The Contractor shall be

responsible for removing and replacing any fences necessary for access to the work areas, and providing any temporary fencing required, all at his own expense.

4.0 INTERPRETATIONS

The Contractor shall make interpretations of the surface and subsurface conditions which may affect methods or costs of the execution of work. All prospective Contractors shall obtain their own permission from the landowner for subsurface explorations, 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 Contractor's Bid Sheet (**Appendix A**) is 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 WVDEP a minimum of three days prior to the submittal of the bid.

5.0 UTILITIES AND OTHER OBSTRUCTIONS

It shall be the sole responsibility of the Contractor to contact Miss Utility of West Virginia 48 hours prior to excavation and, 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 insure avoidance of and damage to such conditions. In the event such damage does occur, the Contractor shall notify the affected utility 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. The Contractor is required to submit a list of all utilities contacted to the Owner before commencing work. If utility relocations not specifically covered by these documents are necessary, as determined by the Owner, 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 Owner for approval prior to performing or arranging for any utility relocation.

If the Contractor encounters any underground utilities not shown on the Drawings, the Contractor shall not disturb the utility and shall notify the Owner immediately for determination of subsequent actions.

6.0 EQUIPMENT RESPONSIBILITY

All equipment shall be in satisfactory operating condition and be capable of safety 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. In the event that equipment required to complete the on-going work is inoperable the Contractor at his expense is required to repair or replace the inoperable equipment within 48 hours. Contractor is responsible for cleaning up all spilled fuels and oils. Contractor must provide appropriate secondary containment for all petroleum products and antifreeze temporarily stored at the site.

7.0 TRAFFIC MAINTENANCE

The Contractor shall maintain traffic in accordance with the West Virginia Division of Highways' "Standard Specifications, Roads and Bridges" adopted 2000, "Supplemental Specifications" latest revision, and the West Virginia Division of Highways' manual entitled "Traffic Control for Street and Highway Construction and Maintenance Operations" latest revision. Traffic control is considered incidental to this project.

8.0 LIMITING ACCESS

The Contractor shall limit access to his work areas.

Two keys to the access gate shall be provided to the Contractor. The gate shall be locked after work each day.

Maintaining and limiting access, as specified, shall be considered incidental to the project.

9.0 PROJECT CONTROL

The Owner reserves the right to control and direct all facets of the project. However, such control does not relieve the Contractor of the sole responsibility for site safety and the proper completion of the work.

10.0 DAMAGES

The Contractor shall be responsible for all damage to public or private property or facility, regardless of location or character, which may be caused by moving, hauling or otherwise transporting equipment, materials, or workers to or from any part of the work site, whether by him or his subcontractors. This will include any damage to the access road (paved or unpaved)

leading to the landfill. The Contractor shall make satisfactory and acceptable arrangement with the Owner of, or the agency or authority having jurisdiction over, the damaged property or facility concerning its repair or replacement or payment of costs incurred in connection with said damage. All things damaged in connection with the performance of the Contract shall be restored to their original condition as determined and approved by the Engineer, and/or property Owner.

11.0 PERMITS AND LICENSES

For off-site borrow and waste areas, the Contractor shall be responsible for obtaining National Environmental Protection Act (NEPA) compliance.

If a highway occupancy permit is required for this work, it should be obtained at least 15 days prior to starting work. The Contractor shall be responsible for obtaining the permit and for payment of associated fees.

It is the Contractor's responsibility to obtain all the necessary permits and licenses required for the project, and to pay any fees necessary for obtaining the same. A copy of all required permits shall be submitted to the Owner before commencing work.

12.0 PREVAILING WAGE AND PAYROLL

The Contractor shall pay prevailing wage rates for all labor in connection with this contract and shall submit certified copies of payroll with each Application for Payment to the Owner.

13.0 CONSTRUCTION LAYOUT

13.1 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 or differences between the cross sections taken from the topographic mapping and actual field conditions.

13.2 Materials

Conventional survey stakes, flagging, drafting media, etc.

13.3 Construction Methods

Drawing No. 2 shows survey benchmark locations and information with which to layout the work. The Contractor shall make all calculations involved and shall furnish and place all layout stakes.

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 Owner and for the permanent file. These records shall be furnished as they are completed during the progress of the work. Any review or checking of the Contractor's layout by the Owner 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 exercise care in the preservation of existing stakes and bench marks and shall have them reset at his expense when any are damaged, lost, displaced, or removed. The Contractor shall use primary control points for reestablishing 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 and shall provide that it be done under the supervision of a West Virginia Professional Surveyor.

The Contractor shall provide the Owner existing ground line cross sections and survey notes for acceptance prior to any earthwork activities and as-built ground line cross sections and survey notes as soon as practical after the completion of excavation and fill. Failure to do so could either preclude any future alternation to the total amount bid for earthwork and/or retard the final installment payment for earthwork.

Acceptable cross sections shall be drawn or reproduced on velum or mylar film at the appropriate scale so that they may be directly overlain on those cross sections contained in the Drawings. Each 22 inch by 34 inch sheet shall be lightly gridded. Station numbers, elevations, baseline offset distances, cross section lines and types, date, responsible parties and a legend shall be clearly illustrated. Cross sections which 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 West Virginia Professional Surveyor.

The Owner 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 Owner's acceptance of a complete set of preconstruction cross sections. Costs incurred by the Contractor from the delay of any construction activities required by the Owner to recover, review, and investigate project cross sections as described herein shall be the sole responsibility of the Contractor.

"As-built" drawings shall be provided to the Owner prior to the Final Inspection Meeting.

13.4 Method of Measurement

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

14.0 MOBILIZATION AND DEMOBILIZATION

14.1 Description

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

14.2 Materials

As required.

14.3 Mobilization

Upon receipt of 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. Appropriate toilet facilities will be provided and maintained.

14.4 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 Owner.

14.5 Method of Measurement

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

15.0 SITE PREPARATION

15.1 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:

1. Clearing and grubbing;
2. Erosion and sedimentation control; and
3. Construction of temporary access roads within the project site.

15.2 Materials

Silt fence for erosion control. Materials as needed for temporary access roads.

15.3 General Requirements

The Contractor shall conduct his operations in such a manner as to minimize soil erosion. The Contractor shall construct, as necessary, sediment and erosion control facilities at the work areas prior to beginning any type of earth disturbance. No separate payment will be made to the Contractor for reconstruction, relocation, or continued maintenance of the sediment and erosion

control facilities. At the completion of construction, the sediment trap shall have the dimensions as required on the plans. The Contractor shall be responsible for cleaning the trap of sediment that may accumulate during the work. No separate payment will be made for sediment removal after the initial excavation to achieve the plan grades.

15.4 Clearing and Grubbing

All clearing and grubbing shall be approved by the Owner prior to commencement. The work areas within the limits of construction indicated on the Drawings shall be cleared and grubbed by removing all standing or felled trees, stumps, brush, trash and other objectionable matter to the satisfaction of the Owner. All materials from the required clearing and grubbing operations shall be both removed from the site and placed at a location approved by the Owner or chipped for later use as mulch. No burning shall be allowed on the waste area.

15.5 Erosion and Sedimentation Control

The methods included in this plan are general; alternate construction procedures approved by the Owner may be used to achieve the intent. Care shall be taken in the areas adjacent to construction areas to minimize disturbance or removal of vegetation and trees. Erosion control shall be completed prior to the start of construction. The Contractor shall attempt to minimize the rate of runoff from the disturbed areas during the period of construction.

Straw bales shall be installed on the final grade at locations as directed by the Owner. These straw bales are in addition to the temporary silt barriers required to control sediment during construction. Silt barriers for sediment control during construction can be straw bales or silt fence and shall be placed in those locations stipulated by the Owner. No silt fence will be permitted on slope areas. Silt fences shall not be used in lieu of the straw bales for the final slopes where straw bales are specified on the Drawings. The Contractor shall install silt barriers downgrade of borrow areas, stockpile areas, temporary access roads and other disturbed areas to confine sediment. Straw bales and silt fence shall be installed parallel to contour lines. Sediment shall be removed after each storm and as directed by the Owner. 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.

Straw bales shall be standard straw bales with a minimum weight of 50 pounds and secured with 2 inch by 2 inch by 4 foot wooden stakes. The use of metal stakes (rebar, channel, etc.) shall not be permitted to anchor straw bales. Silt fence shall be Envirofence Sediment Control System as manufactured by Mirafi of Charlotte, North Carolina, or Owner approved equal. Details are

shown on the Drawings. The temporary silt barriers will be removed during the second seeding if requested by the Owner. Straw bales on the final grade shall be left in place after the completion of the work.

Earthwork shall be in accordance with Section 16, "Earthwork."

15.6 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 preconstruction conference.

The width and type of access roads constructed, and materials used, shall be at the discretion of the Contractor with approval of the Owner. 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. Upon completion of the project, temporary roads shall be removed and existing roads shall be brought back to their original condition, or better, as directed by the Owner. Disturbed areas shall then be regraded and reseeded with appropriate drainage and sediment control installed, as directed by the Owner.

15.7 Waste Cleanup

Debris scattered throughout the landfill property and/or within the limits of construction shall be collected and if not salvageable, shall be placed in an approved permitted solid waste disposal facility. If salvable, the Contractor shall gather the material and transport it to an appropriate storage area. The Contractor shall coordinate with the landowner to determine what materials are to be stored. Equipment, equipment parts, and any other item specified by the landowner shall be moved to the storage area.

15.8 Method of Measurement

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

16.0 EARTHWORK

16.1 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 (soil and rock) such as for the sediment trap construction, wasting of excess soil and rock material, and any other operations that require earthwork. This work also includes excavation of waste. In addition to suitable material encountered during the excavation activities, leaf mulch from a "yard waste disposal area", or other approved source, which is operated by the Big Bear Lake Campground will be utilized as fill material. This material shall be blended with the onsite soil at a ratio of approximately 20 percent leaf mulch to 80 percent onsite suitable material to reach the project's final grades. As directed by the Owner, more or less leaf mulch may be included within the final grading activities.

The work under this Section shall include, but is not necessarily limited to, the following:

1. Excavation for erosion and sedimentation control. Payment for erosion and sedimentation control excavation is included in the items for site preparation (See Section 15.0, "Site Preparation").
2. Execution of the waste material including segregation of the waste from the acceptable soil material.
3. Transportation of the waste material to an approved landfill.
4. Addition of 20 percent (by volume) leaf waste material of the soil material comprising the final grade.
5. Final grading, shaping, and contouring of the various disturbed areas surrounding the landfill. This is considered incidental to earthwork.

16.2 Material Definitions

1. *Random Material:* Random material shall be considered as a mixture of any or all of soil, granular material, or soft shale as described below which are permitted by the Engineer to be used in structural fill. These are materials that can be incorporated in a 6 inch compacted layer.

2. *Soil:* Soil material shall be considered as layers or deposits of disintegrated rock, lying on or near the surface of the earth; which has resulted from natural processes, such as weathering, decay or chemical action or a combination of these processes. Material

shall be considered as soil when more than 25 percent by weight of the grains or particles pass the U.S. No. 200 sieve.

3. *Granular Material:* Granular material shall be considered as natural or synthetic mineral aggregate, such as broken or crushed rock, gravel, sand, or slag. Shale or fly ash shall not be considered granular material. Granular material shall have no more than 25 percent by weight of grains or particles passing the U.S. No. 200 sieve and the plasticity index shall not be more than 6. This material must be capable of being compacted to a stable condition.

4. *Soft Shale:* Shale shall be considered as a fine-grained indurated, detrital material formed by consolidation (normally by compression or cementation or both) of clay, or silt, or clay and silt. Shale as defined may also have some fine sand. Shale is either characterized in the in-situ condition as a stratified or massive structure. Shales which breakdown under three complete coverages with a steel drum roller, meeting the following requirements, shall be classified as soft shale. Smooth drum rollers shall provide a minimum compression of 500 pounds per inch of roller drum and drum rollers with tamping feet shall provide a minimum compression of 500 psi of tamping foot contact. The Contractor shall provide the roller or rollers and any other necessary equipment for this test without additional cost to Owner.

5. *Hard Shale:* Material that meets the description of soft shale above except that it does not breakdown under the hardness test, shall be considered as hard shale when used as structural fill material.

6. *Rock:* Rock shall be considered as sandstone or limestone, which cannot readily be incorporated into a 6-inch compacted lift and shall be medium hard or harder.

7. *Suitable Material:* Material excavated as described above that can be for constructing embankments, roadways, or for any other purpose necessary for the completion of the project as shown on the Plans or directed by the Owner.

8. *Unsuitable Material:* Materials which cannot be satisfactorily placed and compacted to a stable and durable condition may be designated as unsuitable by the Owner.

9. *Waste Material:* Waste, garbage and debris located in the area of the former landfill that cannot be classified as other suitable material; cannot be used as fill material and that must be disposed of at an approved landfill.

16.3 Construction Methods

The intent of excavation and controlled fill for the site is:

1. To properly excavate and transport off site the solid waste material encountered.
2. To regrade and shape existing disturbed areas to provide positive drainage to the proposed ditches as necessary to meet the grades and intent of project as shown on project drawings.

The Contractor will be responsible for the proper segregation, stockpiling protection and utilization of excavated materials. It is the responsibility of the Contractor to stage construction to minimize handling of material. No additional payment will be made for extra handling of material by the Contractor.

The Contractor must maintain positive drainage on all excavation and fill areas and seal loose soils, by smooth drum rolling or other means acceptable to the Owner, prior to precipitation events. Standing water in excavations or on fills is unacceptable.

All areas to be excavated or filled shall be cleared and grubbed as specified in Section 16.4, "Clearing and Grubbing." At fill locations, topsoil and unsuitable material shall be removed and segregated before any fill material is placed. The topsoil and/or unsuitable material shall be stockpiled separately in accordance with Section 16.5, "Excavated Materials." All work shall comply with the erosion and sedimentation control procedures specified in Section 15 or as directed by the Owner.

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 with no claim for additional payment. Over-excavation and/or fill not shown on the Drawings or specified herein shall be at the Contractor's expense, unless approved by the Owner prior to commencing such work.

Excavation operations shall be conducted so that material outside the construction limits 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. All excavations, fills, and currently disturbed areas on the site shall be shaped to a smooth and uniform surface, free from bumps, ruts, gullies, hollows, in order to prepare those areas for revegetation. The WVDEP will be responsible for paying the disposal cost of the waste material at the selected landfill. The Contractor is responsible for providing a cost for transporting the waste to the disposal facility.

During final grading activities, the Contractor is responsible for approximately 20 percent (by volume) of leaf waste material to the upper 6 to 12 inches of soil. The suggested location of this material is the "yard waste disposal area" operated by Big Bear lake Landfill.

16.4 Excavation

Excavation procedures shall conform to these Specifications. If a particular item is not addressed in this Specification, work shall be accomplished in accordance with WVDOH Section 207 and 212. All applicable local, state (including WVDOH Section 107.7) and federal regulations covering safety for excavation and for construction shall be followed. The Contractor must provide all benching, shoring, bracing, trench boxes, etc. as necessary to properly protect workers in excavations.

Approval by the Engineer monitoring construction or the Owner of the Contractor's procedures does not relieve the Contractor of responsibility for site safety. Contractor is solely responsible for establishing and maintaining site safety procedures.

16.5 Excavated Materials

All suitable material which is excavated during construction shall be retained for use on other portions of the site. Unsuitable material shall be disposed as directed by the Owner. Waste material shall be disposed of at an approved landfill facility.

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

16.6 Fill and Compaction

Controlled fill for this project shall meet the following requirements when material is compacted by suitable roller equipment.

1. *General Fill Construction:* No fill shall be placed on frozen material, excessively wet material, or in standing water. During the process of excavation and embankment construction fills shall be maintained in such a condition that they are well drained at all times. Depositing and compacting embankment in layers shall be started at the lowest point of the fill below grade, at the bottom of ravines, and at the foot of slopes on side hills. Unconsolidated soil or random material, unless removed under other provisions of the Specifications, shall be removed as directed by the Owner, replaced and compacted as specified before placing embankment thereon. The layers shall be constructed approximately parallel with finished grade. Each layer, before starting the next, shall be leveled and smoothed by means of power driven graders, dozers or

other suitable equipment with adequate weight, capacity and power to do the work. Layers shall be extended across the entire fill at the level of deposition unless otherwise authorized by the Owner. Each layer, before starting the next, shall be compacted.

Materials to be used in any area of an embankment shall be free from stumps, frozen soil or unsuitable material.

When embankment is being formed around or fill is placed around structures, the material shall be deposited on both sides of the structure in approximately level layers.

In places inaccessible to a roller, such as adjacent to culverts, and other structures, the fill material shall be placed in 4 to 6 inches compacted layers, uniformly compacted with approved tampers.

2. *Lift Thickness:*

a. *Random Material, Soil, Granular Material:* Random material as defined in Section 16.2 shall be placed in embankments in successive layers not to exceed 12 inches in thickness after compaction.

b. *Soft Shale:* Soft shale as defined in Section 16.2 shall be placed in embankments in successive layers not to exceed 12 inches in compacted thickness.

c. *Hard Shale:* This material is defined in Section 16.2. When suitable random material is to be mixed with hard shale, this mixture shall be placed in the embankment in lift thicknesses prescribed. Mixtures which contain 35 percent (by visual inspection) or more of suitable random material shall be placed in lifts not to exceed 12 inches before compaction. Mixtures which contain from zero to 35 percent (by visual inspection) of suitable random material shall be placed in lifts not to exceed 24 inches. The lift thickness shall be as thin as the excavated material will permit.

d. *Rock:* This material, as defined in Section 16.2, shall be placed in the embankment in layers of thickness as prescribed. Mixtures which contain 35 percent or more (by visual inspection) of suitable random material shall be placed in lifts not to exceed 12 inches before compaction. Mixtures which contain zero to 35 percent (by visual inspection) of suitable random material shall be placed in lifts not to exceed 24 inches. This lift thickness shall be as thin as the excavated material will permit.

3. Compaction and Moisture Requirements:

Description	Percent of Dry Density	Percent of Optimum Moisture	Method
Random Material, Soil, Granular Material and Soft Shale with 40 percent **Passing** the ¾ inch Sieve	95	±3	ASTM D698[(1)]
Random Material, Soil, Granular Material and Soft Shale and Hard Shale[(2)] with > 40 percent **Retained** on ¾ inch Sieve	95	±3	WVDOH MP 207.07.20
Hard Shale (>12 inch Lift) and Rock	N/A	N/A	Proofroll[(3)]

(1) WVDOH MP 700.00.24 (i.e., roll pass method) may be used by Owner if no representative Standard Proctor test is available.

(2) If hard shale is incorporated in 12-inch compacted lift or less.

(3) Material shall be proofrolled with a pneumatic tire roller having an effective weight of 50 tons. Alternate proofrollers, acceptable to the Owner, may be used in lieu of a 50 ton pneumatic tired roller provided the weight per tie and tire pressure is maintained so that a minimum of 1315 pounds per inch width of tire is maintained. The roller shall be operated at a speed of not more than five miles per hour. The designated areas to be proofrolled shall have two or more passes and the entire area shall be systematically covered with the proofrolling. During the proofrolling and after the proofrolling is completed, the area shall be checked for unstable areas or soft spots disclosed by the operation of the proofroller. These

unstable areas or soft spots shall be corrected prior to placement of the overlying lifts of material. The Contractor may propose an alternate approach for small areas that are impractical to roll with the proofroller.

4. *Miscellaneous Compaction Requirements:* Material which does not contain sufficient moisture to be compacted to the requirements specified, shall receive applications of water necessary for compaction. Water shall be applied with suitable sprinkling devices and shall be thoroughly incorporated into the material which is to be compacted. Embankment and subgrade materials which contain excess moisture shall be dried, prior to or during compaction, as necessary to obtain satisfactory compaction. No additional payment will be made for the addition of water or drying.

Layers of soil shall be moistened or dried to the required tolerance at the time compactive effort is applied. Water shall be added to or excess moisture removed from soils by the use of plows, discs, or other methods.

Each layer of embankment shall be uniformly compacted to the applicable requirements.

Hard shale shall be broken down during placement by manipulating with tractors, bulldozers, power graders, rollers, or other approved devices until voids between particles are substantially filled. This material shall be compacted and shall be at a moisture content that will provide proper compaction.

Sufficient leveling and compacting equipment shall be provided to do the work of leveling and compacting without delay after the material has been deposited. When the equipment is inadequate for the rate of depositing, the rate of excavation and placement of fill shall be reduced to a rate not to exceed the capacity of the leveling and compacting equipment, with particular attention given to the loss of moisture during the delay. When two or more fills are being constructed and are so isolated from one another, one roller cannot compact the fills satisfactorily, additional rollers shall be provided.

16.7 Water Handling

The Contractor must 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. Dewatering shall be performed in such a manner so as to minimize negative impacts to the receiving stream.

The Contractor shall handle all surface and/or ground water so as not to damage adjacent property, or pollute the 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 Owner. 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, 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. Water handling/diversions shall be considered incidental to the project.

16.8 Borrow Excavation

This work shall consist of using borrow areas as a source for items requiring soil and/or rock. Soil borrow will be required for completion of the work. All on-site and off-site borrow areas must be approved by the Owner. On-site borrow areas are defined as soil and/or rock borrow areas within the limits of construction. Off-site borrow areas are defined as Contractor utilized borrow sites located outside of the limits of construction. The Contractor is responsible to locate any additional borrow areas they desire and if not within the property, to obtain right-of-entry agreements to include the WVDEP with the right of inspection and holding the WVDEP harmless from any injury or damage whatsoever resulting from the Contractor's use of the property. The Contractor is also responsible for obtaining NEPA compliance and a NPDES stormwater permit (if required) for all off-site borrow areas.

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 Owner for review and approval. Highwalls shall not be allowed within borrow areas. Reclamation and revegetation of the borrow sites shall be considered incidental to the borrow operations and shall be included in the unit prices bid for the various items requiring soil or rock.

Erosion and sediment control shall be required for all off-site borrow areas. Erosion and sediment control for off-site borrow areas shall be incidental to construction and no separate payment will be made for erosion and sediment control at off-site borrow areas.

16.9 Stone for Unpaved Access Roads

The portions of the unpaved access roads damaged by the Contractor's activities shall be resurfaced with Class 2 crushed stone as described in WVDOH Section 704 once earthwork is completed. If the existing road surface contains a different class stone, it shall be replaced with similar material.

The portions of the paved access roads damaged by the Contractor's activities shall be resurfaced with hot mix asphalt pavement, 4 inches thick, over a 12 inch thick stone subbase. Resurfacing shall be performed to bring damaged sections of the roadway to their original condition or better at the completion of construction unless otherwise directed by the Owner. Damaged portions of roads to be resurfaced by the Contractor will be at the discretion of the Owner. The existing access roads shall be maintained at their present condition and repaired at the Contractor's expense if damaged by the Contractor. Resurfacing of access roads shall be considered incidental to earthwork.

16.10 Final Shaping and Contouring

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

16.11 Abandon Existing Monitoring Wells

The site includes four existing monitoring wells. These wells are to be abandoned by a WVDEP certified monitoring well driller.

16.12 Method of Measurement

Method of measurement for earthwork shall generally be based on a cubic yard basis as follows; excavation covered by the hatched areas illustrated on cross sections along Baseline A shall be removed; the Contractor shall be compensated based on the lump sum bid price for the total project. The estimated quantities are based on average end cross sectional volume located within the approximate limits of waste as illustrated on the attached drawings. The Contractor shall include the total excavation required to be removed as well as final regrading in the bid items in this section. No additional payment will be made for excavation beyond the limits of the design cross sections, including the adjacent borrow area. The cost provided for earthwork shall include disposal of the waste material at an approved landfill. The WVDEP will pay the landfill disposal

costs directly, therefore, these costs are not to be included in the Contractor's bid price. No additional compensation will be made to deliver the waste material from the project site to an approved landfill including any increase in fuel prices.

The earthwork shall include the addition of leaf waste and shall include the volume of leaf waste required delivered to the project site and blended with the upper 6 to 12 inches of soil.

The method of measurement for abandoned of the monitoring wells, shall be included in the lump sum bid price for the project.

The cost for all additional excavation necessary to complete the project shall be included in the respective bid items.

17.0 REVEGETATION

17.1 Description

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

17.2 General Requirements

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

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.

17.3 Materials

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

17.3.1 Fertilizer

The commercial fertilizer to be used shall consist of a 10-20-10 or 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:

1. Weight.
2. Name of plant nutrients.
3. Guaranteed nutrient percentages.

Fertilizer rates shall be formulated from soil test results. In the absence of soil testing, a rate of 600 pounds per acre will serve as a preferred minimum. Fertilizer shall be applied immediately to all areas reaching final grade by one of the two following methods:

4. Apply and incorporate fertilizer during seedbed preparation.
5. Apply fertilizer in hydroseeding mixture following seedbed preparation.

17.3.2 Limestone

The lime to be used will be an agricultural grade pulverized dolomitic limestone containing a minimum of 10 percent $MgCO_3$ and not less than 95 percent total carbonates. Fineness will be such that no less than 75 percent will pass through a #100 sieve and 100 percent will pass through a #10 sieve.

Lime rate shall be formulated from soil test results. Lime shall be applied such that a standard soil pH of 6.0 is achieved. In the absence of testing, the minimum lime addition rate shall be 3 tons per acre.

Lime shall be applied immediately to all areas reaching final grade by one of the two methods listed in Section 17.3.1, "Fertilizer."

17.3.3 Seed Mixture

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

1. Lot number,
2. Seed producer's name,
3. Percent purity,
4. Percent germination,

5. Date of germination testing and
6. Weed seed content (should be <0.25 percent 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 inoculate 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.

17.3.3.1 Temporary Seed Mixture

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

Variety of Seed	Spring	Summer	Fall	Winter
	3/15-5/31	5/31-8/15	8/15-10/15	10/15-11/15
	lb/acre			
Annual Ryegrass (Lolium multiflorum)	20		20	
German Millet* (Setaria italica)		50		
Cereal Rye (Secale cereale)				90

* *Do not use Japanese Millet.*

All areas to be temporarily seeded which are to be redisturbed shall be fertilized with 600 pounds per acre of 10-20-10 or 10-20-20. All areas reaching final grade to be temporarily seeded shall be fertilized according to Section 17.3.1, "Fertilizer." Lime shall be applied according to Section 17.3.2, "Limestone." Mulch shall be applied according to Section 17.3.4, "Mulch.

17.3.3.2 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 which reach final grade between May 31 - August 15 or October 15 - November 15, shall be seeded with appropriate temporary seed mixture according to Section 17.3.3.1, "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.

Lawn Mixture

Rate (lb/1000 sq ft)	Seed Variety	Minimum Specifications	
		Percent Purity	Percent Total Germination
0.45	Red Fescue (Pennlawn)	98	85
0.90	Kentucky Bluegrass	85	75
0.70	Merion Bluegrass	90	75
0.20	Annual Ryegrass*	95	85

- *Use Annual Ryegrass only in mixtures seeded after August 1 and before May 15*

General Mixture[-1]

Variety of Seed	Spring 3/15-5/31	Fall 8/15-10/15
	lb/acre	
Orchardgrass (Dactylis Glomerata)	15	15
Birdsfoot Trefoil[(1)] (Lotus Corniculatus)	15	15
Red Clover (Trifolium Pratense)	10	10
Annual Ryegrass (Lolium Multiflorum)	15	15
Bicolor Lespedeza	1	1
Foxtail Millet or Hairy Vetch[(2)] (Vicia Villosa) or Winter Wheat	12 5 10	12 5 20

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

(2) Use only if the area is shaded.

17.3.4 Mulch

Mulching procedures shall take place immediately following seeding. Mulch material shall consist of straw, grass hay, wood cellulose fiber, or wood/bark chips.

17.3.4.1 Straw

Straw mulch shall include baled wheat or oats straw or baled grass hay. Stray 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.

17.3.4.2 Wood Cellulose Fiber

Only wood cellulose fiber shall be used 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 percent moisture. Each package of the cellulose fiber shall be marked by the manufacturer to show the air dry weight content.

17.3.4.3 Wood/Bark Chips

Wood/bark chips recovered from any clearing and grubbing operations may be used as mulch at a rate of 45 cubic yards per acre. Wood/bark chips from mills or whole-tree chipping operations can also be used. Chips should not be larger than ⅜ inch thick or more than 6 square inches (2 inches x 3 inches) in area.

17.3.5 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 WVDEP

17.4 Seedbed Preparation

The seedbed (cover soil layer) 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. Seedbed preparation shall be performed in such a manner as not to disturb or cause to be disturbed the low permeability cohesive soil layer. If disturbed, the Contractor shall repair any damages to the cohesive soil layer at his expense as ordered by the Engineer.

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 of as directed by the Engineer. Maximum particle size for protective soil cover shall be limited to 2 inches.

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

Soil shall be friable, and reasonably free of subsoil and clay lumps. Soil shall also be reasonably free from brush, roots, weeds and other objectionable vegetation. Stones or similar objects larger than approximately 2 inches in any dimension, and litter or other materials unsuitable or harmful to plant growth shall not be in the soil.

17.5 Seeding

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.

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 as directed by the Engineer.

17.6 Maintenance of Seeded Area

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 area shall be repaired and reseeded. Maintaining seeded areas shall consist of watering, refilling, refertilizing, reliming, reseeding and remulching erosion gullies and all bare areas.

17.7 Second Step Seeding

The second step seeding will take place during the first defined seeding period following the initial seeding and will coincide with the removal of the silt fence and straw bales installed as required in Section 15.5, Erosion and Sedimentation Control. The following shall be used as a guide for second step application:

1. For areas with less than a 50 percent stand or subject to severe erosion, apply the complete amount of seed, fertilizer, lime and mulch as specified above.

2. For area with over a 50 percent stand, apply one-half the original amount of seed, fertilizer, and lime as specified above. If erosion is a problem, apply one-half the original amount of mulch specified above.

In areas where silt fence and straw bales are removed, the accumulated sediment will be removed or spread out prior to the application of second step seeding.

The Contractor will be responsible for complete removal of silt fence and straw bales during the mandatory second step seeding. If large areas of disturbance still exist up gradient of silt fence it shall remain in place until acceptable vegetation has been established. Additional seeding beyond second step seeding may be required to achieve acceptable vegetative cover.

17.8 Method of Measurement

The method of measurement for determining the quantity of work done as described above will be on a per acre basis (field measured) for seeding (including seedbed preparation, fertilizer, limestone, seed, mulch and water) for only those areas within the limits of construction as shown on the Drawings. There will be no additional compensation for accessing, furnishing, clearing, grubbing, grading, restoring, fertilizing, seeding, and mulching of off-site borrow areas.

Revised per Addendum #3

Big Bear Landfill Closure Project

Requisition # DEP14589

Contractor's Bid Sheet

Company Name:_____

Address:_____

_____

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

ITEM NO.	ESTIMATED QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL BID AMOUNT
13.0	Lump Sum	Construction Layout	LS	$
14.0	Lump Sum	Mobilization and Demobilization	LS	$
15.0	Lump Sum	Site Preparation	LS	$
16.1	7,250 CY	Excavation	CY	$
16.2	Lump Sum	Addition of Leaf Waste	LS	$
16.3	4,550 CY	Transportation of Waste Material	CY	$
16.4	4 Each	Abandonment of Existing Monitoring Wells	EA	$
17.0	Lump Sum	Seeding	LS	$
		TOTAL BID		$

Signature:_____ Date:_____

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Engineers and Environmental Consultants

TEST PIT EXCAVATION FORM

125 Lakeview Drive, Morgantown, WV 26508 ▪ Phone: (304) 225-2245 ▪ Fax: (304) 225-2246

Project Number:	**0102-08-0075**	Test Date:	**5/29/08**
Project Name:	**Big Bear Landfill Closure**	Tested By:	**N. Greene**

Test Pit Number:	**1 of 10**	**Test Pit Surface Elevation:**	**2597±**
Total Excavation Depth:	**2.5'**	**Northing:**	**395856**
Initial Water Observed at:	**n/a**	**Easting:**	**1963545**
Final Water Level:	**n/a**	**Offset:**	

Depth (feet)	Soil/Rock Description	Remarks
0'	Soil	
1'	Waste Material	Plastic bags & bottles, aluminum cans. Wet.
2.5'	Bottom of Waste Material.	Solid Rock

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Project Number:	**0102-08-0075**	Test Date:	**5/29/08**
Project Name:	**Big Bear Landfill Closure**	Tested By:	**N. Greene**

Test Pit Number:	**2 of 10**	**Test Pit Surface Elevation:**	**2601±**
Total Excavation Depth:	**4.5'**	**Northing:**	**395896**
Initial Water Observed at:	**n/a**	**Easting:**	**1963616**
Final Water Level:	**n/a**	**Offset:**	

Depth (feet)	Soil/Rock Description	Remarks
0'	Soil	
1.5'	Waste Material	Plastic bags & bottles, glass, lawn chair. Wet.
4.5'	Bottom of Waste Material.	Solid Rock

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Project Number:	**0102-08-0075**	Test Date:	**5/29/08**
Project Name:	**Big Bear Landfill Closure**	Tested By:	**N. Greene**

Test Pit Number:	**3 of 10**	**Test Pit Surface Elevation:**	**2590±**
Total Excavation Depth:	**1.67'**	**Northing:**	**395943**
Initial Water Observed at:	**n/a**	**Easting:**	**1963456**
Final Water Level:	**n/a**	**Offset:**	

Depth (feet)	Soil/Rock Description	Remarks
0'	Soil	
1'	Waste Material	Plastic bags & bottles, aluminum cans, wood. Moist.
1.67'	Bottom of Waste Material.	

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TEST PIT EXCAVATION FORM

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Project Number: **0102-08-0075**
Project Name: **Big Bear Landfill Closure**
Test Date: **5/29/08**
Tested By: **N. Greene**

Test Pit Number: **4 of 10**
Total Excavation Depth: **9.5'**
Initial Water Observed at: **n/a**
Final Water Level: **n/a**
Test Pit Surface Elevation: **2601±**
Northing: **395907**
Easting: **1963575**
Offset:

Depth (feet)	Soil/Rock Description	Remarks
0'	Soil	
2'	Waste Material	Plastic bags & bottles, aluminum cans, paper, misc. camping equipment. Very wet.
9.5'	Bottom of Waste Material.	Solid Rock

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TEST PIT EXCAVATION FORM

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Project Number:	**0102-08-0075**	Test Date:	**5/29/08**
Project Name:	**Big Bear Landfill Closure**	Tested By:	**N. Greene**

Test Pit Number:	**5 of 10**	**Test Pit Surface Elevation:**	**2602±**
Total Excavation Depth:	**8.67'**	**Northing:**	**395961**
Initial Water Observed at:	**n/a**	**Easting:**	**1963621**
Final Water Level:	**n/a**	**Offset:**	

Depth (feet)	Soil/Rock Description	Remarks
0'	Soil	
1.2'	Waste Material	Plastic bags & bottles, aluminum cans. Wet.
8.67'	Bottom of Waste Material.	Solid Rock

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Engineers and Environmental Consultants

TEST PIT EXCAVATION FORM

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Project Number:	**0102-08-0075**	Test Date:	**5/29/08**
Project Name:	**Big Bear Landfill Closure**	Tested By:	**N. Greene**

Test Pit Number:	**6 of 10**	**Test Pit Surface Elevation:**	**2597±**
Total Excavation Depth:	**4.5'**	**Northing:**	**395987**
Initial Water Observed at:	**n/a**	**Easting:**	**1963683**
Final Water Level:	**n/a**	**Offset:**	

Depth (feet)	Soil/Rock Description	Remarks
0'	Soil	
1'	Waste Material	Plastic bags, aluminum cans, tin cans (canned food containers,) cardboard. Moist.
4.5'	Bottom of Waste Material.	

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TEST PIT EXCAVATION FORM

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Project Number:	**0102-08-0075**	Test Date:	**5/29/08**
Project Name:	**Big Bear Landfill Closure**	Tested By:	**N. Greene**

Test Pit Number:	**7 of 10**	**Test Pit Surface Elevation:**	**2595±**
Total Excavation Depth:	**5'**	**Northing:**	**395907**
Initial Water Observed at:	**n/a**	**Easting:**	**1963575**
Final Water Level:	**n/a**	**Offset:**	

Depth (feet)	Soil/Rock Description	Remarks
0'	Soil	
5'	Bottom of pit (rock.)	No waste material encountered

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Project Number:	**0102-08-0075**	Test Date:	**5/29/08**
Project Name:	**Big Bear Landfill Closure**	Tested By:	**N. Greene**

Test Pit Number:	**8 of 10**	**Test Pit Surface Elevation:**	**2596±**
Total Excavation Depth:	**3'**	**Northing:**	**396018**
Initial Water Observed at:	**n/a**	**Easting:**	**1963605**
Final Water Level:	**n/a**	**Offset:**	

Depth (feet)	Soil/Rock Description	Remarks
0'	Soil	
1'	Waste Material	Plastic bags, aluminum cans, carpet/rug. Moist.
3'	Bottom of Waste Material.	Solid Rock

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TEST PIT EXCAVATION FORM

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Project Number: **0102-08-0075**

Project Name: **Big Bear Landfill Closure**

Test Date: **5/29/08**

Tested By: **N. Greene**

Test Pit Number: **9 of 10**

Total Excavation Depth: **4'**

Initial Water Observed at: **n/a**

Final Water Level: **n/a**

Test Pit Surface Elevation: **2601±**

Northing: **395922**

Easting: **1963657**

Offset:

Depth (feet)	Soil/Rock Description	Remarks
0'	Soil	
1'	Waste Material	Plastic bags & bottles, aluminum cans, wood. Wet.
4'	Bottom of Waste Material.	

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TEST PIT EXCAVATION FORM

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Project Number:	**0102-08-0075**	Test Date:	**5/29/08**
Project Name:	**Big Bear Landfill Closure**	Tested By:	**N. Greene**

Test Pit Number:	**10 of 10**	**Test Pit Surface Elevation:**	**2594±**
Total Excavation Depth:	**2.5'**	**Northing:**	**396003**
Initial Water Observed at:	**n/a**	**Easting:**	**1963559**
Final Water Level:	**n/a**	**Offset:**	

Depth (feet)	Soil/Rock Description	Remarks
0'	Soil	
0.5'	Waste Material	Plastic bags & bottles, aluminum cans, glass, cardboard. Wet.
2.5'	Bottom of Waste Material.	Rock