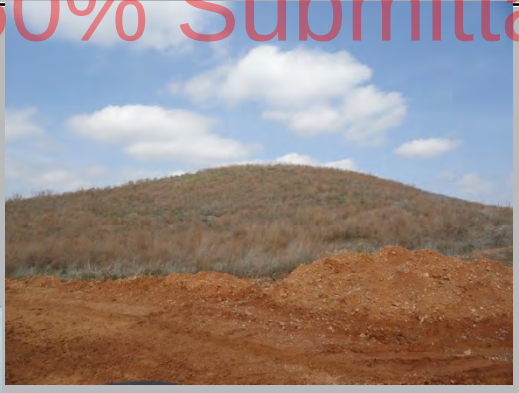
50% Submittal



PROJECT MANUAL – SPECIFICATIONS
CLOSURE OF INACTIVE N.A.B.O.R.S. LANDFILL

1320 RLH Landfill Road, Mountain Home, Arkansas 72653

ABA Project Number 4600033394

Prepared for:
Arkansas Department of
Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118

Prepared by: SCS Aquaterra
7311 West 130th Street, Ste. 100
Overland Park, Kansas 66213
913-681-0030

SCS AQUATERRA

SECTION 000110

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INVITATION TO BID
Section 001116

SCS Aquaterra
7311 West 130th Street, Ste. 100
Overland Park, Kansas 66213
Phone: (913) 681-0030

Closure of Inactive NABORS Landfill
ABA Project #: 4600033394
Owner/Agency: Arkansas Department of Environmental Quality

1) You are invited to bid on a General Contract for the:

Installation of:	Closure of Inactive NABORS Landfill
Located At:	NABORS Landfill, 1320 RLH Landfill Road, Mountain Home, Arkansas 72701
Project Owner:	Arkansas Department of Environmental Quality
Bid Type:	Lump Sum Basis: Lowest Responsive and Responsible Bidder

2) There will be a Mandatory Pre-Bid Conference

Date:	To Be Determined
Time:	10:00 a.m.
Location:	NABORS Landfill, 1320 RLH Landfill Road, Mountain Home, Arkansas 72701

The State reserves the right to schedule future meetings.
Bids received from any bidder failing to attend any mandatory meeting(s) shall be declared non- responsive.

3) The Owner will receive bids until:

Date:	To Be Determined
Time:	3:30 p.m.
Location:	Arkansas Building Authority, Ground Floor Room G-05, 501 Woodlane Avenue, Little Rock, Arkansas 72201

Bids may be mailed or delivered to the above address. Bids received after this time will not be accepted. Bids will be publicly opened and read aloud at the time and date mentioned. Interested parties are invited to attend. The Arkansas Building Authority, hereinafter termed ABA, unless designated to

another entity, supervises the bidding and award of all construction contracts, approves contract change orders, request for final payment and ensures on-site observations are accomplished.

4) Obtaining contract documents through any source other than the Design Professional listed above or their representative(s) is not advisable due to the risks of receiving incomplete or inaccurate information. Contract documents obtained through the Design Professional or their representative(s) are considered the official version and take precedence should any discrepancies occur. The official version of the complete set of the contract documents should be examined and are obtainable from:

Contract documents should be examined and are obtainable from Arkansas Blueprint, 10110 W. Markham, Little Rock, Arkansas 72205, (501) 312-0050.

5) Bid document deposit and refund information:

Bidders must purchase bidding documents through Arkansas Blueprint or a plan room. Bidding documents are non-returnable.

6) While contract documents can be examined at the following plan room(s), bidders should use caution in doing so:

Capitol Imaging, 1301 W. Capitol Ave., Little Rock, AR 72201, Phone Number (501) 376-2446, (800) 428-5890, www.capitolblue.com/planroom

McGraw Hill Construction Dodge Online Plans Room, http://construction.com/dodge, Phone Number (912) 351-4504

7) Bid Security in the amount of five (5) percent of the bid must accompany each bid in accordance with the Instructions to Bidders.

8) Bidders are hereby notified that any bidder who desires to enter into Contract for this work must comply with disclosure requirements pursuant to Governor Executive Order 98-04. Submission to the Owner and ABA of the completed Disclosure (ABA 007373) form will be a condition of the Contract. The Owner cannot enter into any contract nor can ABA approve any contract, which does not obligate the Contractor to require the submission of Disclosure (ABA 007373) forms for subcontracts exceeding $25,000.

9) Bidders are hereby notified that Arkansas Department of Labor prevailing wage rates will apply.

10) The State reserves the rights to reject any and all bids, and to waive any formalities. Bidders shall conform to the requirements of the Arkansas licensing laws and regulations for contractors, and shall be licensed before his bid is submitted unless the project is federally funded pursuant to Arkansas Code Annotated § 17-25-315.

11) Pursuant to Ark. Code Ann. § 22-9-203, the State encourages all small, minority, and women business enterprises to submit bids for capital improvements. Encouragement is also made to all general contractors that in the event they subcontract portions of their work, consideration is given to the identified groups.

12) Pursuant to Ark. Code Ann. § 19-11-105, the lowest responsible bidder shall certify prior to executing the contract that they do not employ or contract with any illegal immigrants. Bidders shall certify online at: **https://www.ark.org/dfa/immigrant/index.php/user/login**.

To: All Bidders
From: Arkansas Building Authority, Construction Section
Re: Common Bidding Mistakes
Date: April 1, 2008

The following list* are the eleven most common mistakes which occur in the bid submittal process and result in bid rejections.

1) Not listing the Subcontractor's name or the Contractors name (Mechanical, Plumbing, Electrical, Roofing) in the space provided on the bid form.

2) The listed Subcontractor's license has expired or is misclassified (when the subcontractor's work is $20k or more for work).

3) Bid Bond is not signed by a resident / non resident agent licensed within Arkansas.

4) Addenda are not acknowledged by the Contractor on the Bid Form.

5) Failure to submit any bid security or the issuing surety company for the Bid Bond is not qualified and authorized to do business within the State.

6) Bid Bond is not signed by the Contractor.

7) Bid Form is not signed by the Contractor or Contractors representative.

8) Expired Contractor's license or is misclassified for the work.

9) Not listing the Prime Contractors license number on the Bid Form.

10) Bid Bond not accompanied by the Agent's Power of Attorney.

11) Bid Security (Bid Bond or Cashiers Check) made out to the wrong entity (Obligee or Payee), the bid security must be made out to the Owner.

*This is NOT an all inclusive checklist and is only being provided as informational assistance to bidders. Bidders should become familiar with all the bid documents, procedures, rules and laws governing bid submittals and state contracting processes.

SECTION 002113

INSTRUCTIONS TO BIDDERS

1. **BIDDING DOCUMENTS**. Bidders may obtain complete sets of Contract Documents from issuing office designated in the Invitation to Bid. Complete sets of Contract Documents must be used in preparing bids; neither Owner nor Design Professional assume responsibility for errors or misinterpretations resulting from the use of incomplete sets of Contract Documents. Obtaining Contract documents through any source other than the Design Professional listed in the Invitation to Bid is not advisable due to the risks of receiving incomplete or inaccurate information, and the bidder runs the risk of basing bidder's proposal on such information. The documents obtained through the Design Professional or his representative(s) or ABA are considered the official version and take precedence if any discrepancies occur. The fact that documents used for bidding purposes are named "contract documents" does not diminish in any way the right of the State to reject any and all bids and to waive any formality.

2. **EXAMINATION OF DRAWINGS, SPECIFICATIONS AND SITE OF WORK**. Bidder shall examine the Contract Documents and visit the project site of work. Bidder shall become familiar with all existing conditions and limitations under which the Work is to be performed, and shall base bid on items necessary to perform the Work as set forth in the Contract Documents. Failure to do so is at the sole risk of the bidder. No allowance will be made to Bidder because of lack of such examination or knowledge. The submission of a Bid shall be construed as conclusive evidence that the Bidder has made such examination.

3. **INTERPRETATION OF CONTRACT DOCUMENTS DURING BIDDING**

3.1 All references to the Owner shall be interpreted to mean the Agency for whom the work is being contracted.

3.2 If any person contemplating submitting a Bid is in doubt as to the true meaning of any part of the Contract Documents or finds discrepancies in or omissions from any part of the Contract Documents, he may submit to the Design Professional a written request for an interpretation or correction thereof not later than five (5) calendar days before Bid opening. In those instances where a Design Professional is not involved with the project, written requests for interpretation or correction may be made to the ABA Construction Section within the time frame stated above.

3.3 Address all communications regarding the Contract Documents to the Design Professional.

In those instances where a Design Professional is not involved, address all such communications to ABA Construction Section, 501 Woodlane Suite, G 05 Little Rock, AR 72201 (501-682-5574).

3.4 Interpretation or correction of the Contract Documents will be made only by Addendum and will be mailed, faxed or delivered to each Bidder of record by the Design Professional; and in those instances where a Design Professional is not involved the ABA Construction Section shall distribute Addenda in the above referenced manner. The State will not be responsible for oral explanations or interpretation of the Contract Documents.

3.5 Addenda issued during the bidding period will be incorporated into the Contract Documents.

4. SUBSTITUTIONS.

4.1 Materials, products, and equipment described in the Contract Documents establish a standard of required function and a minimum desired quality or performance level, or other minimum dimensions and capacities, to be met by any proposed substitution. Acceptability of substitutions will not be considered during bidding period.

4.2 In some cases, prior approval of material or equipment, or both shall be obtained from Owner in order to obtain the desired color, size, visual appearance, and other features specified.

5. TYPE OF BID.

5.1 The Work under this Contract will be awarded under a stipulated sum contract to the lowest responsive and responsible base bid amount. No segregated bids, alternate bids, or assignments will be considered.

5.2 The estimate of quantities is approximate only and shall be the basis for receiving unit price bids for each item, but shall not be considered by the Bidder as the actual quantities that may be required for the completion of the proposed work. Bidder shall state a unit price for every item of work named in the Proposal. Bidder shall include, in the unit prices, furnishing of labor, materials, tools, equipment, and apparatus of every description to construct, erect, and finish the Work. The unit price bid for the items shall be shown numerically and in the appropriate spaces provided on the Bid Form. Such figures shall be clear and distinctly legible so that no question can arise as to

their intent or meaning. Unit price bids and totals shown in the Bid Form shall not include costs of engineering, advertising, printing and appraising.

6. **PREPARATION OF BID**. Bid shall be made on an unaltered Bid Form identical to the form included with the Contract Documents. Fill in all blank spaces and submit one original. If this solicitation requires bidding on all items, failure to do so will disqualify the bid. Bidder shall furnish all information required by the solicitation and bid documents. Bids shall be signed with name printed below the signature. The contractor's license number issued by the Contractors Licensing Board should be placed on the Bid Form.

Where Bidder is a corporation, bids shall be signed with the legal name of the corporation and the signature of an authorized officer of the corporation. Bids signed by an agent shall be accompanied by evidence of that agent's authority. The name of the state of incorporation, contractor's license number issued by the Contractors Licensing Board should be listed. Bids submitted by contractors who are not properly licensed shall be rejected.

6.1 Bids submitted by a "Joint Venture/Joint Adventure" shall be signed by representatives of each component part of the Joint Venture/Joint Adventure. The licenses of each component part of the Joint Adventure should also be listed in the bid submittal. Therefore, joint adventure bidders shall indicate at least two (2) signatures and should indicate two (2) licenses numbers on the Bid Form. Exception: Joint Ventures who have been properly licensed with the Arkansas Contractors Licensing Board as a "Joint Venture" need only to indicate the joint venture license number on the Bid Form. Joint Venture Bidders shall indicate at least two (2) signatures on the bid form even if they are licensed as a joint venture.

7. **BID GUARANTEE AND BONDS**.

7.1 Each bid proposal shall include a bid security in the amount of five percent of the total bid offered, if the bid is in excess of $20,000.00. The bidder will be required to submit a bid security, which includes enclosing a cashiers check payable to the order of the OWNER drawn upon a bank or trust company doing business in Arkansas or by a corporate bid bond in an amount equal to five (5) percent of the bid. The bidder shall include in the bid the bid bond amount so that the bid represents the total cost to the Owner of all work included in the contract. Bid bonds shall be made by a surety company qualified and authorized to do business in the State of Arkansas. The bid bond shall be executed by a resident or non- resident agent who is licensed

by the Arkansas Insurance Commissioner to represent the surety company executing the bond. The agent shall file a power of attorney to act on the behalf of the bonding company with the bid bond. Bidders may utilize an ABA Bid Bond form, however they are not required to do so; other bid bond formats are acceptable.

In any event, regardless of the type of bid security or the format of the bid bond chosen by the Bidder, failure to submit a valid bid security in accordance with Arkansas laws and regulations, including a power of attorney with the bid bond, shall render the bidders proposal void.

7.2 The bid security shall indemnify the Owner against failure of the Contractor to execute and deliver the contract and necessary bond (Performance and Payment Bond) for faithful performance of the contract. The bid security shall provide that the contractor or surety must pay the damage, loss, cost and expense subject to the amount of the bid security directly arising out of the Contractor's default in failing to execute and deliver the contract and bonds.

7.3 Owner will have the right to retain the bid security of bidders to whom an award is being considered until the Contract has been executed and bonds if required, have been furnished, or until specified time has elapsed so that bids may be withdrawn, or all bids have been rejected.

7.4 Failure to execute the Contract and file an acceptable full payment and performance bond and proof of insurance within the time frame as stated in 6(b) of Section 00 41 13 Bid Form after the intent to award has been issued to the bidder shall be just cause for the cancellation of the award and forfeiture of the bid bond, which shall become the property of the agency, not as a penalty but in liquidated damages sustained. Award may then be made to the next lowest responsible bidder, or the work may be rebid and constructed under contract or otherwise as the State determines. The responsible low bidder who fails to execute the Contract and submit an acceptable payment and performance bond and proof of insurance will not be permitted to bid on any subsequent advertisement of that project.

8. PERFORMANCE AND PAYMENT BOND. Performance and Payment Bonds are not required for bids $20,000.00 or under, except for roofing projects. For work exceeding $20,000.00, the Contractor shall furnish a Performance and Payment Bond in the amount equal to 100 percent of contract price, on a form identical to the Arkansas Statutory Performance and Payment Bond Form included with the Contract Documents as security for faithful performance of the Contract and

payment of all obligations arising thereunder within the time frame as stated in 6(b) of Section 00 41 13 Bid Form after receipt of the Intent to Award. The bond shall be made by a surety company qualified and authorized to do business in the State of Arkansas. The bond shall be executed by a resident or non-resident agent licensed by the State Insurance Commissioner, to represent the surety company and the agent shall file with the bond the power of attorney of the agent to act on behalf of the bonding company. The bond shall be written in favor of the Owner. Contractor shall file the bond with the Circuit Clerk in the county where the Work is to be performed.

Failure to deliver said bonds, as specified, shall be considered as having abandoned the Contract and the bid security will be retained as liquidated damages. The bidder shall include in the bid the Performance and Payment bond amount so that the bid represents the total cost to the Owner of all work included in the contract.

9. **LISTING OF SUBCONTRACTORS**. Name of principal subcontractors or prime contractor (Mechanical {HVACR}, Plumbing, Electrical and Roofing) shall be listed where indicated on the Bid Form in accordance with Ark. Code Ann. § 22-9-204 and the contract documents. All prime contractors, as a condition to perform construction work for and in the State of Arkansas, shall use no other subcontractors, including his own forces when the subcontractor's portion of the project is $20,000.00 or more, except those qualified and licensed by the Contractors Licensing Board in Mechanical (HVACR), Plumbing, Electrical and Roofing. Those principal subcontractors or prime contractor listed in these spaces must be properly licensed for all work performed on or for the project that is for a combined total of $20,000 or more as determined by the Contractors Licensing Board (CLB). The bidder must also be properly licensed and use licensed subcontractors for all other Work performed on or for the project that totals $20,000 dollars or more as classified and determined by the CLB.

A bidder should request clarification from the Design Professional (or from ABA Construction Section, if no Design Professional exists for the project), if the bidder determines a type of work (mechanical – indicative of HVACR; electrical; plumbing; roofing) is a component of the project, but space has not been provided on the bid form for the listing of such, if the bid form lists a type of Work that is not a component of the project or if the bidder has any question on how to fill out the proposal with respect to the listing of subcontractors. Clarification should be made in accordance with Instruction 3.2.

The Prime Contractor must make a decision as to which (mechanical –indicative of HVACR; electrical; plumbing; roofing) subcontractor or his own forces he intends to

use for each principal discipline of work. The prime contractor shall place the name(s) of each subcontractor or his own forces he intends to perform the Work in the space provided on the Bid Form and indicate whether the amount of the listed Work is $20,000.00 or more. The prime contractor will also note on the bid form if the listed entity proposed to perform the Work will accomplish any other Work on the project and the cost of such Work. The prime contractor and/or the subcontractor listed on the bid form must be properly licensed by the Contractors Licensing Board (CLB) for any principal Work (mechanical –indicative of HVACR; electrical; plumbing; roofing), as well as any other proposed Work on the project.

9.1 If a Contractor or Subcontractor needs license classification guidance or wishes to verify classifications and/or licensees of subcontractors or their own forces they should contact the CLB prior to submitting the bid. If the bid form has a space for the prime contractor to list which subcontractor(s) or his own forces he intends to utilize to accomplish the disciplines of Mechanical, electrical, plumbing, and/or roofing, the bidder must fill in the said blank space with the name of the contractor/subcontractor that will perform this work. Failure to complete the form correctly shall cause the bid to be declared non-responsive, and the bid will not receive consideration.

9.1.2 It shall be mandatory that any subcontractors listed on the Bid Form by the Prime Contractor are awarded a contract under Ark. Code Ann. § 22-9-204. Prime Contractors who submit a bid listing unlicensed subcontractors or use unlicensed subcontractors on a state project or any subcontractor not licensed by the Contractors Licensing Board who perform Work having a value of $20,000.00 or more on a state project are subject to a civil penalty, after notice and hearing, of not less than $250.00 nor more than $500.00 and may be suspended from bidding on state projects. In the event that one (1) or more of the subcontractors named by the prime contractor in his successful bid thereafter refuse to perform his contract or offered contract, the prime contractor may substitute another subcontractor, after having obtained prior approval from the design professional, the owner, and ABA.

9.2 **LICENSE REQUIREMENT**

a. No person shall perform Work on the contract without possessing an Arkansas State License for the Work they are performing from the appropriate governing Boards. Apprentices will be appropriately supervised according to the State governing Boards requirements.

b. All licensed craftsman shall have a copy of their license with them and shall be required to provide it to an ABA or Owner Representative upon request.

9.3 Pursuant to Ark. Code Ann. § 22-9-404, the Bidder may require listed subcontractors (mechanical, plumbing, electrical and roofing) whose bid to the Contractor exceeds $50,000.00 to provide a Performance and Payment Bond to the Bidder.

10. SUBMITTAL. Submit bid on the Bid Form in an opaque, sealed envelope. Identify the envelope with: the words “Bid Documents”, project name and number, name of Bidder, and Arkansas Contractors License number; only one bid shall be submitted per State Contractors license number. Submit bids in accordance with the Invitation to Bid. All blanks on the form shall be filled out in ink or be typewritten. Erroneous entries, alterations, and erasures shall be lined out, initialed by the Bidder, and the corrected entry inserted on the Bid Form.

11. MODIFICATION, WITHDRAWAL AND SCRIVERNERS’ ERROR

11.1 Modification and Withdrawal. Bidder may withdraw bid at any time before bid opening and may resubmit up to the date and time designated for receipt of bids. No bid may be withdrawn or modified after time has been called for the bid opening. Oral modifications to bids will not be considered. Bidder may submit written modifications to bid in writing, by telegraph, or by facsimile and must be received by ABA at any time prior to the expiration of the bidding time and date. All modifications shall be signed and no modification shall show the base bid amount. Telegraph or facsimile modifications shall require written confirmation over the Bidder's original signature within 24 hours after bid opening.

11.2 Scriveners’ Error. Pursuant to Ark. Code Ann. § 19-4-1405 (e), bidders may request in writing to the ABA Director, to be relieved of their bid any time after the bid opening, but no later than 72 hours after receiving the intent to award, excluding Saturdays, Sundays and holidays. Scriveners’ error is an error in the calculation of a bid which can be documented by clear and convincing written evidence and which can be clearly shown by objective evidence drawn from inspection of the original work papers, documents, or materials used in the preparation of the bid sought to be withdrawn; and the bid was submitted in good faith and the mistake was due to a calculation or clerical error, an

inadvertent omission, or a typographical error as opposed to an error in judgment.

11.2.1 Failure to make a timely request constitutes a waiver by the bidder of the bidder's right to claim that the mistake in his or her bid was a scriveners' error.

12. **DISQUALIFICATION OF BIDDERS**. The State shall have the right to disqualify bids (before or after opening), which includes but is not limited to, evidence of collusion with intent to defraud or other illegal practices upon the part of the Bidder, to reject a bid not accompanied by the required bid security or by other data required by the Contract Documents, or to reject a Bid which is in any way incomplete or irregular.

13. **APPLICABLE LAWS**.

13.1 Labor. Contractors employed upon the work will be required to conform to the labor laws of the State of Arkansas and the various acts amendatory and supplementary thereto, and to all the laws, regulations, and legal requirements applicable thereto.

13.2 Discrimination. Bidder shall not discriminate against any employee, applicant for employment, or subcontractor as provided by law. Bidder shall be responsible for ensuring that all subcontractors comply with federal and state laws and regulations related to discrimination. Upon a final determination by a court or administrative body having proper jurisdiction that the Bidder has violated state or federal laws or regulations, the Owner or ABA, or both may impose a range for appropriate remedies up to and including termination of the Contract.

13.3 Taxes. Bidder shall include in the bid all state sales tax, social security taxes, state unemployment insurance, and all other items of like nature. It is the intent that the bid shall represent the total cost to the Owner of all work included in the contract. There are no provisions for a contractor to avoid taxes by using the tax exempt number of a state agency, board, commission or institutions. Said taxes shall be included in the bid price.

13.4 State licensing laws for Contractors shall be complied with.

13.5 Disclosure. Potential Bidders are hereby notified that any bidder who desires to enter into a contract not exempted from the disclosure requirements, that disclosure is a condition of the Contract and that the Owner cannot enter into

any such contract, nor can ABA approve any such contract, for which disclosures are not made and the verbiage of paragraphs a, b, and c below will be included in the body of any contract awarded.

Potential Bidders are hereby notified that:

a. Disclosure is required to be a condition of any present or future subcontract for which the total consideration is greater than twenty-five thousand dollars ($25,000.00).

b. The Contractor shall require any present or future subcontractor, for which the subcontract amount is greater than $25,000.00 to complete and sign the Contract and Grant Disclosure and Certification form. The contractor shall ensure that any agreement, current or future between the contractor and a subcontractor for which the total consideration is greater than $25,000.00 shall contain the following:

Failure to make any disclosure required by Governor Executive Order 98-04, or any violation of any rule, regulation or adopted pursuant to that Order shall be material breach of the term of this subcontract. The party who fails to make the required disclosure or who violates the rule, regulation, or policy shall be subject to all legal remedies available to the contractor.

c. The Contractor shall transmit a copy of the subcontractor's disclosure form to the agency and a statement containing the dollar amount of the subcontract within ten (10) days upon receipt of subcontractor's disclosure.

Note: A copy of the "Contract and Grant Disclosure and Certification Form" ABA 00 73 73 is included at the end of division zero.

13.5 Minority Participation: Pursuant to Ark. Code Ann. § 22-9-203, the State encourages all small, minority, and women business enterprises to submit bids for capital improvements. Encouragement is also made to all prime contractors that in the event they subcontract portions of their work, consideration is given to the identified groups.

13.6 The bidding, award and administration of the contract shall be made pursuant to Ark. Code Ann. §19-4-1401 et seq., Ark. Code Ann. § 22-9-101 et seq., Ark. Code Ann. § 22-2-101 et seq. and the Arkansas Building Authority Minimum Standards and Criteria. The interpretation and intent of these laws and rules take precedence in the event of any conflict with the bid or contract documents, or both. Clarification should be made in accordance with Instruction 3.2.

13.7 Pursuant to Ark. Code Ann. §19-11-105, no state agency may enter into or renew a public contract for services with a contractor who knows that the contractor or a subcontractor employs or contracts with an illegal immigrant to perform work under the contract.

13.8

Before executing a public contract, each prospective contractor shall certify in a manner that does not violate federal law in existence on January 1, 2007, that the contractor at the time of the certification does not employ or contract with an illegal immigrant. Online certification shall be made at:

https://www.ark.org/dfa/immigrant/index.php/user/login

If a contractor violates this section, the Owner shall require the contractor to remedy the violation within sixty (60) days. Failure to remedy the violation within the sixty (60) days as required by law, the Owner shall terminate the contract for breach of the contract and the contractor shall be liable to the Owner for actual damages.

If a contractor uses a subcontractor at the time of certification, the subcontractor shall certify in a manner that does not violate federal law in existence on January 1, 2007, that the subcontractor at that time of certification does not employ or contract with an illegal immigrant. Subcontractors shall submit the certification required to the contractor within thirty (30) days after the execution of the subcontract. The contractor shall maintain on file the certification of the subcontractor throughout the duration of the term of the contract. If the contractor learns that a subcontractor is in violation of this section, the contractor may terminate the contract with the subcontractor, and the termination of the contract for a violation of this section shall not be considered a breach of the contract by the contractor and subcontractor. Contractor agrees the Owner's Representative or ABA shall have the right to request the Contractor's records of subcontractors illegal immigrant disclosure statements during more as classified and determined.

14. LIQUIDATED DAMAGES. The amount of liquidated damages to be assessed shall be in accordance with the amount indicated in the Contract. Bidder understands and agrees that under the terms of the Contract to be awarded, if the Contractor fails to complete the work within the time limit specified in the Contract, the Contractor shall pay the Owner as Liquidated Damages, and not in the nature of a penalty the sum specified in the Bid Form for each day completion is delayed. It is further understood and agreed by bidder that the said sum fixed as Liquidated Damages is a reasonable sum considering the damages that Owner will sustain in the event of any delay in completion of the Work, and said sum is herein agreed

upon and fixed as Liquidated Damages because of difficulty in ascertaining the exact amount of damages that may be sustained by such delay.

15. PREBID CONFERENCE. See Section 001116 – Invitation to Bid

16. OPENING. Bids will be opened as identified in the Invitation to Bid.

17. EVALUATION AND CONSIDERATION OF BIDS. It is the intent of the State to award a Contract to the lowest responsive qualified Bidder provided the bid has been submitted in accordance with the requirements of the Contract Documents and does not exceed the funds certified for the project by more than 25%. The State shall have the right to waive any formalities in a bid received and to accept the bid which, in the State's judgment, is in its best interests and upon approval of ABA. The State shall have the right to accept any or all bids for a period not to exceed the time frame as stated in 6(d) of Section 00 41 13 Bid Form.

17.1 Tie Bids. If two or more sealed bids are equal in amount, meet Bidding Document requirements, and are the lowest received by the time of the bid opening, then the apparent low bidder will be determined by lot (placing the name of the tie bidders into a container and drawing one name). The drawing will be conducted by ABA personnel and another person so designated by ABA in the presence of a witness and the tie bidders or representatives. The witness shall be an employee of the State of Arkansas. Documentation of the drawing shall be included on the bid tabulation and be signed by those present. Nothing in the above and foregoing will diminish the State’s reserved right to reject any and all bids and to waive any formalities.

18. EXECUTION OF CONTRACT.

18.1 The apparent low Bidder shall be prepared, if so required by the Owner, to present evidence of experience, qualifications, and financial ability to carry out the terms of the Contract.

18.2 The successful Bidder will be required to execute an Agreement with the Owner on a form identical to the Agreement Form included with the Contract Documents and the Performance and Payment Bond and Certification of Insurance and a copy of the policies showing all endorsement, exclusions within the time frame as stated in 6(b) of Section 00 41 13 Bid Form after receipt of the Intent to Award. Failure of the Bidder to do so may result in the Bidder being rejected and could result in disqualification and forfeiture of bid bond. The owners notice to proceed shall not be issued until the

insurance certificates and coverage have been reviewed and approved by the owner. The successful contractor will commence work within five (5) days of the start date listed on the notice proceed issued by the owner or ABA.

18.3 The successful Bidder will be required to furnish Owner with proof of insurance, as prescribed by the General Conditions and Supplementary General Conditions.

END OF DOCUMENT

SECTION 004113

BID FORM

Bid Date:	To Be Determined
Bid Time:	3:30 p.m.
Bid Opening Location:	Arkansas Building Authority, Ground Floor Room G-05, 501 Woodlane Avenue, Little Rock, Arkansas 72201
Bid To:	Arkansas Department of Environmental Quality
Bid From:	_____
	_____
ABA Project Number:	4600033394
Project Name:	Closure of Inactive NABORS Landfill

1) Having carefully examined the Contract Documents for this project, as well as the premises and all conditions affecting the proposed construction, the undersigned proposes to provide all labor, materials, services, and equipment necessary for, or incidental to, the construction of the project in accordance with the Contract Documents within the time set forth, for the lump sum base bid of:

$ _____
Dollar Amount Is To Be Shown Numerically

2) Allowances:
Not Required

3) Unit Prices:
Required
If the required quantities of the items listed are increased or decreased by change order, the unit prices set forth shall apply to such quantities. Dollar amount is to be shown numerically. See Attachment A for Unit Prices.

4) Trench Safety:
Not Required

$ Not Required
Dollar Amount Is To Be Shown Numerically

5) Completion Date: The Bidder agrees that the work will be complete in accordance with the contract documents and ready for Substantial Completion:

Number of Calendar Days: 120
On or Before Date: N/A

6) The undersigned, in compliance with the Contract Documents for the construction of the above named project, does hereby declare:

a. That the undersigned understands that the State reserves the right to reject any and all bids and to waive any formality.

b. That if awarded the Contract, the undersigned will enter into an Agreement, on a form identical to the form included in the Contract Documents and execute required performance and payment bonds and proof of insurance within ten (10) days after receipt of the Intent to Award, will commence work within five (5) days after the start date of the Notice to Proceed, and will complete the Contract fully by Completion Date indicated. Should the undersigned fail to fully complete the work within the above stated time, he shall pay the Owner as fixed, agreed and liquidated damages and not as a penalty, the sum of:

Dollar amount of liquidated damages per day: $2,000 until work is completed or accepted.

c. The undersigned further agrees that the bid security payable to Owner and accompanying this proposal shall become the property of the Owner as liquidated damages if the undersigned fails to execute the Contract or to deliver the required bonds and proof of insurance to the Owner within the time frame as stated in paragraph 6 (b) from receipt of the Intent to Award as these acts constitute a breach of the Contractor's duties.

d. That this bid may not be withdrawn for a period of: 30 calendar days after the bid opening.

e. The undersigned understands that the Owner's intent is to construct all facilities proposed within the limits established by the funds appropriated for the project.

f. The names of subcontractors and the nature of the work to be performed by each one have been included on the Bid Form.

g. The following prevailing wage rates will apply:

If the project exceeds $75,000, the undersigned agrees to pay all prevailing hourly wages prescribed and mandated by Arkansas Code Annotated §22-9-301 et. seq.

h. Bids submitted by a "Joint Venture/Joint Adventure" shall be signed by representatives of each component part of the Joint Venture/Joint Adventure. The licenses of each component part of the Joint adventure should also be listed in the bid submittal. Therefore, joint adventure bidders shall indicate at least two (2) signatures and should indicate two (2) licenses numbers on the Bid Form. Exception: Joint Ventures who have been properly licensed with the Arkansas Contractors Licensing Board as a "Joint Venture" need only to indicate the joint venture license number on the Bid Form. Joint Venture Bidders shall indicate at least two (2) signatures on the bid form even if they are licensed as a joint venture.

7) The following document(s) is attached to and made a condition of this bid.

a. Bid Security

b. Attachment A Unit Prices

8) The undersigned acknowledges receipt of and inclusion as a part of the Contract Documents the following addenda:

#:_____ Dated: _____
#:_____ Dated: _____
#:_____ Dated: _____
#:_____ Dated: _____

9) Listing of Mechanical, Plumbing, Electrical, and Roofing Subcontractors or the Prime Contractor if the portion of work will be performed with your own forces.

Important Please Note

Indicate the name(s) of each entity performing the listed work below and answer the follow-up questions. All Mechanical, Plumbing, Electrical, and Roofing Subcontractors or your own forces if applicable shall be listed regardless of qualifications, licensures or work amount. Bidders should consult the project manual on how to fill out this form. Failure to name the subcontractor or prime contractor in the space provided shall cause the bid to be declared non-responsive and the bid will not receive consideration.

Mechanical: _____
Not Required _____

Plumbing: _____
Not Required _____

Electrical: _____
Not Required _____

Roofing: _____
Not Required _____

Important Notice: If the Bid Form notes any or all of the above Subcontractor's (Mechanical (HVACR), Electrical, Plumbing, and/or Roofing) as "**Required"**, you must list a subcontractor or list your own forces as applicable or your bid will be declared non-responsive.

Bid Form Signature Page

Please Complete the Appropriate Section
(Complete Only One)

☐ **Individual Entity of Company**

Legal Name of the Entity or Company Contractors

License Number By: _____ _____
Signature of Authorized Officer of the Company Date

Print Name Title Phone

Number Street Address City State Zip Code

☐ **Corporation (Must Include with bid a copy of the authorized officer's authority to sign**

By: _____
Signed With Legal Name of the Corporation State of Incorporation Contractor License Number

By: _____ _____
Signature of Authorized Officer of the Corporation Date

Print Name Title Phone

Number Street Address City State Zip Code

☐ **Joint Venture or Adventure**

1st Entity or Company (*legal Name*) Contractors

License Number By: _____ _____
Signature of Authorized Officer of the Company Date

Print Name Title Phone

Number Street Address City State Zip Code

2nd Entity or Company (*legal Name*) Contractors License Number

By: _____ _____
Signature of Authorized Officer of the Company Date

Print Name Title Phone

Number Street Address City State Zip Code

SECTION 004313

BID SECURITY FORM

KNOW ALL PERSONS BY THESE PRESENTS:

That we,_____, as Principal,

and,_____, as Surety, a corporation duly organized under the laws of_____, and who is qualified and authorized to do business in the State of Arkansas, and held and firmly bound unto Arkansas Department of Environmental Quality, the State of Arkansas and entities thereof as Obligee (owner/agency), in the sum of five (5) percent of the amount of the bid and for payment of which in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT, WHEREAS, Principal has submitted a Bid for the work on Arkansas Building Authority Project number/name: 4600033394 - Closure of Inactive NABORS Landfill

NOW, THEREFORE, if Principal is not released from his bid as defined in the Bidding Documents and, if selected as the apparent lowest responsible Bidder, Principal shall, within the time period specified in the Bidding Documents, do the following:

(1) Enter into a written agreement in accordance with the Bid Document.

(2) File a performance and payment bond, which guarantees faithful performance and payment for labor and materials as required by the Bid Documents, in the County where the work is to be performed and provide said bond to the obligee.

(3) Furnish certificates of insurance and all other items as required by the Bidding Documents.

In the event of the disqualification of said Bid due to failure of Principal to enter into such agreement and furnish such bonds, certificates of insurance, and all other items as required by the bidding documents, Principal and Surety shall pay obligee the damage, loss, cost, and expenses subject to the amount of the bid security directly arising out of the Principal's default in failing to execute and deliver the contract and the performance/payment bond. Liability shall be limited to five (5) percent of the amount of the bid.

This bid bond is given in accordance with Arkansas laws and regulations, including Arkansas Code Ann. §19-4-1405, §22-9-203 and §22-9-402. This bid bond is binding upon the above named parties, and their successors, heirs, assigns and personal representatives. Executed by the parties who individually represent that each voluntarily enters into and has the authority to enter into this agreement.

IN WITNESS WHEREOF, we have hereunto set our hands this_____day of _____, 20___.

Principal Company Name: _____

Contractor Name: _____

Signature*: _____

Title: _____

Surety Name: _____

Surety NAIC Number: _____

Resident/Non-Resident Agent Name: _____

Signature: _____

License Number*: _____

*** Bids shall be rejected if a proper bid bond/power of attorney is not submitted. Bid Bonds must be executed by a resident/non-resident agent licensed by the Arkansas Insurance Commissioner to represent the surety which have qualified and are authorized to do business in Arkansas. The Power of Attorney of the agent to act on behalf of the surety shall be submitted with this Bid Bond.**

SECTION 004322

BID FORM ATTACHMENT A UNIT PRICES

Item/Spec	Description	Quantity	Unit	Cost/Unit	Total for Item
				Total	See next page

Section 004322 / Bid Form Attachment A Unit Prices					
Item/Spec	Description	Quantity	Unit	Cost/Unit	Total for Item
				Total	

SECTION 005213

AGREEMENT FORM

THIS AGREEMENT entered into this _____ by and between _____ hereinafter referred to as the Contractor, and Arkansas Department of Environmental Quality hereinafter referred to as the Owner, and the Arkansas Building Authority (ABA),

WITNESSETH:

1) That for and in consideration of the payment by the owner in the amount of $_____ - to be made as set forth in the Contract Documents, the Contractor hereby agrees to furnish all tools, labor, equipment, and materials, and to build and construct that certain project in Baxter County, designated as Project # : 4600033394.

Project Name: Closure of Inactive NABORS Landfill consisting of construction, more specifically described in the Contract Documents attached hereto and incorporated herein by reference. Contract Documents include the following: the Agreement Form (this instrument); the Invitation to Bid; Instruction to Bidders; Bid Form; all Addenda; Performance and Payment Bond; General and Supplementary Conditions; Drawings and Specifications, Drawings listed in the Specifications; Notice to Proceed; Negotiated Changes Documents; and Change Orders. All capital improvements shall be in exact accord with the Contract Documents filed with the Construction Section Office of Arkansas Building Authority, located in Little Rock, on: To Be Determined

The Arkansas Building Authority (ABA) Construction Section shall have direct contract supervision. Said capital improvements shall be to the satisfaction of the ABA Construction Section, and in accordance with the laws of the State of Arkansas, and the work shall be subject to inspection and approval at all times by the appropriate state and federal agencies.

2) Owner may at any time during the progress of the work alter, change, subtract from, or add to said Contract Documents without violating this Agreement or the terms thereof. Said changes, alterations, subtractions, or additions shall be set forth in writing in a document referred to as a "Change Order." Said document shall not be effective unless approved by the ABA. Once effective, the Change Order shall be attached hereto and incorporated herein by reference and shall be made a condition or term of the Contract Documents. Nothing contained in the Change Order shall be construed to waive the sovereign immunity of the State or entities thereof.

3) The Contractor agrees, for the consideration set forth in the Bid Form, to begin work within the time frame stated in 6 (b) of Section 004113 Bid Form after a Notice to Proceed is issued and to complete the work:
In: 120 Calendar Days
On or Before: N/A

If the Contractor fails to complete the work within the time limit herein specified, he shall pay to the Owner, as liquidated damages and not in the nature of a penalty, the sum specified in the Bid Form of for each calendar day delayed, it being understood and agreed between the parties hereto that the said sum fixed as liquidated damages is a reasonable sum, considering the damages that the Owner will sustain in the event of any such delay, and said amount is herein agreed upon and fixed as liquidated damages because of difficulty of ascertaining the exact amount of damages that may be sustained by such delay. The said sum shall be deducted from the amount of the contract.

4) Should Contractor be delayed in the execution or completion of the work by the act, neglect or default of the State, or by any damage by fire, weather conditions or other casualty or event for which the contractor is not responsible, or by general strikes or lockouts caused by acts of employees, then any extended period shall be determined and fixed by the Owner with approval given by ABA Construction Section. Said extended period shall be the time for a period equivalent to the time lost by reason of any or all of the causes aforesaid, but no such allowance shall be made unless a claim therefore is presented in writing to the Owner or ABA Construction Section within seven calendar days of the occurrence of the event causing the delay.

5) It is mutually agreed between the parties that in the performance of this contract, Contractor is acting independently and in no sense as Agent of the State. Contractor shall not let, assign, or transfer this contract or any interest therein, without the written consent of the Owner and ABA.

6) It is agreed and understood between the parties hereto that the Contractor shall accept and the Owner will pay for the work, at the prices stipulated in the Contract Documents, such payment to be in the form of legal tender, and the payment shall be made at the time and in the manner set forth in the Contract Documents.

7) Any laborer or mechanic employed by the Contractor or any Subcontractors for this project, directly on site for the work covered by the Contract Documents, shall be paid a rate of wages required by the Contract Documents. If the Owner or ABA, or both discovers that wages less than the rate of wages specified by the Contract Documents have been or are being paid, then the Owner or ABA, after giving written notice to the Contractor, will terminate the Contractor's right to proceed with the project work or such part of the work as to which there has been a failure to pay the required wages and to prosecute the work to completion by contract or otherwise, and the Contractor and his sureties shall be liable to the Owner for any excess costs occasioned thereby.

8) Contractor shall promptly repair, at his own expense and to the satisfaction of the Owner and ABA Construction Section, damage done by him or his employees or agents at the work site, or to the public property or buildings, or both, and will save the State harmless from all claims of any person for injury to person or to property occasioned by his act, or the acts of his employees or agents, while in the execution of the work specified.

9) The Owner or ABA, or both may terminate this agreement to the extent Owner's funds are no longer available for expenditures under this agreement.

10) Failure to make any disclosure required by Governor's Executive order 98-04, or any violation of any rule, regulation, or policy adopted pursuant to that Order, shall be a material breach of terms of this contract. Any contractor, whether an individual or entity, who fails to make the required disclosure or who violates any rule, regulation, or policy shall be subject to all legal remedies available to the Agency.

a) The contractor shall prior to entering any agreement with any subcontractor, for which the total consideration is greater than $25,000.00, require the subcontractor to complete a Contract and Grant Disclosure and Certification Form. The contractor shall ensure that any agreement, current or future between the contractor and a subcontractor for which the total consideration is greater than $25,000.00 shall contain the following:

   Failure to make any disclosure required by Governor Executive Order 98-04, or any violation of any rule, regulation or adopted pursuant to that Order, shall be a material breach of the term of this subcontract. The party who fails to make the required disclosure or who violates the rule, regulation, or policy shall be subject to all legal remedies available to the contractor.

b) The Contractor shall, within ten days of entering into any agreement with a subcontractor, transmit to Arkansas Building Authority; a copy of the Contract and Grant Disclosure and Certification Form (007373) completed and signed by the subcontractor and a statement containing the dollar amount of the subcontractor.

c) The terms and conditions regarding the failure to disclose and conditions which constitutes material breach of contract and rights of termination and remedies under the Executive Order 98 04 are hereby incorporated within.

11) Nothing in this Contract shall be construed to waive the sovereign immunity of the STATE OF ARKANSAS or any entities there of.

Executed by the parties who individually represent that each have the authority to enter into this Contract.

Contractor: Legal Name of the Entity or Company

Signature of Authorized Officer of the Company — Date

Print Name — Title — Email Address

Street Address — City — State — Zip Code

Arkansas Department of Environmental Quality
Owner: Agency Name

Signature of Authorized Officer of the Agency — Date

Print Name — Title — Email

Address

5301 Northshore Drive — North Little Rock, Arkansas, 72118-5317
Street Address — City — State — Zip Code

Approved: Arkansas Building Authority

By: _____ Date:

SECTION 006113

PERFORMANCE AND PAYMENT BOND

We _____, hereinafter referred to as Principal, and, hereinafter referred to as Surety, are held and firmly bound unto Arkansas Department of Environmental Quality, as obligee, hereinafter referred to as Owner, in the initial amount of $ _____, said amount to be deemed a performance bond payable to Owner under the terms of this Performance and Payment Bond Agreement. The Principal and Surety state that the Surety is a solvent corporate surety company authorized to do business in the State of Arkansas.

Principal has by written agreement dated _____ entered into a capital improvement contract (hereinafter referred to as "Contract") with the Owner for **Closure of Inactive NABORS Landfill Project # 4600033394**. The above referenced Contract is incorporated herein by reference.

Under this Performance and Payment Bond Agreement, the Principal and Surety shall be responsible for the following:

a. The Principal shall faithfully perform the above referenced Contract, which is incorporated herein by reference and shall pay all indebtedness for labor and materials furnished or performed under the Contract.

b. In the event that the Principal fails to perform the Contract, the Principal and the Surety, jointly and severally, shall indemnify and save harmless the Owner from all cost and damage which the Owner may suffer by reason of Principal's failure to perform the Contract. Said indemnification shall include, but not be limited to, full reimbursement and repayment to the Owner for all outlays and expenses which the Owner may incur in making good any such default or failure to perform the Contract by the Principal.

c. Principal shall pay all persons all indebtedness for labor or material furnished or performed under the Contract and in doing so this obligation shall be null and void. In the event that Principal fails to pay for such indebtedness, such persons shall have a direct right of action against the Principal and Surety, jointly and severally, under this obligation, subject to the Owner's priority.

d. Principal shall guarantee the faithful performance of the prevailing hourly wage clause as provided in the Contract.

This bond is given in accordance with state and federal laws, rules and regulations, including but not limited to Ark. Code Ann. § 18-44-503, §19-4-1405, and § 22-9-401 et seq. The Surety guarantees that the Principal shall comply with Ark. Code Ann. § 22-9-308 (d) by payment and full compliance with all prevailing hourly wage contract provisions where the contract amount exceeds the amount provided in Ark. Code Ann. § 22-9-302(1).

Any changes made in the terms of the Contract, including but not limited to, the amount of the Contract, or in the work to be done under it, or the giving by the Owner of any extension of time for the performance of the contract, or any other forbearance on the part of either the Owner or the Principal to the other shall not in any way release the Principal and the Surety or Sureties or either or any of them, their heirs, personal representatives, successors or assigns from their liability hereunder, notice to and consent of the Surety or Sureties of any such change, extension or forbearance being are hereby voluntarily waived. In no event shall the aggregate liability of the Surety exceed the Contract documents.

This Performance and Payment Bond Agreement is binding upon the above named parties, and their successors, heirs, assigns and personal representatives.

Executed by the parties who individually represent that each voluntarily enters into and has the authority to enter into this agreement.

By: _____
Contractor's Signature Date

By: _____
Arkansas Resident Agent or Non-Resident Agent Signature Date

_____ _____
Agent's License Number Surety Company's NAIC Number

_____
Print Agent's Name Date

_____
Street Address

_____
City County State Zip Code

_____
Business Phone Number Fax Number

SECTION 006516

CERTIFICATE OF SUBSTANTIAL COMPLETION

Project Name: Closure of Inactive NABORS Landfill

ABA Project Number: 4600033394 Owner/Agency: Arkansas Department of Environmental Quality

DEFINITION OF DATE OF SUBSTANTIAL COMPLETION:

The Date of Substantial Completion of the Work, or designated portion thereof, is the date certified by the Design Professional and approved by the Owner and ABA when the Work is sufficiently complete, in accordance with the Contract Documents, so the Owner can occupy or utilize the Work or designated portion thereof for the use for which it is intended, as expressed in the Contract Documents. Check the appropriate box below to denote a full or partial substantial completion.

☐ **PARTIAL SUBSTANTIAL COMPLETION**

The partial substantial completion includes the following area(s):

The Work performed under this Contract has been reviewed and found to be substantially complete. The Date of Substantial Completion for the above portion(s) of the Project is hereby established as:_____, which is the date of commencement of applicable warranties required by the Contract Documents, and assumption by the Owner of responsibility for maintenance, security, heat, utilities, damage to the Work and insurance excepting as stated below.

☐ **FULL SUBSTANTIAL COMPLETION**

The Work performed under this Contract has been reviewed and found to be substantially complete. The Date of Substantial Completion for the Project is hereby established as: _____, which is the date of commencement of applicable warranties required by the Contract Documents, and assumption by the Owner of responsibility for maintenance, security, heat, utilities, damage to the Work and insurance excepting as stated below.

The responsibilities of the Owner and the Contractor shall be as follows: (Note - Owner's and Contractor's legal and insurance counsel should determine and review insurance requirements and coverage; Contractor shall secure consent of the Surety Company, if any.)

A list of punch list items to be completed or corrected, prepared by the Contractor and verified and amended by the Architect/Engineer is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. The date of commencement of warranties for items on the attached list will be the date of final completion and inspection/acceptance by the Architect/Engineer, Owner and ABA.

Section 006516
Certificate of Substantial Completion Form
NABORS Landfill

In the case of a full substantial completion the Owner and Contractor understand and agree that all items listed on the attached punch list must be completed within 30 calendar days from the date of substantial completion. Failure to complete the punch list items within the above referenced timeframe may result in notification to and request for action of the Surety Company's Performance and Payment Bond.

Certification of Design Professional:

Firm Name: SCS Aquaterra.

Address: 7311 West 130th Street, Ste. 100
Overland Park, Kansas 66213

Signature Title Date

Approval of Contractor:

Company Name: _____

Address: _____

Signature Title Date

Approval of Owner-Agency:

Agency Name: Arkansas Department of Environmental Quality

Address: 5301 Northshore Drive
North Little Rock, Arkansas, 72118-5317

Signature Title Date

Approval of Arkansas Building Authority:

Signature Title Date

Cc: Surety Company

CERTIFICATE OF FINAL COMPLETION – CAPITAL IMPROVEMENT PROJECT

ABA Project Number: 4600033394 Project Name: Closure of Inactive NABORS Landfill

We, the undersigned parties, state:

1) The date of final completion for the above referenced project is herein established as: _____
Pursuant to Arkansas Code Annotated §22-9-604, retainage shall be released within thirty (30) days of the final completion date. The establishment of the final completion date shall not be deemed to relieve the Contractor of its obligation contained in the contract documents including but not limited to providing all close out documents for final payment.

2) All known details of the project are resolved and there is no uncompleted work left, no Contractor claims or outstanding progress payment(s).

3) The project punch list items, excluding warranty work is complete.

4) The substantial completion certificate previously executed established the twelve (12) month warranty period for projects and a twenty four (24) month warranty for roofing projects, or both. Sixty (60) days prior to the warranty expiration the parties listed below shall conduct a final warranty inspection; this report will be delivered to the Contractor who will correct all defects identified in the Design Professionals or Owners follow-up inspection reports.

Contractor:

_____
Contractor Company/Corporation Name

_____
By: Contractor Authorized Representative

_____ _____
Print Name Date

Design Professional:

SCS Aquaterra
Design Professional Firm Name

_____
By: Design Professional Authorized Representative

_____ _____
Print Name Date

State Agency, Board & Commission:
Arkansas Department of Environmental Quality
Owner/Agency Name

_____
By: Agency Authorized Representative

_____ _____
Name Date

Arkansas Building Authority

_____
By: ABA Observer or Authorized Representative

_____ _____
Print Name Date Print

SECTION 006519.16

RELEASE OF CLAIMS

Comes the undersigned, who does hereby swear and affirm that:

1. My name is:_____, and I am doing business as:_____ and my legal address is: _____

2. Except as stated in Paragraph Four (4) below, pursuant to Contract # :**4600033394** which was executed on:_____ on the following project: **Closure of Inactive NABORS Landfill.**

I have paid and have otherwise satisfied all obligations for all furnished materials and equipment, all work, labor and services performed, and for all known claims against the Contractor arising in any manner in connection with the performance of the above referenced contract for which the Owner might in any way be held responsible.

3. Except as stated in Paragraph Four (4) below, to the best of my knowledge, information and belief, the releases or waivers of Claims, attached hereto and incorporated herein, includes the above referenced contract, all subcontractors, all suppliers of materials and equipment, and all performers of work, labor or services who have or may have claims against the Owner arising in any manner out of the performance of the Contract.

4. The Exceptions are: (if none exists, then indicate "none". The Contractor shall furnish a written explanation to the Owner for each exception.)

_____

_____

_____ _____

Affiant's Signature Date

Verification

STATE OF **ARKANSAS**

COUNTY OF: _____

*Subscribed and Sworn To before me this*_____*day of*_____*20*____

_____

Notary Public

My Commission Expires:_____.

SECTION 006519.19

RELEASE OF CLAIMS

Comes the undersigned, who does hereby swear and affirm that:

1. My name is_____and I am an authorized representative of_____a surety company.

2. With regards to the Project **Closure of Inactive NABORS Landfill.** ABA Project # **4600033394**; Contract Date_____

_____ Contractor, and the Project Owner Arkansas Department of Environmental Quality; I hereby approve the final payment to the Contractor. I agree that the final payment to the Contractor shall not relieve the Surety Company of any of its obligation as set forth in the contract with the State of Arkansas and this Contractor.

_____ _____
AFFIANT SIGNATURE DATE

VERIFICATION

STATE OF **ARKANSAS**

COUNTY OF: _____

*Subscribed and Sworn To before me this*_____*day of*_____*20*____

_____
Notary Public

My Commission Expires:_____.

SECTION 007213

ARKANSAS BUILDING AUTHORITY GENERAL CONDITIONS

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ARTICLE 1 -- GENERAL PROVISIONS

1.1 DEFINITIONS

1.1.1 Contract Documents: Contract Documents consist of Agreement; Invitation to Bid; Instruction to Bidders; the Bid Form; the Bid and the Performance and Payment Bonds; General and Supplementary Conditions; Specifications; Drawings; Addenda issued prior to execution of the Contract; Front End Documents; all ABA approved Change Orders; Wage Rate Determinations; other documents listed or referred to in the Agreement; and modifications issued after execution of the Contract and signed by Contractor and Owner, and approved by ABA.

1.1.2 Contract: The Contract Documents form the Contract for construction. The Contract Documents will not be construed to create a contractual relationship between the Design Professional and Contractor, between the Owner and a subcontractor, between the Owner and Design Professional, or between entities other than the Owner and Contractor; however, a contractual relationship does exist between the Contractor and the agency referred to as Owner, and ABA for approval purposes.

1.1.3 Work: Construction and services required by the Contract Documents whether completed or partially completed, include tools, labor, equipment, supplies, transportation, handling, and incidentals provided by the Contractor.

1.1.4 Project: The total capital improvement project described in the Contract Documents.

1.1.5 Drawings: Graphic and textual portions of the Contract Documents showing the design, location, and dimensions and size of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

1.1.6 Specifications: Written requirements for materials, equipment, systems, standards, and workmanship for the Work, and performance of related services.

1.1.7 Project Manual: Volume, which may include the bidding requirements, forms, contracting requirements, and the Specifications.

1.1.8 Owner: The person or entity identified as such in the Contract Agreement, referred to throughout the Contract Documents as singular in number. The term Owner means the Owner which is a party to this contract.

1.1.9 Contractor: The person or entity identified as such in the Contract Agreement, referred to throughout the Contract Documents as singular in number. The Contractor means the person or other entity entering into the contract with the Owner. The term Contractor means the Prime Contractor or the Prime Contractor-authorized representative.

1.1.10 Design Professional (Architect/Engineer/Consultant): The person or entity identified as such in the Agreement, lawfully licensed to practice architecture or engineering or another field of expertise and under contract to Owner to provide design service, advice, and consultation, referred to throughout the Contract Documents as if singular in number. The term Design Professional means the Architect/Engineer/ Consultant or the authorized representative.

1.1.11 Subcontractor: Any person, firm, or corporation with a direct contract with the Contractor who acts for or in behalf of the Contractor in executing a portion of the Work. The term subcontractor is referred to as singular in number and means the subcontractor or the subcontractor-authorized representative.

1.1.12 Inspector: A duly authorized representative of the Owner, ABA and Design Professional, designated for detailed inspection and/or observations of materials, construction, workmanship, and methods of construction.

1.1.13 Sites: The particular location of that part of the project being considered.

1.1.14 State: The Owner or ABA, or both

1.1.15 Day(s): Unless specifically referred to as calendar days, “day(s)” refers to a period of time meaning “work” days.

1.2 **INTENT**

1.2.1 The intent of the Contract Documents is to set forth the standards of construction, the quality of materials and equipment, the guarantees that are to be met, and to include items necessary for proper execution and completion of the Work. The Contract Documents are complementary and what is required by one will be as binding as if required by all. Performance by the Contractor shall be required to the extent consistent with the Contract Documents and reasonably inferable as necessary to produce indicated results.

1.2.2 Organization of the Specifications into divisions, sections, and articles, and arrangement of Drawings will not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

1.2.3 Unless otherwise stated in the Contract Documents, words which have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

1.3 **CAPITALIZATION**

1.3.1 Terms capitalized in the Contract Documents include those which are specifically defined, the titles to numbered sections and articles, identified references to paragraphs, and the titles of other published documents.

1.4 **INTERPRETATION**

1.4.1 Whenever in these Contract Documents the words "as ordered", "as directed", "as required", "as permitted", "as allowed", or words or phrases of like import are used, it shall be understood that the order, direction, requirement, permission, or allowance of the Owner and Design Professional is intended.

1.4.2 Whenever in these Contract Documents the word "product" is used, it shall be understood that the materials, systems, and equipment will be included.

1.4.3 Whenever in these Contract Documents the word "provide" is used, it shall be understood that it means to "furnish and install".

1.4.4 The Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an", but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

ARTICLE 2 -- OWNER

2.1 **LAND**

2.1.1 The Owner will provide the lands shown on the Drawings upon which the Work shall be performed. The Owner will provide a right-of-way for access to the project site.

2.1.2 The Owner will provide base lines for the location of the principle component parts of the Work with a suitable number of benchmarks adjacent to the Work.

2.2 **RIGHT OF ENTRY BY OWNER**

2.2.1 The Owner and his authorized representative will have the right to enter the property or location on which the Work shall be constructed. The Owner further reserves the right to construct or have his authorized agents construct such work as the Owner will desire, so long as these operations do not interfere with or delay the work being constructed under this Contract.

2.3 **OWNER'S RIGHT TO CARRY OUT THE WORK**

2.3.1 If the Contractor defaults or neglects to perform the Work in accordance with the Contract Documents, including the requirements with respect to the schedule of completion, and fails after ten days written notice from the Owner to correct the deficiencies, or fails to work diligently to correct the deficiencies. The Owner may deduct the cost thereof from the payment then or thereafter due the Contractor.

ARTICLE 3 -- CONTRACTOR

3.1 **GENERAL**

3.1.1 The Contractor shall perform the Work in accordance with the Contract Documents.

3.1.2 The Contractor shall furnish labor, materials, equipment, and transportation necessary for the proper execution of the work unless specifically noted otherwise. The Contractor shall do all the work shown on Drawings and described in Specifications and all incidental work considered necessary to complete the project in a substantial and acceptable manner, and to fully complete the work or improvement, ready for use, occupancy and operation by the Owner. Drawings and Specifications shall be interpreted by the Design Professional or the Owner if no Design Professional exists for the project.

3.1.3 The Contractor shall cooperate with the Owner, Design Professional, inspectors, and with other contractors on the Project. Contractor shall allow inspectors acting in an official capacity, to have access to the project site.

3.1.4 The Contractor shall determine that the final and completed work on the project is in accordance with the Contract Documents. The failure of the Design Professional to find or correct errors or omissions in the use of materials or work methods during the progress of the work shall not relieve the Contractor from his responsibility to correct all the defects in the Work.

3.1.5 The Contractor shall assist in making final inspections and shall furnish such labor and equipment as may be required for the final tests of equipment, piping, and structures.

3.2 **REVIEW OF FIELD CONDITIONS**

3.2.1 Before ordering material or doing Work, the Contractor shall verify all measurements involved and shall be responsible for the correctness of same. No extra charge or compensation will be allowed on account of difference between actual dimensions and the measurements indicated on Drawings; differences which may be found shall be submitted to Design Professional for consideration before proceeding with the Work.

3.2.2 Drawings may show the location or existence of certain exposed and buried utilities as well as existing surface and subsurface structures. The Owner assumes no responsibility for failure to show any or all such utilities and structures on the Drawings or to show such in the exact location. It is mutually agreed such failure will not be considered sufficient basis for claims for extra work or for increasing the pay quantities in any manner unless the obstruction encountered necessitates substantial changes in the lines or grades or requires the building of a special structure.

3.3 REVIEW OF CONTRACT DOCUMENTS

3.3.1 The Contractor shall study and compare Drawings, Specifications, and other instructions as a Construction Professional, not as a Design Professional and shall report to the Design Professional at once any error, inconsistency, or omission discovered.

3.3.2 In the event of conflict among the Contract Documents, interpretations will be based on the following order of precedence, stated highest to lowest:

a. The Agreement

b. This Division Zero (0) shall control in the event of conflict between this Division Zero (0) and other Divisions.

c. Addenda to Drawings and Specifications with those of later date having precedence.

d. Drawings and Specifications

3.3.3 Since the Contract Documents are complementary, the Contractor shall take no advantage of any apparent error or omission in the Drawings and Specifications. The Owner or Design Professional shall furnish interpretations as deemed necessary for the fulfillment of the intent of the Drawings and Specifications.

3.3.4 Discrepancies found between the Drawings and Specifications and actual site conditions or any errors or omissions in the Drawings or Specifications shall be immediately reported to the Design Professional or in the case where a Design Professional is not on the Project, the Owner shall be notified, who shall address such error or omission in writing. Work done by the Contractor after discovery of such discrepancies, errors, or omissions shall be at the Contractor's risk and expense.

3.3.5 The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Owner, Design Professional, and ABA access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of differences between the drawings and specifications the more stringent document will prevail.

3.4 REQUEST FOR SUPPLEMENTARY INFORMATION

3.4.1 The Contractor shall make timely requests of the Owner or Design Professional for additional information required for the planning and production of the Work. Such requests shall be submitted as required, but shall be filed in ample time to permit appropriate action to be taken by all parties involved so as to avoid delay. Contractor understands and agrees that it is Contractor’s duty to determine the need for, and to request said additional information in writing from the Design Professional by such date as allows Design Professional to provide the information to the Contractor by a date that will not adversely affect Contractor’s ability to complete the Work by the date specified in the Contract.

3.4.2 Additional instructions may be issued by the Design Professional during the progress of the Work to clarify the Drawings and Specifications or as may be necessary to explain or illustrate changes in the Work.

3.5 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

3.5.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work. The Owner or their designated representative may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

3.5.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

3.5.3 Samples are physical examples that illustrate materials, equipment, or workmanship and establish standards by which the Work will be judged.

3.5.4 The Contractor shall provide shop drawings and other submittals, settings, schedules, and other drawings as may be necessary for the prosecution of the Work in the shop and in the field as required by the Drawings, Specifications, or Design Professional instructions. The Contractor shall coordinate all such drawings, submittals etc. and review them for accuracy, completeness, and compliance with other contract requirements.

Any deviation from the contract documents shall be disclosed upon submission to the Owner/Design Professional. Approval shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract. Any work done before receiving approval from the Owner/Design Professional will be at the Contractor's risk.

3.6 LABOR AND MATERIALS

3.6.1 Except as otherwise specifically stated in the Contract, the Contractor shall provide, but not be limited to, all materials, labor, tools, equipment, water, light, heating and cooling, power, transportation, superintendence, temporary construction of every nature, taxes legally collectible because of the work, and all other services and facilities of every nature whatsoever necessary to complete the Work in accordance with the Contract Documents in an orderly and efficient manner. The sequence of construction operations shall follow the schedule of construction as approved by the Design Professional. The Work shall not be discontinued by the Contractor without approval of the Design Professional. Should prosecution of the Work be discontinued for any reason, the Contractor shall notify the Design Professional at least twenty-four hours in advance of resuming the Work.

3.6.2 All equipment, material, and articles furnished under this contract shall be new and of most suitable materials grade for the purpose intended, unless otherwise specifically provided in this contract. Materials and equipment furnished under this Contract will be subject to inspection by the Owner's authorized representative or by independent laboratories. Defective material, equipment, or workmanship may be rejected at any time before the acceptance of the Work even though the defective material, equipment, or workmanship may have been previously overlooked and estimated for payment. The Contractor shall replace defective equipment and material in accordance with the Contract Documents at no additional cost to the Owner.

3.6.3 The Contractor shall provide materials and supplies not subject to conditional sales agreements, or other agreement reserving unto the seller any right, title, or interest therein. All materials and supplies shall become the property of the Owner upon final acceptance of this Contract by the Owner.

3.6.4 If shop tests are to be conducted, the Contractor shall notify the Owner of such tests so a representative may witness tests, if desired.

3.6.5 The Contractor may make substitutions only with the consent of the Owner, after evaluation by the Design Professional, and in accordance with a Change Order.

3.7 UNAUTHORIZED WORK

3.7.1 Work done without lines and grades having been given or work done beyond the lines or not in conformity with the grades shown on the Drawings or as provided by the Owner, except as provided herein, and work completed without proper inspection and supervision or any extra or unclassified work completed without written authority and prior agreement shall be at the Contractor's risk. Such unauthorized work, at the option of the Design Professional, may not be measured and paid for and may be ordered removed at the Contractor's expense.

3.8 SUPERINTENDENCE

3.8.1 The Contractor shall supervise and direct the Work. The Contractor shall be solely responsible for construction means, methods, techniques, sequences, and procedures and for coordinating portions of the Work under the Contract.

3.8.2 The Contractor shall employ a qualified superintendent during the duration of the Project who is acceptable to the Owner, Design Professional and ABA Construction. The superintendent shall be maintained on the Project site and shall be present on the site at all times work is in progress. The superintendent shall be capable of reading and understanding the Drawings and Specifications and shall have full authority to act in behalf of the Contractor. All directions and instructions given to the Superintendent shall be considered as given to the Contractor and shall be as binding as if given to the Contractor.

3.8.3 Workmanship shall be performed by workmen experienced in their trade and skilled and experienced for the class of work to which assigned. Any person, including supervisory personnel, who does not show and exhibit skill and proficiency in said work shall be removed by the Contractor and replaced by a competent and experienced workman.

3.8.4 The Contractor shall, at all times, be responsible for the conduct and discipline of his employees and all Subcontractors and their employees. Disorderly, incompetent or intemperate persons, or persons who commit any crimes or trespass on public or private property in the vicinity of the Work must not be allowed to continue working upon the project which the Contractor has with the State. Any superintendent, foreman or workman employed by the Contractor or a Subcontractor who unreasonably refuses or neglects to comply with the instructions of the Owner, Design Professional, or inspector, shall, at the written request of the Owner or Design Professional, be removed from the work site and shall not be allowed to work further on any portion of the work or another State Project without the approval of the Owner.

3.8.5 The Contractor shall coordinate Work by the various trades to provide uniform and symmetrical layout and spacing of the exposed components which will affect the finished design and appearance. Where spacing and related locations are not specifically shown on Drawings or where in doubt, the Contractor shall consult the Design Professional prior to installation of that part of the Work.

3.9 PERMITS, FEES, AND NOTICES

3.9.1 The Contractor shall purchase and secure all applicable permits and licenses and give all notices necessary and incidental to the prosecution of the Work. However, in accordance with Ark. Code Ann. §22-9-213, public works construction projects conducted by ABA or other state agencies are exempt from permit fees or inspection requirements of county or municipal ordinances.

3.9.2 When new construction under the Contract crosses highways, railroads, streets or utilities under the jurisdiction of the state, county, city, or other public agency, public utility, or private entity, the Contractor shall secure written permission from the proper authority before executing such new construction. A copy of this written permission shall be filed with the Owner before any work is completed. The Contractor shall furnish a release from the proper authority before final acceptance of the Work. Any bonds required for this Work shall be secured and paid for by the Contractor.

3.10 SAMPLES AND TESTS

3.10.1 The Contractor shall provide samples, materials, and equipment necessary or required for testing as outlined in the various sections of the Specifications or as directed by the Owner. The Contractor shall pay all costs for testing. Should materials, methods, or systems fail to meet specified standards, the Contractor shall pay all costs for additional testing as required by the Owner.

3.10.2 All tests shall be made by a laboratory approved by the Owner.

3.11 LOCATION, GRADIENT, AND ALIGNMENT

3.11.1 Based upon the site information provided by the Owner and verified by the Contractor, the Contractor shall develop and make detailed surveys necessary for construction including slope stakes, batter boards, and other working points, lines and elevations. The Contractor shall verify the figures before laying out the work and will be held responsible for any error resulting from its failure to do so.

3.11.2 The Contractor shall report any errors, inconsistencies, or omissions to the Design Professional as a request for information.

3.11.3 The Contractor shall preserve benchmarks, reference points and stakes, and in the case of destruction thereof by the Contractor, shall be responsible for damage or mistakes resulting from unnecessary loss or disturbance.

3.12 LAND

3.12.1 Additional land and access thereto not shown on Drawings that may be required for temporary construction facilities or for storage of materials shall be provided by the Contractor at his expense with no liability to the Owner. The Contractor shall confine his equipment and storage of materials and the operation of his workmen to those areas shown on the Drawings and described in the Specifications, and such additional areas which he may provide or secure as approved by the Owner.

3.12.2 The Contractor shall not enter upon private property for any purpose without first obtaining permission.

3.12.3 The Contractor shall be responsible for the preservation of and prevent damage or injury to all trees, monuments, and other public property along and adjacent to the street and right-of-way. The Contractor shall prevent damage to pipes, conduits and other underground structures, and shall protect from disturbance or damage all monuments and property marks until an authorized agent has witnessed or otherwise referenced their location, and shall not remove monuments or property marks until directed.

3.13 LIMITS OF WORK

3.13.1 The Contractor shall conduct Work and operations so as to cause a minimum of inconvenience to the public. At any time when, in the opinion of the Owner or Design Professional, the Contractor is obstructing a larger portion of a road, street, or other public right-of-way than is necessary for the proper execution of the Work, the Design Professional may require the Contractor to finish the sections on which work is in progress before work is commenced on any new sections.

3.14 WARRANTY

3.14.1 In addition to any other warranties in this contract, the Contractor warrants that Work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or workmanship performed by the Contractor or any subcontractor or supplier. The Contractor shall warrant that all Work, materials, and equipment furnished will be free from defects in design, materials, and workmanship and will give successful service under the conditions required.

The warranty period for Work, materials, and equipment furnished by the Contractor shall be one year from the date of the written acceptance of the Work as stated in the Substantial Completion Form approved by the Contractor, Owner, Design Professional and ABA or the date that the ABA approves the final payment request, unless a longer period is agreed upon.

3.14.2 Warranty of Title: The Contractor warrants good title to all materials, supplies, and equipment incorporated in the Work and agrees to deliver the premises together with all improvements thereon free from any claims, liens or charges, and agrees further that neither it nor any other person, firm or corporation shall have any right to a lien upon the premises or anything appurtenant thereto.

3.15 PATENTS AND ROYALTIES

3.15.1 If the Contractor is required or desires to use any design, device, material or process covered by letters, patent, or copyright, he shall provide for such use by suitable legal agreement with the patents or Owner. It is mutually understood and agreed that without exception the Contract Sum shall include all royalties or costs arising from patents, trademarks, and copyrights in any way involved in the Work.

The Contractor and the surety shall defend, indemnify, and save harmless the Owner and all its officers, agents and employees from all suits, actions, or claims of any character, name and description brought for or on account of infringement or alleged infringement by reason of the use of any such patented design, device, material or process of any trademark or copyright used in connection with the Work agreed to be performed under this Contract, and shall indemnify the Owner for any cost, expense, or damage which it may be obliged to pay by reason of any action or actions, suit or suits which may be commenced against the Owner for any such infringement or alleged infringement at any time during the prosecution of the Work contracted for herein.

It is mutually agreed that the Owner may give written notice of any such suit to the Contractor, and thereafter, the Contractor shall attend to the defense of the same and save and keep harmless the Owner from all expense, counsel fees, cost liabilities, disbursements, recoveries, judgments, and executions in any manner growing out of, pertaining to, or connected therewith.

3.16 CLEANING UP

3.16.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove from and about the Project waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials, not purchased for or by the Owner.

3.16.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the cost thereof shall be charged to the Contractor.

ARTICLE 4 -- ADMINISTRATION OF CONTRACT

4.1 DESIGN PROFESSIONAL AUTHORITY

4.1.1 The Design Professional will interpret the requirements of the Contract Documents and decide matters concerning performance there under on request of the Owner or Contractor.

4.1.2 The Design Professional will provide administration of the Contract as described in the Contract Documents and will be the Owner's representative. The Design Professional will decide any and all questions as to the acceptability of materials or equipment furnished, work performed, interpretation of the Drawings and Specifications, rate of progress of the Work, acceptability of the quality of workmanship provided, and other questions as to the fulfillment of the Contract by the Contractor.

4.1.3 The Design Professional will prepare all change orders on the form specified by ABA. The Design Professional may authorize minor changes in the Work not involving adjustment in Contract Sum or extension of Contract Time and not inconsistent with the intent of the Contract Documents.

4.1.4 The Design Professional and his authorized representatives, Owner and ABA will have the right to enter the property or location on which the Work shall be constructed.

4.2 CLAIMS

4.2.1 Definition: A claim is a demand or assertion by one of the parties seeking adjustment, or interpretation of Contract terms, payment of money, extension of time, or other relief with respect to the terms of the Contract. The term includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. Claims will be initiated by written notice. The responsibility to substantiate claims shall rest with the party making the claim.

4.2.2 Claims of the Contractor or the Owner: Claims regarding the Work of the Contract shall be referred initially to the Design Professional for a decision. The Design Professional will review claims, and 1) reject in whole or in part; 2) approve the claim; 3) suggest a compromise; 4) advise the parties that the Design Professional is unable to resolve the claim.

4.2.3 Claims for Concealed or Unknown Conditions: If new and unforeseen items of work are discovered, which cannot be covered by any item or combination of items for which there is a Contract Sum, then the Contractor shall notify the Design Professional as quickly as reasonably possible and shall not continue working on the discovered new or unforeseen items without express written permission from the Design Professional. The Contractor shall complete such work and furnish such materials as may be required for the proper completion or construction of the work contemplated upon written Change Order from the Design Professional as approved by the Owner and ABA. Work shall be performed in accordance with the Contract Documents.

4.2.4 Claims for Extensions of Time: The Contractor shall provide written notice to Design Professional within seven calendar days stating the cause of the delay and request an extension of Contract Time. The Design Professional will act on the request in writing. The extension of time shall be for a period equivalent to the time lost by reasons indicated. No extension of time shall be effective until included in a Change Order approved by the Owner, Design Professional and ABA.

4.2.5 Claims for Changes in the Work: The Contractor shall provide written notice to Design Professional within seven calendar days after the receipt of instructions from the Owner, as approved by the Design Professional and ABA to proceed with changes in the Work and before such Work is commenced. Changes in the Work shall not be commenced before the claim for payment has been approved, except in emergencies endangering life or property. The Contractor's itemized estimate sheets showing labor and material shall be submitted to the Design Professional. The Owner's order (Change Order) for changes in the Work shall specify any extension of the Contract Time and one of the following methods of payment:

a. Unit prices or combinations of unit prices, which formed the basis of the original Contract.

b. A lump sum fee based on the Contractor's estimate, approved by the Design Professional and accepted by the Owner.

c. The applicable methods of computation as set forth in 7.2.2.3.

4.2.6 Claims for Additional Costs: In case of an emergency which threatens loss or injury of property or safety of life, the Contractor shall be allowed to act, without previous instructions from the Design Professional, in a diligent manner. The Contractor shall notify the Design Professional immediately thereafter. Any claim for compensation by the Contractor due to such extra work shall be promptly submitted, but in no case more than 7 calendar days following the event causing the emergency, to the Design Professional for consideration.

The amount of reimbursement claimed by the Contractor on account of any emergency action shall be determined in the manner provided under these General Conditions. No agreement to pay costs for additional work shall be effective until included in a Change Order approved by the Owner, Contractor, the Design Professional and ABA.

ARTICLE 5 -- SUBCONTRACTORS

5.1 ASSIGNMENT OF CONTRACT

5.1.1 Neither the Owner nor the Contractor shall have the right to sublet, sell, transfer, assign, or otherwise dispose of the “Contract” or any portion thereof without written consent of the other party. No assignment, transfer, or subletting, even with the proper consent, shall relieve the Contractor of his liabilities under this Contract. Should any Assignee or Subcontractor fail to perform the work undertaken by him in a satisfactory manner, the Owner, with ABA approval, has the right to annul and terminate the Assignee's or Subcontractor's contract on the project.

5.2 SUBCONTRACTS

5.2.1 The subcontracting of the whole or any part of the Work to be done under this Contract will not relieve the Contractor of his responsibility and obligations. All transactions of the Owner or Design Professional shall be with the Contractor. Subcontractors will be considered only in the capacity of employees or workmen and shall be subject to the same requirements as to character and competency.

5.2.2 The Contractor shall discharge or otherwise remove from the project any Subcontractor that the Owner or the Design Professional has reasonably determined as incompetent or unfit.

5.2.3 The Contractor may not change those Subcontractors listed on the proposal without the written approval of the Owner, Design Professional and ABA. The Contractor shall submit written evidence, which includes but is not limited to, that the substituted contractor is costing the same amount of money or less and if costing less, that the saving will be deducted from the total contract of the prime contractor and rebated to the Owner prior to any approval. The Contractor shall submit his request to the design professional who then shall review the request, if approved, the request and approval shall be forwarded to the Owner. The Owner shall then review the request and accompanying paperwork and if approved, shall forward the approval and the accompanying documents to ABA. ABA shall review all of the documents.

ABA shall provide written notification to the Contractor, Design Professional and Owner as its determination. The Contractor shall not be relieved of any liabilities under this Contract, but shall be fully responsible for any Subcontractor or work by said Subcontractor where Subcontractor is employed by the Contractor to perform work under this Contract. Nothing contained in the Contract Documents shall create contractual relations between any Subcontractor and the State.

5.2.4 No officer, agent, or employee of the Owner, including the Design Professional, shall have any power or authority to bind the Owner or incur any obligation in his behalf to any Subcontractor, material supplier or other person in any manner whatsoever.

ARTICLE 6 - CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

6.1 OTHER CONTRACTS

6.1.1 The Owner reserves the right to award other contracts in connection with the Project. The Contractor shall cooperate with the other contractors with regard to the storage of materials and equipment, access to the site, and execution of their work. It shall be the Contractor's responsibility to inspect the work of other contractors which will affect the work of this Contract and to report to the Owner irregularities which will not permit him to complete his work in a satisfactory manner or in the time allotted. Failure to so report shall constitute an acceptance of the work of other contractors.

6.2 DEPENDENCE ON OTHERS

6.2.1 If any part of the Contractor's work depends for proper execution or results upon the work of the Owner or any separate contractor, the Contractor shall, prior to proceeding with the work, promptly report to the Design Professional any apparent discrepancies or defects in such other work that render it unsuitable for such proper execution and results. Failure of the Contractor to so report shall constitute an acceptance of the work.

ARTICLE 7 -- CHANGES IN THE WORK

7.1 GENERAL

7.1.1 The Owner may, as the need arises, without invalidating the Contract, order changes in the work in the form of additions, deletions, or modifications. Compensation to the Contractor for additional work or to the Owner for deductions in the work and adjustments for the time of completion shall be adjusted at the time of ordering such change.

7.1.2 Additional work shall be done as ordered in writing by the Owner. The order shall state the location, character, and amount of extra work. All such work shall be executed under the conditions of the Contract, subject to the same inspections and tests.

7.1.3 The Design Professional and the Owner reserve and shall have the right to make changes in the Contract Documents and the character or quantity of the work as may be considered necessary or desirable to complete fully and acceptably the proposed construction in a satisfactory manner.

7.2 CHANGE ORDERS

7.2.1 A Change Order is a written instrument, prepared by the Design Professional/ABA and approved by the Design Professional, the Contractor, the Owner, and ABA, stating their agreement upon the following, separately or in any combination thereof:

a. Description and details of the work.

b. Amount of the adjustment in the Contract Sum.

c. Extent of the adjustment in the Contract Time.

d. Terms and conditions of the Contract Documents.

7.2.2 Change Order requests by the Contractor shall be submitted in a complete itemized breakdown, acceptable to the Owner, Design Professional and ABA. Nothing contained in the change order shall be construed to waive the sovereign immunity of the State or entities thereof.

7.2.2.1 Where unit prices are stated in the Contract, Contractor should submit an itemized breakdown showing each unit price and quantities of any changes in the Contract Amount. The value of all such additions and deductions shall then be computed as set forth in Paragraph 7.2.2.3.

7.2.2.2 The Contractor shall present an itemized accounting together with appropriate supporting data for the purposes of considering additions or deductions to the Contract Amount. Supporting data shall include but is not limited to the following:

a. Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and worker or workmen's compensation insurance;

b. Cost of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;

c. Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;

d. Costs of premiums for all bonds and insurance, permit fees, and sales, use of similar taxes related to the Work; and

e. Additional costs of supervision and field office personnel directly attributable to the change. (General Conditions)

The burden of proof of cost rests upon the Contractor. Contractor agrees that ABA or Owner's Representative shall have the right, at reasonable times, to inspect and audit the books and records of Contractor to verify the propriety and granting of such cost.

7.2.2.3 Compute requests for changes be they additions or deductions as follows:

a. For work performed by the Contractor which results in an overall increase in the contract sum: example

Net Cost of Materials a. _____

State Sales Tax b. _____

Net Placing Cost <u>including Owner approved General Conditions</u> c. _____

W.C. Insurance Premium and FICA Tax d. _____

Subtotal of a+b+c+d: _____

Overhead and Profit, shall not exceed 12% x (a+b+c+d) e. _____

Allowable Bond Premium f . _____

TOTAL COST

a+b+c+d+e+f : _____

b. The amount of credit to be allowed by the contractor to the owner for a deletion or change which results in a net decease in the contract sum shall be actual net cost as computed as outlined in 7.2.2.3.a (a. through e.) and confirmed by the design professional. Credit for work deleted shall be computed as outlined in 7.2.2.3.a (a. through e.), except the Contractor's share of overhead and profit percentage is not less than seven (7) percent.

c. For added work performed by Subcontractors: Subcontractors shall compute their work as outlined in 7.2.2.3.a (a. through e.) to the cost of that portion of the work (Change) that is performed by the Subcontractor. The Contractor Overhead and Profit Change shall not exceed five (5) percent plus the Allowable Bond Premium.

d. The amount of credit to be allowed by the contractor to the owner for a deletion or change which results in a net decease in the contract sum by a subcontractor shall be actual net cost as computed as outlined in 7.2.2.3.a (a. through e.) and confirmed by the design professional for work deleted by a Subcontractor: Subcontractors shall compute their work as outlined in 7.2.2.3.a (a. through e.), except that the overhead and profit shall be not less than seven (7) percent and the Contractor's overhead and profit shall be not less than five (5) percent.

7.3 **PAYMENT FOR CHANGES IN THE WORK**

7.3.1 All changes in the Work will be paid for in the manner indicated in Article 4, Paragraph 4.2, and the compensation thus provided shall be accepted by the Contractor as payment in full for the use of small tools, superintendent's services, premium on bond, and all other overhead expenses incurred in the prosecution of such work.

7.3.2 The Owner shall not be deemed to have agreed to any costs for additional work, to have agreed to additional time for completion, or to have agreed to any other change in the terms and conditions of the Contract Documents until Owner, Design Professional and Contractor have executed a Change Order to this Contract, and the Change Order is approved by ABA.

ARTICLE 8 -- TIME

8.1 **DEFINITIONS**

8.1.1 Contract Time is the period of time identified in the Contract Documents for Substantial Completion of the Work, including authorized adjustments made as part of Change Orders agreed to by the Owner, Contractor Design Professional and ABA.

8.1.2 Date for commencement of the Work is the fifth calendar day following the start date listed on the Notice to Proceed, unless otherwise stated in the Contract.

8.1.3 Date of Substantial Completion is the date certified by the Design Professional, the Owner and ABA.

8.2 **PROGRESS**

8.2.1 Time limits identified in the Contract Documents are of the essence of the Contract. The Contractor confirms that the Contract Time is a reasonable period of time for performing the Work.

8.3 **HOLIDAYS**

8.3.1 New Year's Day, Robert E. Lee/Dr. Martin Luther King's Birthday, President's Birthday, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day and the day thereafter, Christmas Eve and Christmas Day will be considered as being legal holidays; no other days will be considered unless declared by the Governor of the State of Arkansas through an Executive Order or Proclamation. No Design Professional clarifications, observations, or State inspections will be provided on legal holidays, Saturdays and Sundays, and no work shall be performed on these days except in an emergency or with written approval in advance by the Design Professional and Owner.

8.4 **DELAYS**

8.4.1 Delays beyond the Contractor's control occasioned by an act or omission on the part of the Owner, strikes, fires, additions to the work, delays by any separate contractor employed by the Owner, extremely abnormal weather conditions, or other delays beyond the Contractor's control may, if agreed to by Change Order by the Contractor, Owner, Design Professional and ABA entitle the Contractor to an extension of time in which to complete the work. While such delays may be just cause for an extension of the Contract Time, the Contractor shall not have a claim for damages for any such cause or delay.

ARTICLE 9 -- PAYMENTS AND COMPLETION

9.1 **CONTRACT SUM**

9.1.1 The Contractor shall accept the compensation, as herein provided, in full payment for furnishing all materials, equipment, labor, tools, and incidentals necessary to complete the Work and for performing all Work contemplated and embraced under the Contract. Also, for loss or damage arising from the nature of the Work, from the action of the elements or from any unforeseen difficulties which may be encountered during the prosecution of the Work until the final acceptance by the Design Professional and Owner; and for all risks of every description connected with the prosecution of the Work; for all expenses incurred in consequence of the suspension or discontinuance of the Work as specified; and for any infringement of patent, trademark, or copyright, and for completing the Work according to the Contract Documents. Neither the payment of any estimate nor of any retained percentage shall relieve the Contractor of any obligation to make good any defective work or material.

9.1.2 No moneys payable under Contract or any part thereof, except the estimate for the first month or period, shall become due and payable if the Owner so elects until the Contractor shall satisfy the said Owner that he has fully settled or paid for all materials and equipment used in or on the Work and labor done in connection therewith, and the Owner, if he so elects, may pay any or all such bills wholly or in part and deduct the amount or amounts so paid from any monthly or final estimate excepting the first estimate.

9.1.3 In the event 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 the right to do business in a state revoked as provided by law, the Owner may at its election withhold payment of any estimate filed or approved by the Design Professional until the Contractor shall give a good and sufficient bond in lieu of the bond so executed by such surety. Any and all subsequent bonds shall be filed with the Circuit Clerk of the County in which the Work is being performed.

9.2 SCHEDULE OF VALUES

9.2.1 The Contractor shall submit to the Design Professional a schedule of values for each part of the Work. The schedule shall be a complete breakdown of labor and materials for the various parts of the Work including an allowance for profit and overhead. The total of these amounts shall equal the Contract Sum. The approved schedule of values shall be used as a basis for the monthly payments to the Contractor. In applying for the monthly payment, the Contractor shall show a detailed account of work accomplished in conformity with the schedule.

9.3 MEASUREMENT OF QUANTITIES

9.3.1 The Contractor shall be paid for all Work performed under the Contract based on Design Professional computations of as-built quantities and the Contractor's Contract Sum. This payment shall be full compensation for furnishing all supplies, materials, tools, equipment, transportation, and labor required to do the Work; for all loss or damage, because of the nature of the Work, from the action of the elements or from any unforeseen obstruction or difficulty which may be encountered in the prosecution of the Work and for which payment is not specifically provided for all or any part of the Work; and for well and faithfully completing the Work in accordance with the Contract Documents. The method of computation and payment for each item shall be as set forth in the Specifications or the Supplementary Conditions.

9.4 REQUESTS FOR PAYMENT

9.4.1 The Contractor may submit periodically, but not more often than once each month, a Request for Payment for work completed. When unit prices are specified in the Contract Documents, the Request for Payment shall be based on the quantities completed.

9.4.2 Unless otherwise provided in the Contract Documents, payments will be made on account of materials or equipment not incorporated in the Work to date but delivered and suitably stored at the site, and if approved in advance by the Owner, payments may similarly be made for materials or equipment suitably stored at some other location agreed upon in writing. Payments for materials or equipment stored on or off the site shall be conditioned upon submission by the Contractor of bills of sale or such other procedures satisfactory to the Owner and the Design Professional to establish the Owner's title to such materials or equipment or otherwise protect the Owner's interest including applicable insurance and transportation to the site for those materials and equipment stored off the site.

9.4.3 The Contractor shall furnish the Design Professional all reasonable facilities and job tickets required for obtaining the necessary information relative to the progress and execution of the Work and the measurement of quantities. Each Request for Payment shall be computed from the Work completed on all items listed in the approved schedule of values less 5 percent of the adjusted Contract Sum and less previous payments to the Contractor on the Contract.

9.5 PERIODIC ESTIMATES FOR PAYMENT

9.5.1 Unless otherwise stated in the Specifications or Supplementary Conditions, the Owner shall cause the Design Professional to prepare an Estimate for Payment to the Contractor each month. The Design Professional will make the estimate for the materials complete in place and the amount of work performed in accordance with the Contract between the twenty-fifth day of the month and the fifth day of the succeeding month.

9.5.2 From the total of the amount estimated to be paid, an amount equal to five (5) percent of the total completed shall be retained from each payment request. All sums withheld by the Owner and requested in a Final Pay Request prepared by the Owner or Contractor will be paid to the Contractor within 30 days after the Contract has been completed and the work approved by ABA. No retainage will be withheld on that amount of the progress payment pertaining to the cost of materials stored at the site or within a bonded warehouse.

9.6 **PAYMENT FOR INCREASED OR DECREASED QUANTITIES**

9.6.1 When alterations in the quantities of work not requiring Contract modifications are ordered and performed, the Contractor shall accept payment in full at the Contract Sum, for the actual quantities of work accomplished. No allowance will be made for anticipated profits. Increased or decreased work involving Contract modifications shall be paid for as stipulated in such Contract modifications.

9.7 **DESIGN PROFESSIONAL'S ACTION ON A REQUEST FOR PAYMENT** (See also 9.9)

9.7.1 The Owner shall cause the Design Professional to, within five working days plus time required for transmittal from one party to another, act on a Request for Payment by the Contractor in one of the following:

a. Approve the Request for Payment as submitted by the Contractor, and transmit same to the Owner.

b. Approve an adjusted amount, as the Design Professional will decide is due the Contractor informing the Contractor in writing of the reason for the adjusted amount, and transmit same to the Owner.

c. Withhold the Request for Payment submitted by the Contractor informing the Contractor, Owner and ABA in writing of the reason for withholding the request.

9.8 **ACTION ON A REQUEST FOR PAYMENT AND FINAL PAYMENT**
(See also 9.9)

9.8.1 The Owner will, within five working days plus transmittal time between the various state agencies involved, act on a Request for Payment (not Final) after approval by the Design Professional by one of the following:

a. Approve the Request for Payment as approved by the Design Professional and process the payment.

b. Approve payment of an adjusted amount as the Owner will decide is due the Contractor, informing the Contractor and the Design Professional in writing of the reason for the adjusted amount of payment.

c. Withhold the Request for Payment informing the Contractor and the Design Professional in writing of the reason for withholding the payment.

9.8.2 The State shall process payments in accordance with Ark. Code Ann. §19-4-1411, which establishes the time limits for the Design Professional, the Owner, and the Department of Finance and Administration. It also authorizes the Chief Fiscal Officer of the State to investigate any complaints of late payments and assess penalties for late payment. Complaints shall be addresses to: Chief Fiscal Officer of the State: Department of Finance and Administration; 1509 West Seventh Street, Suite 401; Post Office Box 3278; Little Rock, AR 72203-3278.

9.8.3 The Design Professional or the State may withhold payment for contested issues, including but not limited to, defective work on the project; evidence indicating the probable filing of claims by other parties against the Contractor related to the project; damage caused to another contractor; reasonable evidence that Work cannot be completed for the unpaid balance of the Contract Sum or within Contract Time or failure of the Contractor to make payments on materials, equipment or labor to subcontractors. It is the responsibility of the contesting party to notify the Contractor in writing that payment has been contested and the reasons why. The notification must be done within the timeframe specified for processing of payment under Ark. Code Ann. §19-4-1411.

9.9 PAYMENT FOR UNCORRECTED WORK

9.9.1 Should the Design Professional direct the Contractor not to correct work that has been damaged or that was not performed in accordance with the Contract Documents, an equitable deduction from the Contract Sum shall be made to compensate the Owner for the uncorrected work. The Design Professional shall determine the amount of the equitable deduction.

9.10 PAYMENT FOR REJECTED MATERIALS AND WORK

9.10.1 The removal of rejected Work and materials and the re-execution of acceptable work by the Contractor shall be at the expense of the Contractor. The Contractor shall pay the cost of replacing the work of other contractors destroyed or damaged by the removal of the rejected work or materials and the subsequent replacement with acceptable work.

9.11 DATE OF SUBSTANTIAL COMPLETION

9.11.1 A Certificate of Substantial Completion, which shall establish the Date of Substantial Completion, shall state the responsibilities of the Owner and the Contractor for security, maintenance, heat, utilities, damage to work, and insurance and shall fix the time within which the Contractor shall complete the items listed therein. Warranties required by the Contract Documents shall commence on the Date of Substantial Completion, unless another timeframe is stated in the Certificate of Substantial Completion. The Certificate of Substantial Completion shall not become effective until approved by ABA.

9.12 FINAL COMPLETION AND PAYMENT BY OWNER

9.12.1 The Contractor shall furnish a letter from the Design Professional attached to the Contractor's final estimate, which shall include all retainage withheld, certifying that the Design Professional has received and approved all guarantees, bonds, maintenance and operation manuals, air balance data, shop drawings, catalog data, and record documents specified in the Contract Documents.

9.12.2 Before final payment, the Contractor shall furnish to the Design Professional executed copies of the Release of Claims and Consent of the Performance and Payment Bond Surety for Final Payment. Items listed in this Section Nine (9) shall be submitted with and at the same time as the final estimate to the Design Professional and shall be promptly delivered by the Design Professional to the Owner. No final payment or release of retained amounts shall be made without complete compliance with this Section Nine (9), and approval by the Owner and ABA of the Final Pay Request, which shall include payment of all retained amounts.

9.12.3 Any claim by the Contractor to the Owner for interest on a delinquent final payment shall only be made pursuant to Ark. Code Ann. § 22-9-205.

9.13 PARTIAL OCCUPANCY OR USE

9.13.1 The Owner may occupy or use any completed or partially completed portion of the Work provided such use or occupancy is consented to by the insurer and authorized. The Contractor will prepare a list of items to be completed or corrected before partial acceptance. Upon receipt of the Contractor’s list, the Design Professional will make an inspection to determine whether the Work or portion thereof is substantially complete. No portion of the work shall be considered substantially complete unless described in a Certificate of Substantial Completion Form approved by the Contractor, Owner, Design Professional and ABA.

9.13.2 The Design Professional will prepare a Certificate of Substantial Completion which shall establish the date of Substantial Completion, shall state the responsibilities of the Owner and the Contractor for security, maintenance, heat, utilities, damage to Work and insurance, identify work items to be corrected or completed by the contractor and shall fixing the time within which the Contractor shall complete the items listed therein. Warranties required by the Contract Documents shall commence on the Date of Substantial Completion, unless another timeframe is stated in the Certificate of Substantial Completion. No retained amounts shall be paid until the Contractor, Design Professional, Owner and ABA approve a Certificate of Final Completion for all of the Work unless specifically provided for by this contract, and all other conditions for final acceptance of this Work are met to the satisfaction of the Owner and ABA.

9.13.3 If the contract documents allow for phased work and those phased sections of the project are completed, the retained amounts shall be paid in direct proportion to the value of the part of the capital improvement project completed as approved by the Contractor, Design Professional, Owner, and ABA and all other conditions of this Section Nine (9) are met by the Contractor.

9.14 FINAL INSPECTION

9.14.1 Tests, inspections, and approvals of portions of the Work required by the Contract Documents, laws, ordinances, or any public authority having jurisdiction shall be made at the appropriate time. The Contractor shall give the Design Professional timely notice of when and where tests and inspections shall be made so that the Design Professional may be present. The Contractor shall make arrangements for the testing and inspection with an independent testing laboratory.

9.14.2 The Contractor shall ensure that the final completed work is in accordance with the Contract Documents. Required certificates of testing and inspection shall be secured by the Contractor and delivered to the Design Professional, unless otherwise required by the Contract Documents. The Design Professional (or Owner, in the absence of a design professional) will coordinate the scheduling of the final inspection with all parties, to include specifically the ABA Observer. Upon completion of all work, including but not limited to the punch list items, all parties will execute the Certificate of Final Completion form setting forth the final completion date.

9.15 ASSIGNMENT OF WARRANTIES

9.15.1 All warranties of materials and workmanship running in favor of the Contractor shall be transferred and assigned to the Owner on completion of the Work and at such time as the Contractor receives final payment.

9.15.2 In case of warranties covering work performed by subcontractors, such warranties shall be addressed to and in favor of the Owner. The Contractor shall be responsible for delivery of such warranties to the Owner prior to final acceptance of the work.

9.15.3 Delivery of guarantees or warranties shall not relieve the Contractor from any obligation assumed under any provision of the Contract. All warranties shall be for one year from the date of Substantial Completion of the Project, unless noted differently in the contract documents or extended otherwise.

9.16 **ACCEPTANCE AND FINAL PAYMENT**

9.16.1 Upon receipt of written notice that the Work is ready for final inspection, the Design Professional together with the Owner and ABA will conduct such inspection and when the Design Professional determines the work is acceptable to the Design Professional, Owner and ABA the Design Professional shall certify his acceptance to the Owner. Final Payment shall be the Contract Sum plus approved Change Order additions less approved Change Order deductions and less previous payments made. The Contractor shall furnish evidence that he has fully paid all debts for labor, materials, and equipment incurred in connection with the Work.

The Owner, upon approval by the Design Professional of all documentation to be provided by the contractor in accordance with this Section 9, and approval by the Design Professional, Contractor, Owner and ABA of the Certificate of Final Completion will accept the Work and release the Contractor, except as to the conditions of the Performance and Payment Bond, any legal rights of the Owner, required guarantees and correction of faulty work after Final Payment, and shall authorize payment of the Contractor's final Request for Payment. The Contractor must allow sufficient time between the time of completion of the work and approval of the final Request for Payment for the Design Professional to assemble and check the necessary data.

9.16.2 Acceptance of final payment by the Contractor shall constitute 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 Request for Payment. Any claims for interest on delinquent payments shall be made pursuant to Ark. Code Ann.§ 22-9-205.

ARTICLE 10 -- PROTECTION OF PERSONS AND PROPERTY

10.1 **GENERAL**

10.1.1 The Contractor shall at all times exercise precaution for the safety of employees on the Project and of the public, and shall comply with all applicable provisions of federal, state and municipal safety laws and applicable building and construction codes. The Contractor shall provide and maintain passageways, guard fences, lights, and other facilities for protection required by all applicable laws. All machinery, equipment, and other physical hazards shall be guarded in accordance with all federal, state or municipal laws or regulations.

10.1.2 The Work, from commencement to completion, and until written acceptance by the Design Professional, Owner and ABA or to such earlier date or dates when the Owner may take possession and control in accordance with Section Nine (9) of these General Conditions, shall be under the charge and control of the Contractor and during such period of control by the Contractor, all risks in connection therewith shall be borne by the Contractor. The Contractor shall make good and fully repair all damages to the Project by reason of the Contractor's negligence, and make good on all injuries to persons caused by any casualty or cause by reason of the Contractor's negligence. The Contractor shall adequately protect adjacent Property as provided by law and the Contract Documents. The Contractor shall hold the Owner and ABA harmless from any and all claims for injuries to persons or for damage to property during the control by the Contractor of the project or any part thereof.

10.1.3 The Contractor shall at all times so conduct the Work as to ensure the least possible obstruction to traffic, to the general public, and the residents in the vicinity of the Work, and to ensure the protection of persons and property. No road, street, or highway shall be closed to the public except with the permission of the Owner and proper governmental authority. Fire hydrants on or adjacent to the Work shall be kept accessible to fire fighting equipment at all times. The local fire department shall be notified of the temporary closing of any street.

ARTICLE 11 -- INSURANCE AND BONDS

11.1 INSURANCE REQUIREMENTS

11.1.1 The Contractor shall purchase and maintain in force during this Contract such insurance as is specified within the Contact Documents, from an insurance company authorized to write the prescribed insurance in the jurisdiction where the Project is located as will protect the Contractor, his subcontractors, and the Owner from claims for bodily injury, death, or property damage which may arise from operations under this Contract, and will protect him from claims set forth which may arise out of or result from the contractor's operations under the Contract, whether such operations be by himself or by anyone directly or indirectly employed by any of them, or by anyone for whose acts may of them be liable.

The Contractor shall not commence work under this Contract until he has obtained all the insurance required, has filed the Certificate of Insurance with the Owner, and the certificate has been approved by the Owner. Each insurance policy shall contain a clause providing that it shall not be canceled by the insurance company without written notice to the Owner of intention to cancel in accordance with Ark. Code Ann. § 23-66-206. The Contractor is required to provide liability insurance with the additional insured endorsement that is primary non-contributory. All policies shall contain a waiver of the Contractor's right of subrogation against the State of Arkansas, its departments, agencies, boards, commissions, colleges and its officers, officials, agents, and employees for losses arising from work performed by or on behalf of the Contractor.

11.1.2 Workers' Compensation and Employers' Liability Insurance in statutory limits shall be secured and maintained as required by the laws of the State of Arkansas. This insurance shall cover all employees who have performed any of the obligations assumed by the Contractor under these Contract Documents including Employers' Liability Insurance. This insurance shall protect the Contractor against any and all claims resulting from injuries, sickness, disease, or death to employees engaged in work under this Contract.

11.1.3 Commercial General Liability Insurance, shall be secured and maintained in force during the period of the Contract. Prior to blasting, the Contractor shall furnish Certificate of Insurance, which shall certify that damage caused by blasting is within the coverage of his Commercial General Liability Insurance to the full limits thereof. Coverage for “completed operations” shall not be excluded under this commercial general liability Insurance section.

11.1.4 Commercial Automobile Liability Insurance shall be secured and maintained in force during this contact. Liability coverage shall include coverage for hired and non-owned automobiles.

11.1.5 Umbrella Liability shall be secured and maintained in force during term of the Contract. The Contractor shall provide a Umbrella Liability Insurance to provide additional coverage over and above the Commercial General Liability, Commercial Business Automobile Liability and the Workers' Compensation and Employers' Liability to satisfy the Contract minimum limits. The umbrella coverage shall follow form with the Umbrella limits required as shown in section 00 73 16 Insurance Requirements.

11.1.6 Pollution Liability Insurance shall cover the Owner costs and liabilities attributable to bodily injury; property damage, including loss of use of damaged property or of property that has not been physically injured; clean-up cost; and defenses, including costs and expenses (including attorney's fees) incurred in the investigation, defense or settlement of claims.

If coverage is written on a claims-made basis, Contractor represents that any retroactive dates applicable to coverage under the policy precedes the effective date of the letter; and that continuous coverage will be maintained or an extended discovery period will be exercised for a period of three (3) years or as required by law beginning from the time that services under the contract are completed.

If the scope of work as defined in this Contract includes the disposal of any hazardous or non-hazardous materials from the Projects site, the Contractor must furnish to the owner evidence of pollution liability insurance maintained by the disposal site operator for losses arising from the insured facility accepting waste under this Contract. Such coverage must be maintained in amounts conforming with applicable laws, rules and regulations.

Remediation: Remediation Contractor shall provide liability insurance for the removal or remediation of asbestos including the transportation and disposals of asbestos waste materials from the Project site.

11.1.7 Builder's Risk or Installation Floater Policy: The Contractor shall procure and maintain during the life of this Contract Builder's Risk or Installation Floater Insurance, and any extended coverage which shall cover damage for the capital improvement project. Perils to be insured are fire, lightning, malicious mischief, explosion, riot and civil commotion, smoke, sprinkler leakage, water damage, windstorm, hail, vandalism, and property theft on the insurable portion of the Project on a 100 percent completed value basis against damage to the equipment, structures, or material. Builders' risk policy shall include coverage for system testing and materials. The Owner and the Contractor, as their interests may appear, shall be named as the Insured. The Builders' Risk is not void if partial occupancy is required and a permission to occupy endorsement has been included when applicable. Builders' risk policy shall include "soft cost endorsement" in the amount of 10 percent of the total contract value.

Contractors will use the following information as guidance for the type of policy to procure which include but not limited to the following:

a) All new building construction and major renovations will require Builders Risk insurance;
b) Equipment installations, small renovations, utility installations, paving projects will require an Installation Floater Policy. If a determination cannot be made by the contractor as the type of coverage required, the contractor shall provide a written request to the Owner for clarification.

11.1.8 Proof of Insurance: The Contractor shall maintain the insurance coverage required by this contract (see Section 00 73 16 Insurance Requirements) throughout the term of this contract, and shall furnish the Owner with certificates of insurance which indicate the name of the insurance companies, the NAIC numbers, insured names, producer / agent names, telephone numbers, policy numbers, limits and types of coverage, effective and expiration dates of policies.

The Contractor shall supply the Owner updated replacement certificates not less than thirty days prior to the expiration date or renewal date of any insurance policies reflected on such certificates. Such certificates shall also contain substantially the following statement: "The insurance covered by this certificate will not be canceled, or materially altered except proper written notice pursuant Ark. Code Ann. § 23-66-206 has been received by the Owner." The notice to proceed shall not be issued until the insurance certificates have been approved by the Owner.

11.1.9 Additional Requirements: All policies shall be provided by insurers qualified to write the respective insurance in the State of Arkansas, and be in such form and include such provision as are generally considered standard provisions for the type of insurance involved. The Contractor will be financially responsible for all deductibles or self-insured retentions.

Equipment and Materials: The Contractor shall be responsible for any loss, damage, or destruction of its own property or that of any subcontractor's equipment and materials used in conjunction with the Work. The Contractor will purchase at Contractor's own sole costs and expense such policy to cover Contractor's owned property.

Subcontractor's: The Contractor shall require all Subcontractors to provide and maintain general liability, automobile and workers' compensation insurance coverage substantially similar to those required of the Contractor. The Contractor shall require certificates of insurance from all subcontractors as evidence of coverage. Contractor will be the responsible party for any and all claims by subcontractors if subcontractor fails to have appropriate insurance.

11.2 **BONDS**

11.2.1 Performance and Payment Bond: The Contractor shall, at the time of execution of the Contract, furnish bonds covering faithful performance of the Contract and the payment of obligations. Performance and Payment bonds, and any amendments thereto, shall be filed with the circuit clerk office in the County Courthouse of the county where the work shall be performed.

ARTICLE 12 -- UNCOVERING AND CORRECTION OF WORK

12.1 **EXAMINATION OF COMPLETED WORK**

12.1.1 If any portion of the work should be covered contrary to the request of the Owner, Design Professional, or Inspector or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Owner, Design Professional, or Inspector, be uncovered for his observation and replaced at the Contractor's expense.

12.2 **DEFECTIVE WORK**

12.2.1 Defective work, whether through the use of defective materials, the result of poor workmanship, or any other cause, shall be removed within ten days after notice is given by the Owner or Design Professional. The Work and affected materials and equipment shall be removed and replaced as necessary to comply with the Contract Documents without additional cost to the Owner. The fact that the defective work may have been previously overlooked by the Design Professional shall not constitute acceptance.

12.3 **REJECTED MATERIALS**

12.3.1 Materials which do not conform to the requirements of the Contract Documents, are not equal to samples approved by the Design Professional, or are in any way unsuited or unsatisfactory for the purpose for which intended, shall be rejected. Defective materials shall be removed within ten days after notice by the Design Professional. The materials shall be replaced with new materials as necessary to comply with the Contract Documents at no additional cost to the Owner. The fact that the defective material may have been previously overlooked by the Design Professional shall not constitute acceptance.

12.3.2 Should the Contractor fail to remove and replace rejected material within the specified ten days after written notice to do so, the Owner may remove and replace the material and deduct the cost from the Contract Sum.

12.4 **CORRECTION OF FAULTY WORK AFTER FINAL PAYMENT**

12.4.1 The approval of the final Request for Payment by the Design Professional and the making of the Final Payment by the Owner to the Contractor shall not relieve the Contractor of responsibility to correct faulty materials or workmanship promptly after receipt of written notice from the Owner until the end of the Contractor's warranty or performance and payment bond obligations or both. The Owner shall give such notice of faulty materials or workmanship promptly, after discovery of the condition. If the Contractor fails to correct the defects, promptly, after receipt of written notice from Owner, the Owner may have the work corrected at the Contractor’s expense.

ARTICLE 13 -- MISCELLANEOUS PROVISIONS

13.1 **GOVERNING LAW**

13.1.1 The Contract shall be governed by the laws and regulations of the STATE OF ARKANSAS. Venue for any administrative action or judicial proceedings shall be Pulaski County, Arkansas. Nothing in these General Conditions shall be construed to waive the sovereign immunity of the STATE OF ARKANSAS or any entities thereof.

13.1.2 The Contractor shall give all notices and comply with all federal, state, and local laws, ordinances, and regulations in any manner affecting the conduct of the Work. The Contractor shall indemnify and save harmless the Owner and ABA against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree whether by himself or his employees.

13.1.3 The Contractor shall comply with the laws of the local, state, and federal government regarding wages and hours of labor.

13.2 **WRITTEN NOTICE**

13.2.1 Consider as served when delivered in person or sent by certified or registered mail to the individual, firm, or corporation or to the last business address of such known to him who serves the notice. Failure to accept or receive the hand delivered, certified, or registered mail does not negate the consideration of serving.

13.2.2 The written Notice to Proceed with the Work shall be issued by the Design Professional after the execution of the Contract by the Owner. The Contractor shall begin and prosecute the Work uninterruptedly in a manner that will complete the Work within the time limits stated in the Contract.

13.3 **TESTS AND INSPECTIONS**

13.3.1 All materials and each and every part of the Work shall be subject at all times to inspection by the Owner, Design Professional, or the Inspector. The Contractor shall be held to the intent of the Contract Documents in regard to quality of materials, equipment, and workmanship, and the diligent execution of the Contract. The inspection may extend to and include plant, shop, or factory inspection of material furnished. The Contractor agrees to allow Federal or State inspectors, acting in an official capacity, to have access to the job site.

13.3.2 The Owner, Design Professional, ABA and the Inspector shall be allowed access to all parts of the Work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection for ascertaining if the Work as performed is in accordance with the requirements and the Contract Documents.

13.3.3 Inspectors shall only have authority to suspend any work in a life-threatening situation, which is being improperly done, subject to the final decision of the Owner or Design Professional. Inspectors shall have no authority to permit deviations, or to relax provisions of the Contract Documents without the written permission or instruction of the Owner, ABA or Design Professional, or delay the Contractor by failing to work with reasonable promptness.

13.4 VERBAL AGREEMENTS

13.4.1 No verbal objection, order, claim, or notice by any of the parties involved to the other parties shall affect or modify any of the terms or obligations contained in the Contract Documents. None of the terms or provisions of the Contract Documents shall be considered waived or modified unless the waiver or modification thereof is in writing, and agreed upon by the parties in the form of a Change Order approved by the Owner, Design Professional, Contractor and ABA, and no evidence shall be introduced in any proceeding of any other waiver or modification.

ARTICLE 14 -- TERMINATION OR SUSPENSION OF THE CONTRACT

14.1 SUSPENSION OF WORK

14.1.1 The work or any portion thereof may be suspended at any time by the Owner provided that the Owner gives the Contractor written notice of the suspension. The notice shall set forth the date on which the Work is to be suspended and the date on which the work is to be resumed. The Contractor shall resume the work upon written notice from the Owner within ten days after the date set forth in the notice of suspension.

14.1.2 The Owner will have the authority to suspend the work, wholly or in part, for such period of time as deemed necessary. The suspension may be due to unsuitable weather, or such other conditions as are considered unfavorable for the proper prosecution of the work, or the failure on the part of the Contractor to fulfill the provisions of the Contract. Failure to supply material, equipment, or workmanship meeting the requirements of the Contract Documents shall be just cause for suspension of the Work. The Contractor shall not have the right to suspend operations without the Design Professional or Owner's permission.

14.2 TERMINATION BY OWNER FOR CAUSE

14.2.1 The Owner will have the right to terminate the Contract upon giving ten days written notice of the termination to the Contractor and the Contractor's surety, in the event of any default by the Contractor and upon written notice from the Design Professional to the Owner that sufficient cause exists to justify such action. In the event of termination of the Contract, the Owner may take possession of the Work and of all materials, tools, and equipment and construction equipment and machinery thereon and may finish the work by whatever method he may select. However, Owner will not have the right to terminate without providing Contractor with reasonable opportunity to cure such default to Owner's reasonable satisfaction. If the Owner does not elect to use his own forces, the surety shall furnish a competent licensed contractor within 10 working days from the written notice to the surety.

14.2.2 It shall be considered a default by the Contractor whenever he shall become insolvent; declare bankruptcy assigns assets for the benefit of his creditors; fails to provide qualified superintendence, proper materials, competent subcontractors, competent workmen; fails to make prompt payments for conforming labor, materials, or equipment; disregards or violates provisions of the Contract Documents; disregards the Owner's, Design Professional's, or ABA instructions; fails to prosecute the Work according to the approved schedule of completion, including extensions thereof as provided for by approved Change Orders; and fails to start the Work on the date established in the Notice to Proceed.

14.3 TERMINATION BY OWNER FOR CONVENIENCE

The Owner will have the right to terminate the Contract for Convenience and without cause upon giving ten days written notice of the termination to the Contractor and Contractor's surety and ABA. Once notice is received, the Contractor shall: cease all operations as indicated by the written notice and take necessary actions or at the Owner's direction as indicated by the written notice, for the protection and preservation of the work; and terminate existing subcontractors and purchase orders upon the effective termination date as indicated in the notice and not enter into any contracts involving subcontractors or purchase orders.

If the contract is terminated upon the convenience of the Owner, the Contractor is entitled to receive payment for the work executed and accepted by the Owner, and the overhead and profit credit amount of 1% of the work that was left to be performed in the contract unless the termination was due to the Owner's loss of funding in which case no amount for overhead and profit will be credited.

ARTICLE 15 – ALTERNATIVE DISPUTE RESOLUTION

15.1 MEDIATION

15.1.1 In the event of any dispute regarding the Contractor and the Owner (hereinafter referred to as party/parties for this section only) under this Agreement, the party shall notify the ABA Construction Administrator in writing. The ABA Construction Administrator or his designee will then attempt to negotiate a settlement of the dispute between the parties.

15.1.2 If the ABA Construction Administrator, or designee, determines he is unable to negotiate a settlement between the parties, the parties may participate in mediation. A request for mediation must be made in writing to the Owner and the parties shall agree upon the location of the mediation. A Mediator mutually agreed upon by the parties shall conduct the mediation process. Mediation shall be voluntary, non-binding and all proceedings in connection with such shall be subject to this Agreement and applicable provisions of Arkansas law. Any mediation fees shall be borne equally between the parties. The parties shall coordinate mediation and the Owner shall notify ABA of any mediation prior to it taking place. ABA Administrator or his designee may view any and all mediation proceedings. Any settlements arising out of the mediation process must be approved by ABA.

15.1.3 Notwithstanding anything to the contrary contained herein, if any dispute arises between the Parties, whether or not it requires at any time the use of dispute resolution procedures described above, in no event, nor for any reason, shall the Contractor, Architect, or Engineer interrupt the provision of services/performance to the Owner, or perform any other action that prevents, slows down, or reduces, in any way, the provisions of the Agreement unless: (a) authority to do so is granted by the Owner and approved by ABA or (b) the Agreement has been terminated by the Owner/ ABA. Nothing in these contract documents, including the use of mediation, shall be construed to waive the sovereign immunity of the State of Arkansas or any entities thereof.

15.2. **ARBITRATION**

15.2.1 In the event of any dispute regarding the Contractor, and the Owner (hereinafter referred to as party/parties for this section only) under this Agreement, the party shall notify the ABA Construction Administrator in writing. The ABA Administrator or his designee will then attempt to negotiate a settlement of the dispute between the parties.

15.2.2 Claims, disputes and other matter in question between the parties may be decided by arbitration if the ABA Administrator, or designee, determines he is unable to negotiate a settlement (due to time or other reasons) between the parties, and/or the parties are unwilling to have ABA negotiate and/or the parties are unable to settle the dispute, and these issues were not resolved by voluntary mediation. Requests for arbitration must be made in writing to the Owner. The parties shall agree upon the Arbitrator, process and procedures and the location of arbitration. Arbitration while voluntary shall be binding and all proceedings in connection with such shall be subject to this Agreement and applicable provisions of Arkansas law. Any arbitration fees shall be borne equally between the parties. The parties shall coordinate arbitration and the Owner shall notify ABA of any arbitration prior to it taking place. ABA Administrator or his designee may view any and all arbitration proceedings.

15.2.3 Notwithstanding anything to the contrary contained herein, if any dispute arises between the Parties, whether or not it requires at any time the use of dispute resolution procedures described above, in no event, nor for any reason, shall the Contractor, Architect, or Engineer interrupt the provision of services/performance to the Owner, or perform any other action that prevents, slows down, or reduces, in any way, the provisions of the Agreement unless: (a) authority to do so is granted by the Owner and approved by ABA or (b) the Agreement has been terminated by the Owner/ ABA. Any award rendered by the arbitrator shall be final. Nothing in these contract documents, including the use of arbitration, shall be construed to waive the sovereign immunity of the State of Arkansas or any entities thereof.

END OF DOCUMENT

SECTION 007316

INSURANCE REQUIREMENTS

Article 11 - Insurance and Bonds
(see General Conditions Article 11 for additional information)

1) Subparagraph 11.1.1, add the following sentence:
The amount of such insurance shall be not less than the following or any limits required by law.

2) Subparagraph 11.1.2, add the following clause:
11.1.2.1 Workers' Compensation

a. State		Statutory
b. Applicable Federal		Statutory
c. Employers' Liability	Per Accident:	$100,000
	Disease, Policy Limit:	$500,000
	Disease, Each Employee:	$100,000

3) Subparagraph 11.1.3, add the following clause:

11.1.3.1 Commercial General Liability		
General Aggregate:	Per Project Aggregate:	$2,000,000
Completed Operations: (to be maintained for one year after final payment)	Aggregate:	$1,000,000
Personal Injury:	Each Occurrence:	$1,000,000
Each Occurrence Limit:	Each Occurrence:	$1,000,000

4) Subparagraph 11.1.4, add the following clause:

11.1.4.1 Automobile Liability: (including, non-owned and hired vehicles)	Combined Single Limit:	$1,000,000

5) Subparagraph 11.1.5, add the following clause:

11.1.5.1 Umbrella Liability:	Each Occurrence:	$1,000,000

6) Subparagraph 11.1.4.6, add the following clause:

11.1.6.1 Pollution Liability:	Per Loss:	$2,000,000
	Aggregate:	$5,000,000

7) Subparagraph 11.1.7, add the following clause:

11.1.7.1 Builder's Risk or Installation Floater Policy:	$ = Contract Amount

8) Contractor shall deliver to the Owner a copy of each Insurance certificate and any other requested supporting document for the Owners review and approval prior to the issuance of the Notice to Proceed and any work being performed.

Please Note: Policy Certificates of Insurance shall state "The insurance covered by this certificate will not be cancelled, or materially altered except after proper written notice pursuant Ark. Code Ann. § 23 66-206 has been received by the Owner."

SECTION 007343
WAGE RATE REQUIREMENTS

A) The Contractor agrees to pay all prevailing hourly wage rates per the attached prevailing wage rate schedule, as follows, prescribed and mandated by the Arkansas Department of Labor, pursuant to Ark. Code Ann. §22-9-301 et. Seq. Decision number: TBD.

B) The Contractor is responsible for completing and returning the attached statement of intent to pay prevailing wages form, to the Arkansas Department of Labor, Prevailing Wage Division, 10421 West Markham, Little Rock, Arkansas 72205.

C) The form must be submitted within 30 days of the Notice to Proceed.

END OF SECTION

Contract and Grant Disclosure and Certification Form

Failure to complete all of the following information may result in a delay in obtaining a contract, lease, purchase agreement, or grant award with any Arkansas State Agency

Subcontractor: ☐ ☐ Subcontractor Name:

Taxpayer ID Name: Is This For: ☐ **Goods?** ☐ **Services?** ☐ **Both?**

Your Last Name: First Name: M.I.

Address:

City: State: Zip Code: Country:

AS A CONDITION OF OBTAINING, EXTENDING, AMENDING, OR RENEWING A CONTRACT, LEASE, PURCHASE AGREEMENT, OR GRANT AWARD WITH ANY ARKANSAS STATE AGENCY, THE FOLLOWING INFORMATION MUST BE DISCLOSED

FOR INDIVIDUALS *

Indicate below if: you, your spouse or the brother, sister, parent, or child of you or your spouse is a current or former: member of the General Assembly, Constitutional Officer, State Board or Commission Member, or State Employee:

Position Held	Mark (x)		Name of Position of Job Held (senator, representative, name of board/ commission, data entry, etc.)	For How Long?		What is the person(s) name and how they relate to you? (i.e. Jane Q. Public, Spouse, John Q. Public, Jr., child, etc.)	
	Current	Former		From MM/YY	To MM/YY	Person's Name(s)	Relation
General Assembly							
Constitutional Officer							
State Board or Commission Member							
State Employee							

☐ **None of the above applies**

FOR AN ENTITY (BUSINESS) *

Indicate below if any of the following persons, current or former, hold any position of control or hold any ownership interest of 10% or greater in the entity: member of the General Assembly, Constitutional Officer, State Board or Commission Member, State Employee, or the spouse, brother, sister, parent, or child of a member of the General Assembly, Constitutional Officer, State Board or Commission Member, or State Employee. Position of control means the power to direct the purchasing policies or influence the management of the entity.

Position Held	Mark (x)		Name of Position of Job Held (senator, representative, name of board/ commission, data entry, etc.)	For How Long?		What is the person(s) name and what is his/her % of ownership interest and/or what is his/her position of control?		
	Current	Former		From MM/YY	To MM/YY	Person's Name(s)	Ownership Interest (%)	Position of Control
General Assembly								
Constitutional Officer								
State Board or Commission Member								
State Employee								

☐ **None of the above applies**

* Note: Please list additional disclosures on separate sheet of paper if more space is needed.

Contract and Grant Disclosure and Certification Form

Failure to make any disclosure required by Governor's Executive Order 98-04, or any violation of any rule, regulation, or policy adopted pursuant to that Order, shall be a material breach of the terms of this contract. Any contractor, whether an individual or entity, who fails to make the required disclosure or who violates any rule, regulation, or policy shall be subject to all legal remedies available to the agency.

As an additional condition of obtaining, extending, amending, or renewing a contract with a state agency I agree as follows:

1. Prior to entering into any agreement with any subcontractor, prior or subsequent to the contract date, I will require the subcontractor to complete a **Contract and Grant Disclosure and Certification Form**. Subcontractor shall mean any person or entity with whom I enter an agreement whereby I assign or otherwise delegate to the person or entity, for consideration, all, or any part, of the performance required of me under the terms of my contract with the state agency.

2. I will include the following language as a part of any agreement with a subcontractor:

Failure to make any disclosure required by Governor's Executive Order 98-04, or any violation of any rule, regulation, or policy adopted pursuant to that Order, shall be a material breach of the terms of this subcontract. The party who fails to make the required disclosure or who violates any rule, regulation, or policy shall be subject to all legal remedies available to the contractor.

3. No later than ten (10) days after entering into any agreement with a subcontractor, whether prior or subsequent to the contract date, I will mail a copy of the **CONTRACT AND GRANT DISCLOSURE AND CERTIFICATION FORM** completed by the subcontractor and a statement containing the dollar amount of the subcontract to the state agency.

I certify under penalty of perjury, to the best of my knowledge and belief, all of the above information is true and correct and that I agree to the subcontractor disclosure conditions stated herein.

Signature_____ Title_____ Date _____

Vendor Contact Person _____ Title_____ Phone Number _____

Agency Use Only

Agency Number	Agency Name	Agency Contact Person	Contact Phone #	Contract or Grant Number
930 - 1102	Arkansas Department of Environmental Quality	Clark McWilliams, P.E.	(501) 682-0510	4600033394

* Note: Please list additional disclosures on separate sheet of paper if more space is needed.

SECTION 011000

SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Work covered by the Contract Documents.

2. Use of premises.

3. Specification formats and conventions.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Identification: Closure of Inactive NABORS Landfill

1. Project Location: 1320 RLH Landfill Road, Mountain Home, Arkansas 72701

B. Owner: Arkansas Department of Environmental Quality (ADEQ)

Owner's Representative:

Clark McWilliams, P.E.
Solid Waste Management Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317
(501) 682-0510

C. Design Professional:

SCS Aquaterra
7311 West 130th Street, Ste. 100
Overland Park, Kansas 66213
(913) 681-0030

D. The Work consists of the following:

. _____.

E. Project will be constructed under a single prime contract.

1.3 USE OF PREMISES

A. General: Contractor shall have full use of premises for construction operations during construction period. Contractor's use of premises is limited only by Owner's right to perform work or to retain other contractors on portions of Project.

1.4 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 49-division format and the Construction Specifications Institute's "Master Format" numbering system.

1. Division 01: Sections in Division 01 govern the execution of the Work of all Sections in the Specifications.

B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.

2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

PART 2 – PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

END OF SECTION

SECTION 012010
MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes requirements for measurement and payment for items listed on the bid form included in Division 0, "Bid Form Attachment A Unit Prices." The bid form includes line items for unit prices and lump sum prices.

1.2 DEFINITIONS

A. Unit price is an amount stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

B. Lump sum is an amount stated on the Bid Form, as the total price for the materials or services described in the measurement and payment item description, specified in the project manual, and indicated on the construction drawings.

1.3 MEASUREMENT AND PAYMENT ITEM DESCRIPTIONS

To Be Added

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

END OF SECTION

SECTION 012200
UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for unit prices.

1.2 DEFINITIONS

A. Unit price is an amount stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.

B. Measurement and Payment: Refer to Division 01, “Measurement and Payment” for description of methods of measurement and payment for work that requires establishment of unit prices.

C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

D. List of Unit Prices: A list of unit prices is included in Division 0, “Bid Form Attachment A Unit Prices.” Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

END OF SECTION

SECTION 013100

PROJECT MANAGEMENT AND COORDINATION

DOCUMENTATION PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Contractor's Construction Schedule.

2. Submittals Schedule.

3. Daily construction reports.

4. Field condition reports.

B. See Division 00 Section "General Conditions" for submitting the Schedule of Values.

1.2 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

1. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.

2. Predecessor Activity: An activity that precedes another activity in the network.

3. Successor Activity: An activity that follows another activity in the network.

1.3 SUBMITTALS

A. Submittals Schedule: Submit three copies of schedule. Arrange the following information in a tabular format:

1. Scheduled date for first submittal.

2. Specification Section number and title.

3. Submittal category (action or informational).

4. Name of subcontractor.

5. Description of the Work covered.

6. Scheduled date for Design Professional's final release or approval.

B. Contractor's Construction Schedule: Submit three copies of initial schedule, large enough to show entire schedule for entire construction period.

1. Submit an electronic copy of schedule, using software indicated, on CD-R, and labeled to comply with requirements for submittals. Include type of schedule (Initial or Updated) and date on label.

C. Daily Construction Reports: Submit three copies at weekly intervals.

D. Field Condition Reports: Submit three copies at time of discovery of differing conditions.

1.4 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from parties involved.

2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.

1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.

2. Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for the Notice of Award to date of Final Completion.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:

1. Activity Duration: Define activities so no activity is longer than 30 days, unless specifically allowed by Design Professional.

2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.

3. Submittal Review Time: Include review and resubmittal times indicated in Division 01 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.

4. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Design Professional's administrative procedures necessary for certification of Substantial Completion.

C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.

D. Milestones: Include milestones indicated in the Contract Documents in

schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion.

E. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis to demonstrate the effect of the proposed change on the overall project schedule.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart- type, Contractor's Construction Schedule within 30 days of date established for the Notice to Proceed. Base schedule on the Preliminary Construction Schedule and whatever updating and feedback was received since the start of Project.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

1. For construction activities that require 3 months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

2.4 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.

2. Equipment at Project site.

3. Material deliveries.

4. High and low temperatures and general weather conditions.

5. Accidents.

6. Stoppages, delays, shortages, and losses.

B. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a request for interpretation. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.

2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.

3. As the Work progresses, indicate Actual Completion percentage for each activity.

B. Distribution: Distribute copies of approved schedule to Design Professional, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.

2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION

SECTION 013200
CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Contractor's Construction Schedule.

2. Submittals Schedule.

3. Daily construction reports.

4. Field condition reports.

B. See Division 00 Section "General Conditions" for submitting the Schedule of Values.

1.2 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

1. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.

2. Predecessor Activity: An activity that precedes another activity in the network.

3. Successor Activity: An activity that follows another activity in the network.

1.3 SUBMITTALS

A. Submittals Schedule: Submit three copies of schedule. Arrange the following information in a tabular format:

1. Scheduled date for first submittal.

2. Specification Section number and title.

3. Submittal category (action or informational).

4. Name of subcontractor.

5. Description of the Work covered.

6. Scheduled date for Design Professional's final release or approval.

B. Contractor's Construction Schedule: Submit three copies of initial schedule, large enough to show entire schedule for entire construction period.

1. Submit an electronic copy of schedule, using software indicated, on CD-R, and labeled to comply with requirements for submittals. Include type of schedule (Initial or Updated) and date on label.

C. Daily Construction Reports: Submit three copies at weekly intervals.

D. Field Condition Reports: Submit three copies at time of discovery of differing conditions.

1.4 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from parties involved.

2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.

1. Coordinate Submittals Schedule with list of subcontracts, the Schedule

of Values, and Contractor's Construction Schedule.

2. Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for the Notice of Award to date of Final Completion.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:

1. Activity Duration: Define activities so no activity is longer than 30 days, unless specifically allowed by Design Professional.

2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.

3. Submittal Review Time: Include review and resubmittal times indicated in Division 01 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.

4. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Design Professional's administrative procedures necessary for certification of Substantial Completion.

C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.

D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion.

E. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis to demonstrate the effect of the proposed change on the overall project schedule.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart- type, Contractor's Construction Schedule within 30 days of date established for the Notice to Proceed. Base schedule on the Preliminary Construction Schedule and whatever updating and feedback was received since the start of Project.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

1. For construction activities that require 3 months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

2.4 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.

2. Equipment at Project site.

3. Material deliveries.

4. High and low temperatures and general weather conditions.

5. Accidents.

6. Stoppages, delays, shortages, and losses.

B. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a request for interpretation. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.

2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.

3. As the Work progresses, indicate Actual Completion percentage for each activity.

B. Distribution: Distribute copies of approved schedule to Design Professional, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.

2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

SECTION 013300
SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

B. See Division 01 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's Construction Schedule.

C. See Division 01 Section "Quality Requirements" for submitting test and inspection reports.

D. See Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.

1.2 DEFINITIONS

A. Action Submittals: Written and graphic information that requires Design Professional's responsive action.

B. Informational Submittals: Written information that does not require Design Professional's responsive action. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL PROCEDURES

A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

a. Design Professional reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

B. Submittals Schedule: Comply with requirements in Division 01 Section

"Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.

C. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Design Professional's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 10 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Design Professional will advise Contractor when a submittal being processed must be delayed for coordination.

2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.

3. Resubmittal Review: Allow 10 days for review of each resubmittal.

D. Identification: Place a permanent label or title block on each submittal for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.

2. Provide a space approximately 4 by 6 inches on label or beside title block to record Contractor's review and approval markings and action taken by Design Professional.

3. Include the following information on label for processing and recording action taken:

   a. Project name.

   b. Date.

   c. Name and address of Design Professional.

   d. Name and address of Contractor.

   e. Name and address of subcontractor.

   f. Name and address of supplier.

   g. Name of manufacturer.

   h. Submittal number or other unique identifier, including revision identifier.

      1) Submittal number shall use Specification Section number

followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).

i. Number and title of appropriate Specification Section.

j. Drawing number and detail references, as appropriate.

k. Location(s) where product is to be installed, as appropriate.

l. Other necessary identification.

E. Deviations: Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals.

F. Additional Copies: Unless additional copies are required for final submittal, and unless Design Professional observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.

G. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Design Professional will return submittals, without review, received from sources other than Contractor.

H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.

2. Note date and content of revision in label or title block and clearly indicate extent of revision.

3. Resubmit submittals until they are marked "Approved" or "Approved as Noted."

I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

J. Use for Construction: Use only final submittals with mark indicating "Approved" or "Approved as Noted " taken by Design Professional.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

A. General: Prepare and submit Action Submittals required by individual Specification Sections.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.

2. Mark each copy of each submittal to show which products and options are applicable.

3. Include the following information, as applicable:

   a. Manufacturer's written recommendations.

   b. Manufacturer's product specifications.

   c. Manufacturer's installation instructions.

   d. Manufacturer's catalog cuts.

   e. Compliance with specified referenced standards.

   f. Testing by recognized testing agency.

4. Number of Copies: Submit three copies of Product Data, unless otherwise indicated. Design Professional will return two copies. Mark up and retain one returned copy as a Project Record Document.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

   a. Dimensions.

   b. Identification of products.

   c. Fabrication and installation drawings.

   d. Templates and patterns.

   e. Schedules.

f. Notation of coordination requirements.

g. Notation of dimensions established by field measurement.

h. Relationship to adjoining construction clearly indicated.

i. Seal and signature of professional engineer if specified.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 24 by 36 inches.

D. Product Schedule or List: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location.

1. Number of Copies: Submit three copies of product schedule or list, unless otherwise indicated. Design Professional will return two copies.

E. Submittals Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."

F. Application for Payment: Comply with requirements specified in Division 00 "General Conditions."

G. Schedule of Values: Comply with requirements specified in Division 00 "General Conditions."

2.2 INFORMATIONAL SUBMITTALS

A. General: Prepare and submit Informational Submittals required by other Specification Sections.

1. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. Design Professional will not return copies.

2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.

3. Test and Inspection Reports: Comply with requirements specified in Division 01 Section "Quality Requirements."

B. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."

C. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of Design Professionals and owners, and other information specified.

D. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

E. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

F. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

G. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

H. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

I. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

J. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

K. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer.

L. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Design Professional.

B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 DESIGN PROFESSIONAL'S ACTION

A. General: Design Professional will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Design Professional will review each submittal, make marks to indicate corrections or modifications required, and return it. Design Professional will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:

1. Approved,

2. Approved as Noted,

3. Resubmit, or

4. Disapproved

The submittal stamp also will include the following statement: “Review of this document has been made only for conformance with the design concept of the project and approval or disapproval as noted shall not relieve the contractor from responsibility for any errors therein or for furnishing the materials and equipment of proper dimension, size, quantity, quality, and all performance characteristics to meet the requirement and intent of the contact document.”

C. Informational Submittals: Design Professional will review each submittal and will not return it, or will return it if it does not comply with requirements. Design Professional will forward each submittal to appropriate party.

D. Partial submittals are not acceptable, will be considered nonresponsive, and will be returned without review.

E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION

SECTION 014000
QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.

2. Requirements for Contractor to provide quality-assurance and -control services required by Design Professional, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

C. See Divisions 02 through 33 Sections for specific test and inspection requirements.

1.2 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Design Professional.

C. Preconstruction Testing: Tests and inspections that are performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.

D. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and

acceptable to authorities having jurisdiction, to establish product performance and compliance with industry standards.

E. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., borrow area, plant, mill, factory, or shop.

F. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

H. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.

1.3 CONFLICTING REQUIREMENTS

A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Design Professional for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Design Professional for a decision before proceeding.

1.4 SUBMITTALS

A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing

agency by a recognized authority.

B. Reports: Prepare and submit certified written reports that include the following:

1. Date of issue.

2. Project title and number.

3. Name, address, and telephone number of testing agency.

4. Dates and locations of samples and tests or inspections.

5. Names of individuals making tests and inspections.

6. Description of the Work and test and inspection method.

7. Identification of product and Specification Section.

8. Complete test or inspection data.

9. Test and inspection results and an interpretation of test results.

10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.

11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.

12. Name and signature of laboratory inspector.

13. Recommendations on retesting and reinspecting.

C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.5 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

C. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.

F. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 548; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.

2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

G. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.6 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.

2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.

B. Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.

1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.

   a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.

2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.

3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.

4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.

5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 01 Section "Submittal Procedures."

D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

E. Testing Agency Responsibilities: Cooperate with Design Professional and Contractor in performance of duties. Provide qualified personnel to

perform required tests and inspections.

1. Notify Design Professional and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.

2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.

3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.

4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.

5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.

6. Do not perform any duties of Contractor.

F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.

2. Incidental labor and facilities necessary to facilitate tests and inspections.

3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.

4. Facilities for storage and field curing of test samples.

G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION

SECTION 015000
TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

B. See Division 01 Section "Execution" for progress cleaning requirements.

1.2 USE CHARGES

A. General: Cost or use charges for temporary facilities shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Design Professional, testing agencies, and authorities having jurisdiction.

1.3 SUBMITTALS

A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

1.4 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

PART 2 - PRODUCTS

2.1 TEMPORARY FACILITIES

A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

B. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

2.2 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

B. HVAC Equipment: Provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.

1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.

2. Heating Units: Listed and labeled for type of fuel being consumed, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.

1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.

1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.

C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction.

D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with authorities having jurisdiction for type, number, location, operation, and maintenance of

fixtures and facilities.

E. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.

1. Install electric power service overhead, unless otherwise indicated.

F. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

G. Telephone Service: Provide temporary telephone service in common-use facilities for use by all construction personnel. Install one telephone line for each field office.

1. Provide additional telephone lines for the following:

a. Provide a dedicated telephone line for each facsimile machine and computer in each field office.

2. At each telephone, post a list of important telephone numbers including police and fire departments, Contractor's home office, Design Professional's office, Owner's office, and Principal subcontractors' field and home offices.

3. Provide superintendent with cellular telephone or portable two-way radio for use when away from field office.

H. Electronic Communication Service: Provide temporary electronic communication service, including electronic mail in field office.

3.3 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion.

B. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations. Locate temporary roads and paved areas within construction limits indicated on Drawings.

C. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Protect existing site improvements to remain including curbs, pavement, and utilities.

2. Maintain access for fire-fighting equipment and access to fire hydrants.

D. Parking: Provide temporary parking areas for construction personnel.

E. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.

1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties nor endanger permanent Work or temporary facilities.

2. Remove snow and ice as required to minimize accumulations.

F. Project Identification and Temporary Signs: Provide Project identification. Install signs where indicated to inform public and individuals seeking entrance to Project. Unauthorized signs are not permitted.

1. Provide temporary, directional signs for construction personnel and visitors.

2. Maintain and touchup signs so they are legible at all times.

G. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with Division 01 Section "Execution" for progress cleaning requirements.

3.4 DUST CONTROL

A. Provide dust-control treatment, such as water, that is nonpolluting and nontracking to minimize dust from construction operations and provide positive means to prevent airborne dust from dispersing into the atmosphere. Reapply treatment as required to minimize dust. Chemical dust suppressants shall not be used. Dust suppressants shall be approved by the Design Professional before use.

3.5 POLLUTION CONTROL

A. Provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by the discharge of noxious substances from construction operations.

B. Provide equipment and personnel to perform emergency measures required to contain any spillages and to remove contaminated soils or liquids created by Contractor's operations. Excavate and dispose of such contaminated soil as directed by the Design Professional, and replace with suitable compacted fill and topsoil.

C. Take special measures to prevent harmful substances from entering public waters. Prevent release of disposal of wastes, effluents, chemicals, or other such substances adjacent to streams or in sanitary or storm sewers.

D. Provide systems for control of atmospheric pollutants. Contractor shall make every effort to prevent:

1. Toxic concentrations of chemicals.

2. Harmful dispersal of pollutants into the atmosphere.

E. Use an outside service company or 100-gallon fuel cell mounted in a pickup truck or a combination of the two to fuel and service onsite vehicles and equipment. Onsite storage of fuel in bulk containers is not permitted.

3.6 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

B. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction.

C. Storm water Control: Comply with authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of storm water from heavy rains.

D. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

E. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.

1. Extent of Fence: As required to enclose portion of Site determined sufficient to accommodate construction operations.

F. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

3.7 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Termination and Removal: Remove each temporary facility when need for its service has ended, or no later than Substantial Completion. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.

2. At Substantial Completion, comply with final cleaning requirements specified in Division 01 Section "Closeout Procedures."

END OF SECTION

SECTION 015713
TEMPORARY EROSION AND SEDIMENT CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes requirements for temporary erosion and sediment controls to ensure protection of adjacent and downstream surface water and drainage facilities.

B. Contractor is responsible for obtaining authorization for Storm water Discharges Associated With Construction Activity under Arkansas' National Pollutant Discharge Elimination System (NPDES) General Permit No. ARR150000, which includes requirements for a Storm Water Pollution Prevention Plan (SWPPP) for Construction Activity, notice of intent, and notice of termination.

C. The construction drawings include an Erosion Control Plan indicating proposed erosion and sediment controls (e.g., silt fence, mulch socks). The controls shown are the Design Professional's recommendations. Contractor is responsible for final determination of the controls to use and compliance with the SWPPP and the NPDES General Permit for Stormwater Discharges Associated with Construction Activity.

1.2 SUBMITTALS

A. Stormwater Pollution Prevention Plan for Construction Activity: Prepare SWPPP in accordance with the ADEQ requirements and template provided by ADEQ Water Division.

B. Proof of coverage under Permit No. ARR150000, including copies of the Notice of Intent and letter of authorization from ADEQ Water Division.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Materials may be new or used, suitable for intended purpose, but must comply with requirements of local codes and standards.

2.2 CONSTRUCTON AIDS

A. Provide all construction aids, equipment, and materials required to implement and maintain erosion and sediment controls.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate erosion and sediment controls where they will serve Project adequately and

result in minimum interference with performance of the Work. Relocate and modify controls as required by progress of the Work.

B. Do not remove until controls are no longer needed or are replaced by completed permanent site stabilization controls.

3.2 EROSION AND SEDIMENT CONTROLS

A. Plan and execute construction and earthwork using methods to control surface drainage from cuts and fills and from borrow and waste disposal areas to prevent erosion and sedimentation, and:

1. Hold the number and size of areas of bare soil exposed at one time to a minimum.

2. Provide temporary control measures such as mulch socks, silt fences, etc., as specified in the SWPPP, generally as shown on the Drawings, and as directed by the Design Professional.

B. Maintain erosion and sediment control measures to the satisfaction of the Design Professional and remove them only when the site is appropriately stabilized, as determined by the Design Professional.

C. Periodically inspect earthwork to detect any evidence of the start of erosion, and apply corrective measures as required to control erosion.

D. Erosion and sediment control structure locations may be added and adjusted at the discretion of the Engineer throughout the construction period.

E. Inspect erosion and sediment control structures in accordance with one of the following schedules, as per Arkansas' General Permit No. ARR150000:

1. At least once every 7 calendar days

2. At least once every 14 calendar days and within 24 hours of the end of a storm event of 0.50 inches or greater (a rain gauge must be installed and maintained onsite).

F. Remove excess, accumulated sediments existing along the control structures and transport to areas designated by the Design Professional.

G. Remove temporary erosion and sediment controls:

1. When the need for the controls has ended and site stabilization is achieved

2. At completion of the Project

END OF SECTION

SECTION 017300
EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.

2. Field engineering and surveying.

3. Progress cleaning.

4. Protection of installed construction.

5. Correction of the Work.

B. See Division 01 Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.2 SUBMITTALS

A. Certificates: Submit certificate signed by an Arkansas-licensed land surveyor certifying that location and elevation of improvements comply with requirements.

B. Certified Surveys: Submit three hard copies and one electronic copy (on CD) signed and stamped by an Arkansas-licensed land surveyor. Surveys are required to document:
1) elevations of the completed subgrade, 2) elevations of the completed barrier soil layer, and 3) elevations and record survey of the final, completed landfill cap.

C. Final Property Survey: Submit three hard copies and one electronic copy (on CD) showing the Work performed and record survey data, including elevations of the final, completed landfill cap.

1.3 QUALITY ASSURANCE

A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land- surveying services of the kind indicated.

PART 2 - PRODUCTS
(Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of underground utilities and other construction affecting the Work.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to local utility and Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product.

C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Design Professional. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Design Professional promptly.

B. General: Engage an Arkansas-licensed land surveyor to lay out the Work using accepted surveying practices.

1. Establish benchmarks and control points to set lines and levels as needed to locate each element of Project.

2. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.

3. Inform installers of lines and levels to which they must comply.

4. Check the location, level and plumb, of every major element as the Work progresses.

5. Notify Design Professional when deviations from required lines and levels exceed allowable tolerances.

6. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

C. Site Improvements: Locate and lay out site improvements, including grading, fill and topsoil placement, utility slopes, and invert elevations.

D. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Design Professional.

3.4 FIELD ENGINEERING

A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

B. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.

1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.

C. Certified Survey: On completion of subgrade layer and barrier soil layer, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.

D. Final Property Survey: Prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by an Arkansas-licensed land surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.

1. Recording: At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

3.5 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

D. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

E. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.

2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F.

3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.

D. Waste Disposal: Burning waste materials on-site will not be permitted.

Washing waste materials down sewers or into waterways will not be permitted.

E. Provide maintenance on completed construction as frequently as necessary through the remainder of the construction period.

F. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.7 PROTECTION OF CONSTRUCTION

A. Provide final protection and maintain conditions that ensure Work is without damage or deterioration at time of Substantial Completion.

3.8 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates.

END OF SECTION

SECTION 017419
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for the following:

1. Salvaging nonhazardous demolition and landfill material.

2. Recycling nonhazardous demolition and landfill material.

3. Disposing of nonhazardous demolition and landfill material.

B. See Division 31 Section "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

C. See Division 33 Section "Groundwater Monitoring Well Abandonment" for disposition of waste generated by monitoring well abandonment.

1.2 DEFINITIONS

A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction operations. Construction waste includes packaging.

B. Demolition Waste: Building and site improvement materials resulting from demolition operations.

C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

D. Landfill Material: Surface or subsurface waste and debris onsite or offsite that falls within the footprint of the former C&L landfill.

E. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

F. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

G. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.3 REQUIREMENTS

A. As feasible, salvage or recycle surface debris within the former C&L landfill footprint and property boundaries. Incorporate surface debris that cannot be salvaged or recycled into the landfill area designated for capping during site clearing and subgrade preparation.

B. Excavate and incorporate landfill material that is outside the C&L landfill property line into the landfill footprint during site clearing and subgrade preparation.

C. Excavate and incorporate landfill material that is in the 20-foot buffer zone along the landfill property line into the landfill footprint during site clearing and subgrade preparation.

D. Incorporate debris from groundwater monitoring well abandonment (Division 33, Section "Groundwater Monitoring Well Abandonment") during site clearing and subgrade preparation.

E. Within the landfill areas designated for capping, relocate and re-incorporate landfill material as necessary to achieve indicated subgrade contours.

F. Construction waste and waste generated by the Contractor's employees during cap construction shall be collected in waste container(s) and disposed at an offsite, permitted waste disposal facility.

1.4 SUBMITTALS

A. Waste Management Plan: Submit 3 copies of plan within 14 days of date established for commencement of the Work.

1.5 WASTE MANAGEMENT PLAN

A. General: Develop plan for waste identification and management.

B. Waste Identification: Indicate anticipated types and quantities of salvageable/ recyclable waste, demolition waste, landfill material from offsite and the buffer zone, and site-clearing waste generated by the Work. Include estimated quantities and assumptions for estimates.

C. Waste Management Work Plan: List each type of waste and whether it will be salvaged, recycled, or incorporated into the landfill subgrade. Include estimated total quantity of each type of waste and handling procedures.

1. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.

2. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.

3. Incorporated Materials: Indicate how landfill materials will be incorporated into the landfill cap subgrade.

4. Handling Procedures: Include method that will be used for separating salvageable/recyclable waste and designated location on Project site where materials separation will be located.

PART 2 - PRODUCTS
(Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement waste management plan as approved by Owner. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

B. Waste Management Coordinator: Assign a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.

C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.

D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads and other adjacent occupied and used facilities.

1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, and sold.

2. Comply with Division 01 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

A. Salvaged Items for Sale: Permitted on Project site, as described. Contractor will identify salvageable items, arrange for sale, and complete the sale. Proceeds will be documented and shared equally with the Owner.

3.3 RECYCLING CONSTRUCTION WASTE

A. Site-Clearing Wastes: See Division 33, Section “Site Clearing” regarding sale of salvageable timber. Chip brush, branches, and trees not sold as salvageable timber and use onsite for erosion control or mulch.

3.4 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or incorporated into the landfill subgrade, remove waste materials from Project site and legally dispose of them in a disposal facility acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of to accumulate onsite.

2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

END OF SECTION

SECTION 017700
CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Inspection procedures.

2. Final cleaning.

B. See Division 00 Section "General Conditions" for requirements for Applications for Payment for Substantial and Final Completion.

C. See Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.

D. See Divisions 02 through 33 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.2 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.

2. Advise Owner of pending insurance changeover requirements.

3. Prepare and submit Project Record Documents, damage or settlement surveys, property surveys, and similar final record information.

4. Terminate and remove temporary facilities from Project site, along with construction tools and similar elements.

5. Complete final cleaning requirements.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Design Professional will either proceed with inspection or notify Contractor of unfulfilled requirements. Design

Professional will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Design Professional, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

2. Results of completed inspection will form the basis of requirements for Final Completion.

1.3 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit a final Application for Payment according to Division 00 Section "General Conditions."

2. Submit certified copy of Design Professional's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Design Professional. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.

3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Design Professional will either proceed with inspection or notify Contractor of unfulfilled requirements. Design Professional will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Submit three copies of list. Include name and identification of each area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers for final cleaning.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:

a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.

b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.

c. Remove tools, construction equipment, machinery, and surplus material from Project site.

d. Leave Project clean and ready for occupancy.

C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury construction debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION

SECTION 017839
PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:

1. Record Drawings.

2. Record Specifications.

B. See Divisions 02 through 33 Sections for specific requirements for Project Record Documents of the Work in those Sections.

1.2 SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit copies of Record Drawings as follows:

a. Final Submittal: Submit one set of marked-up Record Prints, and the following:

1) Record CAD Drawing Files and Plots: Two sets.

B. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.

1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is subcontractor or similar entity, to prepare the marked-up Record Prints.

a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.

b. Record data as soon as possible after obtaining it. Record

and check the markup before enclosing concealed installations.

2. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.

3. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.

4. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Record CAD Drawings: Immediately before inspection for Certificate of Substantial Completion, review marked-up Record Prints with Design Professional. When authorized, prepare a full set of corrected CAD Drawings of the Contract Drawings, as follows:

1. Format: AutoCAD Release 2000 or later.

2. Incorporate changes and additional information previously marked on Record Prints. Delete, redraw, and add details and notations where applicable.

3. Refer instances of uncertainty to Design Professional for resolution.

4. Design Professional will furnish Contractor one set of CAD Drawings of the Contract Drawings for use in recording information.

   a. Design Professional makes no representations as to the accuracy or completeness of CAD Drawings as they relate to the

   b. CAD Software Program: The Contract Drawings are available in AutoCAD 2011 Civil 3D.

C. Format: Identify and date each Record Drawing; include the designation RECORD DRAWING" in a prominent location.

1. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.

2. Record CAD Drawings: Organize CAD information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include

identification in each CAD file.

3. Identification: As follows:
   a. Project name.
   b. Date.
   c. Designation "PROJECT RECORD DRAWINGS."
   d. Name of Design Professional.
   e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.

2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.

3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.

4. Note related Change Orders and Record Drawings where applicable.

2.3 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.

B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Design Professional's reference during normal working hours.

END OF SECTION
017839

SECTION 024119

SELECTIVE STRUCTURE DEMOLITION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Demolishing designated building equipment and fixtures.
   2. Demolishing designated construction.
   3. Cutting and alterations for completion of the Work.
   4. Removing designated items for reuse and Owner's retention.
   5. Protecting items designated to remain.
   6. Removing demolished materials.

B. Related Sections:
   1. Section 024116 - Structure Demolition.

1.2 SUBMITTALS

A. Section 013300 - Submittal Procedures: Requirements for submittals.

B. Demolition Schedule: Indicate overall schedule and interruptions required for utility and building services.

C. Shop Drawings:
   1. Indicate demolition and removal sequence.
   2. Indicate location of items designated for reuse and Owner's retention.
   3. Indicate location and construction of temporary work.

1.3 CLOSEOUT SUBMITTALS

A. Section 017000 - Execution and Closeout Requirements: Requirements for submittals.

B. Project Record Documents: Accurately record actual locations of capped utilities, concealed utilities discovered during demolition, and subsurface obstructions.

C. Operation and Maintenance Data: Submit description of system, inspection data, and parts lists.

1.4 QUALITY ASSURANCE

A. Conform to applicable provisions of federal, state, and municipal code for demolition work, dust control, products requiring electrical disconnection and re-connection.

B. Conform to applicable provisions of federal, state, and municipal code for procedures when hazardous or contaminated materials are discovered.

C. Obtain required permits from authorities having jurisdiction.

D. Perform Work in accordance with applicable federal, state, and municipal regulations.

1.5 PRE-INSTALLATION MEETINGS

A. Section 013000 - Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing work of this section.

1.6 SEQUENCING

A. Section 011000 - Summary: Requirements for sequencing.

B. Sequence activities in the following order:
   1. Leachate forcemain installation.
   2. Tank farm installation.
   3. Existing leachate tank removal.

C. Owner will conduct salvage operations before demolition begins to remove materials Owner chooses to retain.

1.7 SCHEDULING

A. Sections 013000 - Administrative Requirements and 013216 - Construction Progress Schedule: Requirements for scheduling.

B. Schedule Work to coincide with new construction.

C. Cooperate with Owner in scheduling noisy operations and waste removal that may impact Owners operation in adjoining spaces.

D. Coordinate utility and building service interruptions with Owner.
   1. Schedule tie-ins to existing systems to minimize disruption.

1.8 PROJECT CONDITIONS

A. Conduct demolition to minimize interference with adjacent properties.

B. Cease operations immediately if structure appears to be in danger and notify Engineer. Do not resume operations until directed.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 PREPARATION

A. Notify affected utility companies before starting work and comply with their requirements.

B. Mark location and termination of utilities.

C. Erect, and maintain temporary barriers and security devices, including warning signs and lights, and similar measures, for protection of the Owner and existing improvements indicated to remain.

D. Prevent movement of structure; provide temporary bracing and shoring required to ensure safety of existing structure.

3.2 SALVAGE REQUIREMENTS

A. Coordinate with Owner to identify building components and equipment required to be removed and delivered to Owner.

B. Tag components and equipment Owner designates for salvage.

C. Protect designated salvage items from demolition operations until items can be removed.

D. Carefully remove building components and equipment indicated to be salvaged.

E. Disassemble as required to permit removal from building.

F. Package small and loose parts to avoid loss.

G. Mark equipment and packaged parts to permit identification and consolidation of components of each salvaged item.

H. Prepare assembly instructions consistent with disassembled parts. Package assembly instructions in protective envelope and securely attach to each disassembled salvaged item.

I. Deliver salvaged items to Owner. Obtain signed receipt from Owner.

3.3 DEMOLITION

A. Conduct demolition to minimize interference with adjacent properties.

B. Cease operations immediately when structure appears to be in danger and notify Engineer.

C. Disconnect and remove designated utilities within demolition areas.

D. Cap and identify abandoned utilities at termination points when utility is not completely removed. Annotate Record Drawings indicating location and type of service for capped utilities remaining after demolition.

E. Demolish in orderly and careful manner. Protect existing improvements.

F. Remove demolished materials from site except where specifically noted otherwise. Do not burn or bury materials on site unless specifically noted otherwise.

G. Remove materials as Work progresses. Upon completion of Work, leave areas in clean condition.

H. Remove temporary Work.

3.4 SCHEDULES

A. Remove, store and protect the following materials and equipment:
   1. Existing leachate storage tanks.
   2. Existing leachate sump pumps.

B. Demolish the following materials and equipment:
   1. Existing concrete pads for leachate storage tanks.

END OF SECTION

SECTION 221429

SUMP PUMPS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Installing sump pumps in existing leachate sumps, new condensate sumps, and new leachate storage tanks.

1.2 DEFINITIONS

A. Sump Pump: Submersible pump to transport leachate for disposal.

1.3 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. UL Compliance: Comply with UL 778 for motor-operated water pumps.

1.4 PROJECT CONDITIONS

A. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth moving operations.

PART 2 PRODUCTS

2.1 SUMP PUMPS

A. Furnish materials in accordance with federal, state, and municipal standards.

B. Impeller: Statically and dynamically balanced, 316 stainless steel, design for leachate handling, and keyed and secured to shaft.

C. Casing: 316 Stainless steel.

D. Mechanical Seal: Silicon carbide.

E. Shaft: 316 Stainless steel, with factory-sealed, grease-lubricated ball bearings.

F. Motor: Hermetically sealed, capacitor-start type; with built-in overload protection; lifting eye or lug; and three-conductor, waterproof power cable of length required and with grounding plug and cable-sealing assembly for connection at pump.

G. Controls:
   1. Enclosure: NEMA 250, Type 3X; wall-mounted.
   2. Float switches.
   3. High-Water Alarm: Rod-mounted, NEMA 250, Type 6 enclosure with mercury-float switch; and contacts for remote alarm and disabling pump operation.

H. Control-Interface Features:
   1. Remote Alarm Contacts: For remote alarm interface and pump disable.
   2. Building Automation System Interface: Auxiliary contacts in pump controls for interface to building automation system and capable of providing the following:
      a. On-off status of pump.
      b. High-water alarm status.

I. Guide-Rail Supports:
   1. Guide Rails: Vertical pipes or structural members, made of galvanized steel or other corrosion-resistant metal, attached to baseplate and basin sidewall or cover.
   2. Baseplate: Corrosion-resistant metal plate, attached to basin floor, supporting guide rails and stationary elbow.
   3. Pump Yoke: Motor-mounted or casing-mounted yokes or other attachments for aligning pump during connection of flanges.
   4. Movable Elbow: Pump discharge-elbow fitting with flange, seal, and positioning device.
   5. Lifting Cable: Stainless steel; attached to pump and cover at manhole.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verification of existing conditions before starting work.

B. Verify connections, size, and location are as indicated on Drawings.

3.2 INSTALLATION

A. Install sump pumps in accordance with Drawings and manufacturer's instructions.

B. Provide necessary piping, fittings, and valves as indicated on Drawings.

3.3 FIELD QUALITY CONTROL

A. Sections 014000 - Quality Requirements, 017300 – Execution, and 017700 Closeout Procedures: Field inspecting, testing, adjusting, and balancing.

B. Upon completion of installation, examine, adjust and test each pump for proper operation.

C. Test each pump with clean water through minimum of four complete cycles.

3.4 MANUFACTURER'S FIELD SERVICES

A. Section 014000 - Quality Requirements: Requirements for manufacturer's field services.

B. Provide services of manufacturer's representative for period of not less than 5 man days to inspect installations and for performance testing.

END OF SECTION

SECTION 262416

PANELBOARDS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes distribution and branch circuit panelboards and electronic grade branch circuit panelboards.

1.2 REFERENCES

A. Institute of Electrical and Electronics Engineers:
   1. IEEE C62.41 - Recommended Practice on Surge Voltages in Low-Voltage AC Power Circuits.

B. National Electrical Manufacturers Association:
   1. NEMA AB 1 - Molded Case Circuit Breakers and Molded Case Switches.
   2. NEMA FU 1 - Low Voltage Cartridge Fuses.
   3. NEMA ICS 2 - Industrial Control and Systems: Controllers, Contactors, and Overload Relays, Rated Not More Than 2000 Volts AC or 750 Volts DC.
   4. NEMA ICS 5 - Industrial Control and Systems: Control Circuit and Pilot Devices.
   5. NEMA KS 1 - Enclosed and Miscellaneous Distribution Equipment Switches (600 Volts Maximum).
   6. NEMA PB 1 - Panelboards.
   7. NEMA PB 1.1 - General Instructions for Proper Installation, Operation, and Maintenance of Panelboards Rated 600 Volts or Less.

C. International Electrical Testing Association:
   1. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.

D. National Fire Protection Association:
   1. NFPA 70 - National Electrical Code.

E. Underwriters Laboratories Inc.:
   1. UL 67 - Safety for Panelboards.
   2. UL 1283 - Electromagnetic Interference Filters.
   3. UL 1449 - Transient Voltage Surge Suppressors.

1.3 SUBMITTALS

A. Section 013300 - Submittal Procedures: Requirements for submittals.

B. Shop Drawings: Indicate outline and support point dimensions, voltage, main bus ampacity, integrated short circuit ampere rating, circuit breaker and fusible switch arrangement and sizes.

C. Product Data: Submit catalog data showing specified features of standard products.

1.4 CLOSEOUT SUBMITTALS

A. Sections 017300 - Execution and 01770 - Closeout Procedures: Requirements for submittals.

B. Project Record Documents: Record actual locations of panelboards and record actual circuiting arrangements.

C. Operation and Maintenance Data: Submit spare parts listing; source and current prices of replacement parts and supplies; and recommended maintenance procedures and intervals.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

1.6 MAINTENANCE MATERIALS

A. Sections 017300 - Execution and 017700 - Closeout Procedures: Requirements for maintenance products.

B. Furnish two of each panelboard key. Panelboards keyed alike to Owner’s current keying system.

PART 2 PRODUCTS

2.1 DISTRIBUTION PANELBOARDS

A. Manufacturers:
   1. Appleton Electric Co.
   2. GE Electrical.
   3. Siemens.
   4. Square D.

B. Service Conditions:
   1. Temperature: above 104 degrees F.

C. Panelboard Bus: Aluminum, current carrying components, ratings as indicated on Drawings. Furnish copper ground bus in each panelboard.

D. Minimum integrated short circuit rating: 100,000 amperes rms symmetrical for 240 volt panelboards.

E. Cabinet Front: Surface door-in-door type, fastened with concealed trim clamps, hinged door with flush lock, metal directory frame, finished in manufacturer's standard gray enamel.

2.2 ELECTRONIC GRADE PANELBOARD

A. Integral Surge Suppresser:
   1. Component recognized in accordance with UL 1449 and UL 1283.
   2. Independently tested with category C3 high exposure waveform (20 kV-1.2/50us, 10kA-8/20 us) per IEEE C62.41.
   3. Furnish copper bus bars for surge current path.
   4. Construct using surge current modules (MOV based). Each module fused with user replaceable 200,000 AIR rated fuses. Status of each module monitored on front cover of panelboard enclosure and on module.
   5. Furnish with audible alarm activated when one of surge current modules has failed. Furnish alarm on/off to silence alarm and alarm push-to-test switch to test alarm. Locate switches and alarm on front cover of panelboard enclosure.
   6. Meet or exceed the following criteria:
      a. Maximum single impulse current rating not less than 160 kA for each phase.
      b. Pulse Lift Test: Capable of protecting against and surviving 5000 IEEE C62.41 Category C transients without failure or degradation.
      c. Clamping voltage not exceeding the following:

Voltage	L-N	N-G	L-G
208Y/120	500 V	500 V	500 V
480Y/277	1000 V	1000 V	1000 V

   7. Furnish response time no greater than five nanoseconds for individual protection modes.
   8. Designed to withstand maximum continuous operating voltage (MCOV) of not less than 115 percent of nominal RMS voltage.

9. Furnish visible indication of proper suppresser connection and operation. Lights indicate operable phase and module.
10. Furnish minimum EFI/RFI filtering of 34 dB at 100 kHz with insertion loss ratio of 50: 1 using Mil Std. 220A methodology.

B. Panelboard:
1. UL 67 listed and TVSS device UL 1449 Component Recognized. TVSS device meets UL 1449. Furnish panelboard markings with clamp voltage at TVSS terminals and clamp voltage at panelboard line terminals.
2. Top or bottom feed as indicated on Drawings. Furnish circuit directory inside door.
3. Construct box of galvanized steel. Box size as indicated on Drawings.
4. Main bus constructed of [aluminum] [copper] and rated for load current.
5. Furnish interior with branch circuit breakers. Furnish one 60 amp circuit breaker, with appropriate number of poles, as dedicated disconnect for TVSS.
6. Furnish standard rated, neutral assembly with aluminum neutral bus.
7. Furnish with insulated ground bus and safety ground bus.
8. Furnish wiring gutters in accordance with NEC.
9. Field connections to panelboard: main breaker type.
10. Construct with flush mounted trim and NEMA Type 1 enclosure.
11. Furnish with branch breaker positions and nominal current rating as indicated on Drawings.

2.3 LOAD CENTERS

A. Manufacturers:
1. Appleton Electric Co.
2. GE Electrical.
3. Siemens.
4. Square D.

B. Product Description: Circuit breaker load center, with bus ratings as indicated on Drawings.

C. Minimum Integrated Short Circuit Rating: 10,000 amperes rms symmetrical.

D. Molded Case Circuit Breakers: NEMA AB 1, plug-on type thermal magnetic trip circuit breakers, with common trip handle for poles, listed as

Type SWD for lighting circuits, Class A ground fault interrupter circuit breakers. Do not use tandem circuit breakers.

E. Enclosure: Rainproof.

F. Box: Flush type with door, and lock on door. Finish in manufacturer's standard gray enamel.

PART 3 EXECUTION

3.1 EXISTING WORK

A. Disconnect abandoned panelboards and load centers. Remove abandoned panelboards and load centers.

B. Maintain access to existing panelboard and load centers remaining active and requiring access. Modify installation or provide access panel.

C. Clean and repair existing panelboards and load centers to remain or to be reinstalled.

3.2 INSTALLATION

A. Install panelboards and load centers in accordance with NEMA PB 1.1.

B. Install panelboards and load centers plumb.

C. Install recessed panelboards and load centers flush with wall finishes.

D. Height: 6 feet to top of panelboard and load center; install panelboards taller than 6 feet with bottom no more than 4 inches above floor.

E. Install filler plates for unused spaces in panelboards.

F. Provide typed circuit directory for each branch circuit panelboard and load center. Revise directory to reflect circuiting changes to balance phase loads.

G. Install spare conduits out of each recessed panelboard to accessible location.

3.3 FIELD QUALITY CONTROL

A. Sections 014000 - Quality Requirements, 017300 – Execution, and 017700 - Closeout Procedures: Field inspecting, testing, adjusting, and balancing.

B. Inspect and test in accordance with NETA ATS, except Section 4.

C. Perform circuit breaker inspections and tests listed in NETA ATS, Section 7.6.

D. Perform switch inspections and tests listed in NETA ATS, Section 7.5.

E. Perform controller inspections and tests listed in NETA ATS, Section 7.16.1.

3.4 ADJUSTING

A. Sections 017300 - Execution and 017700 - Closeout Procedures: Requirements for starting and adjusting.

B. Measure steady state load currents at each panelboard feeder; rearrange circuits in panelboard to balance phase loads to within 20 percent of each other. Maintain proper phasing for multi-wire branch circuits.

END OF SECTION

SECTION 262923

VARIABLE-FREQUENCY MOTOR CONTROLLERS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes variable frequency controllers.

1.2 REFERENCES

A. Institute of Electrical and Electronics Engineers:
   1. IEEE C62.41 - Recommended Practice on Surge Voltages in Low-Voltage AC Power Circuits.

B. National Electrical Manufacturers Association:
   1. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).
   2. NEMA FU 1 - Low Voltage Cartridge Fuses.
   3. NEMA ICS 7 - Industrial Control and Systems: Adjustable Speed Drives.
   4. NEMA ICS 7.1 - Safety Standards for Construction and Guide for Selection, Installation, and Operation of Adjustable Speed Drive Systems.

C. International Electrical Testing Association:
   1. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.

1.3 SUBMITTALS

A. Section 013300 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate front and side views of enclosures with overall dimensions and weights shown; conduit entrance locations and requirements; and nameplate legends.

C. Product Data: Submit catalog sheets showing voltage, controller size, ratings and size of switching and overcurrent protective devices, short circuit ratings, dimensions, and enclosure details.

D. Test Reports: Indicate field test and inspection procedures and test results.

E. Manufacturer's Field Reports: Indicate start-up inspection findings.

1.4 CLOSEOUT SUBMITTALS

A. Section 017700 - Closeout Procedures: Closeout procedures.

B. Operation and Maintenance Data: Submit instructions complying with NEMA ICS 7.1. Include procedures for starting and operating controllers, and describe operating limits possibly resulting in hazardous or unsafe conditions. Include routine preventive maintenance schedule.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience, and with service facilities within 100 miles of project.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store in clean, dry space. Maintain factory wrapping or provide additional canvas or plastic cover to protect units from dirt, water, construction debris, and traffic.

B. Handle in accordance with manufacturer's written instructions. Lift only with lugs provided. Handle carefully to avoid damage to components, enclosure, and finish.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Conform to NEMA ICS 7 service conditions during and after installation of variable frequency controllers.

1.8 WARRANTY

A. Sections 017300 - Execution and 017700 - Closeout Procedures: Product warranties and product bonds.

B. Furnish five year manufacturer warranty for variable frequency controller.

1.9 MAINTENANCE SERVICE

A. Sections 017300 - Execution and 017700 - Closeout Procedures: Maintenance service.

B. Furnish service and maintenance of variable frequency controller for one year from Date of Substantial Completion.

1.10 MAINTENANCE MATERIALS

A. Sections 017300 - Execution and 017700 - Closeout Procedures: Spare parts and maintenance products.

B. Furnish two of each air filter.

PART 2 PRODUCTS

2.1 VARIABLE FREQUENCY CONTROLLER

A. Manufacturers:
1. Dynamics Corp. of America.
2. Reliance Electric Co.
3. Technology Dynamics Inc.

B. Product Description: NEMA ICS 7, enclosed variable frequency controller suitable for operating indicated loads. Select unspecified features and options in accordance with NEMA ICS 7.1.

C. Ratings:
1. Rated Input Voltage: 208 volts, three phase, 60 Hertz.
2. Motor Nameplate Voltage: 200 volts, three phase, 60 Hertz.
3. Displacement Power Factor: Between 1.0 and 0.95, lagging, over entire range of operating speed and load.
4. Operating Ambient: 0 degrees C to 40 degrees C.

D. Design Features:
1. Employ microprocessor-based inverter logic isolated from power circuits.
2. Employ pulse-width-modulated inverter system.
3. Design for ability to operate controller with motor disconnected from output.
4. Design to attempt five automatic restarts following fault condition before locking out and requiring manual restart.

E. Safeties and Interlocks:
1. Includes undervoltage release.
2. Door Interlocks: Mechanical means to prevent opening of equipment with power connected, or to disconnect power when door is opened; include means for defeating interlock by qualified persons.
3. Safety Interlocks: Terminals for remote contact to inhibit starting under both manual and automatic mode.

4. Control Interlocks: Furnish terminals for remote contact to allow starting in automatic mode.
5. Manual Bypass: Includes contactor, motor running overload protection, and short circuit protection for full voltage, non-reversing operation of motor. Includes isolation switch to allow maintenance of inverter during bypass operation.
6. Emergency Stop: Use dynamic brakes for emergency stop function.
7. Disconnecting Means: Integral [fused disconnect switch with clips for NEMA FU 1, Class J fuses on line side of each controller.

F. Fabrication:
1. Wiring Terminations: Match conductor materials and sizes as indicated on Drawings.
2. Enclosure: NEMA 250, Type 1, suitable for equipment application in places accessible only to qualified personnel.
3. Finish: Manufacturer's standard enamel.

2.2 TRANSIENT VOLTAGE SUPPRESSION DEVICES

A. Product Description: IEEE C62.41, factory-mounted transient voltage surge suppressor, selected to meet requirements for medium exposure and to coordinate with system circuit voltage.

2.3 SOURCE QUALITY CONTROL

A. Shop inspect and perform standard productions tests for each controller.

B. Make completed controllers available for inspection at manufacturer’s factory prior to packaging for shipment. Notify Engineer at least seven days before inspection is allowed.

C. Allow witnessing of factory inspections and tests at manufacturer’s test facility. Notify Engineer at least seven days before inspections and tests are scheduled.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 013100 – Project Management and Coordination: Coordination and project conditions.

B. Verify building environment is maintained within service conditions required by manufacturer.

3.2 EXISTING WORK

A. Disconnect and remove abandoned controllers.

B. Clean and repair existing controllers to remain or to be reinstalled.

3.3 INSTALLATION

A. Install in accordance with NEMA ICS 7.1.

B. Tighten accessible connections and mechanical fasteners after placing controller.

C. Install fuses in fusible switches.

D. Select and install overload heater elements in motor controllers to match installed motor characteristics.

E. Neatly type label inside controller door identifying motor served, nameplate horsepower, full load amperes, code letter, service factor, and voltage/phase rating. Place label in clear plastic holder.

3.4 FIELD QUALITY CONTROL

A. Section 014000 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

B. Inspect and test in accordance with NETA ATS, except Section 4.

C. Perform inspections and tests listed in NETA ATS, Section 7.16 and NEMA ICS 7.1.

3.5 MANUFACTURER'S FIELD SERVICES

A. Section 014000 - Quality Requirements: Manufacturer’s field services.

B. Prepare and startup variable frequency controller.

3.6 DEMONSTRATION AND TRAINING

A. Furnish 8 hours of instruction each for two persons, to be conducted at project site with manufacturer's representative.

END OF SECTION

SECTION 310513

SOILS FOR EARTHWORK

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Subsoil materials.
   2. Compacted soil materials.
   3. Topsoil materials.

B. Related Sections:
   1. Section 310516 - Aggregates for Earthwork.
   2. Section 312213 - Rough Grading.
   3. Section 312317 - Trenching.
   4. Section 312323 - Fill.
   5. Section 313700 - Riprap.

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:
   1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:
   1. ASTM D422 – Standard Test Methods for Particle-Size Analysis of Soils.
   2. ASTM D698 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3)).
   3. ASTM D1557 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lb/ft^3 (2,700 kN-m/m^3))
   4. ASTM D2216 – Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass.
   5. ASTM D2487 – Standard Test Method for Classification of Soils for Engineering Purposes (Unified Soil Classification System).
   6. ASTM D4318 – Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

7. ASTM D5084 – Standard Test Method for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible-Wall Permeameter.
8. ASTM D6938 – Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

1.3 QUALITY ASSURANCE

A. The OWNER will retain the QA/QC CONSULTANT to perform CQA for the project. The QA/QC CONSULTANT will monitor and document the Work completed by the CONTRACTOR. Performance criteria set forth in the Technical Specifications and as shown on the Construction Drawings will be the standard for the Work to be performed by the CONTRACTOR.

B. The QA/QC CONSULTANT will perform the field and laboratory soil and drainage material testing, in order to pre-qualify the materials, as described in the Technical Specifications (except for proof-rolling, and other similar items which the CONTRACTOR shall perform and the QA/QC CONSULTANT will observe). The CONTRACTOR shall be responsible for providing adequate notice prior to needing in-place field and laboratory tests performed (e.g., density, moisture content or hydraulic conductivity testing). The CONTRACTOR shall schedule Work activities to avoid interruptions and impacting the progress schedule and be aware that some laboratory tests may require more than one week to complete (hydraulic conductivity).

C. The CONTRACTOR shall be responsible for reworking or removing and replacing nonconforming soil and other construction materials that do not meet the requirements of the Technical Specifications and the Construction Drawings as directed by the QA/QC CONSULTANT.

D. The CONTRACTOR shall be responsible for all survey work required to complete construction in accordance with the required lines and elevations as described in the Technical Specifications and as shown on the Construction Drawings.

PART 2 PRODUCTS

2.1 GENERAL

A. All fill material must be approved by the QA/QC CONSULTANT.

B. Excavated materials from the project construction areas may be used as fill material as directed by the QA/QC CONSULTANT.

C. The final surface of all excavated areas and all areas designated to receive fill will be prepared and accepted in accordance with this section of the Technical Specifications. The final surface will also be free of loose material, clods and any other debris including grade stakes and hubs.

D. Natural subgrade soils or compacted fill softened by frost, flooding, weather or any other natural or man-made events will be removed and replaced or recompacted in accordance with the requirements specified herein.

E. Fill will not be placed on snow, ice, or frozen ground surfaces.

2.2 STRUCTURAL FILL

A. Structural fill materials will refer to materials used for subgrade construction, the construction of berms, and backfilling the anchor trench.

B. Structural fill materials will be removed from the borrow area as directed by the OWNER or the QA/QC CONSULTANT.

C. The structural fill materials will be prepared by the CONTRACTOR and tested by the QA/QC CONSULTANT to verify compliance with the Technical Specifications and the Construction Drawings.

D. Structural fill materials will be free of debris, roots, organic matter, frozen matter, roots, wood, peat, cinders, rubbish, stones having any dimension greater than two (2) inches or any other deleterious materials.

2.3 LOW PERMEABILITY SOIL

A. Low permeability soil materials will refer to materials used for the construction of the compacted soil liner.

B. Low Permeability soil materials will be removed from the stockpile or borrow area as directed by the QA/QC CONSULTANT.

C. The low permeability soil materials will be moisture conditioned and installed by the CONTRACTOR and tested by the QA/QC CONSULTANT to verify compliance with the Technical Specifications and the Construction Drawings.

D. Low permeability soil layer materials will be free of debris, roots, organic matter, frozen matter, roots, wood, peat, cinders, rubbish, stones having any dimension greater than two (2) inches or any other deleterious materials. Soil will be capable of being compacted to the minimum

specified density and achieve the maximum allowable hydraulic conductivity (1 x 10^{-5} cm/sec).

2.4 TOPSOIL MATERIALS

A. Topsoil conforming to Arkansas Department of Transportation standard.

2.5 SOURCE QUALITY CONTROL

A. Section 014000 - Quality Requirements: Testing and analysis of soil material.

B. Testing and Analysis of Subsoil Material: Perform in accordance with ASTM D6938.

C. Testing and Analysis of Low Permeability Soil Material: Perform in accordance with ASTM D6938 and ASTM D5084.

D. Testing and Analysis of Topsoil Material: Perform in accordance with Arkansas Department of Transportation standards.

PART 3 EXECUTION

3.1 PLACEMENT AND COMPACTION

A. The QA/QC CONSULTANT will be notified at least forty eight (48) hours prior to CONTRACTOR placing any fill material.

B. The CONTRACTOR shall place and compact fill in accordance with industry standard construction practices and procedures.

C. Hauling and spreading equipment will not be considered compaction equipment.

D. Exposed areas to receive fill, backfill, or embankment shall be proofrolled to detect localized zones of excessively wet, unstable, organic, or low bearing capacity materials to the extent as follows:

1. Proof roll as a single-pass operation with conventional compaction equipment during subgrade preparation and prior to placement of fill, and as a spot check process without the need for complete coverage per unit area of tire. Soft spots shall be overexcavated, backfilled, and compacted with suitable material.

E. The CONTRACTOR shall be responsible for maintaining proper lift thickness. The maximum loose lift thickness will not exceed eight (8) inches.

F. Soil utilized for structural components shall be compacted to a minimum of 95 percent of the maximum dry density as determined by the testing performed in accordance with ASTM D698 by the QA/QC CONSULTANT. The compacted soil liner shall be compacted to at least 95 percent of the maximum dry density at a moisture content at or exceeding the optimum moisture content or as directed by the QA/QC CONSULTANT.

G. Each accepted lift will be left rough or scarified at least two (2) inches before placing the next overlying lift.

H. Final surfaces will be graded to the lines and elevations shown on the Construction Drawings.

I. Final surfaces will be smooth drum rolled free of loose material, clods, and other debris including grade stakes and hubs.

J. Compact each lift so that the in-place dry unit weight and moisture content are within the acceptable placement zone as indicated by the QA/QC CONSULTANT.

K. The structural fill material for the anchor trench backfill material will be nominally compacted to the satisfaction of the QA/QC CONSULTANT.

L. The CONTRACTOR shall place the protective cover layer and vegetative layer so as not to damage the underlying geosynthetics. Low ground pressure equipment shall be used to spread the overlying soil. Any damage to the geosynthetics will be repaired at the CONTRACTOR'S expense.

3.2 STOCKPILING

A. Stockpile materials on site as designated by Architect.

B. Stockpile in sufficient quantities to meet Project schedule and requirements.

C. Separate differing materials with dividers or stockpile apart to prevent mixing.

D. Stockpile topsoil 8 feet high maximum.

E. Prevent intermixing of soil types or contamination.

F. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.

3.3 STOCKPILE CLEANUP

A. Leave unused materials in neat, compact stockpile.

B. When borrow area is indicated, leave area in clean and neat condition. Grade site surface to prevent free standing surface water.

END OF SECTION

SECTION 310516

AGGREGATES FOR EARTHWORK

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Coarse aggregate materials.
   2. Fine aggregate materials.

B. Related Sections:
   1. Section 31 05 13 - Soils for Earthwork: Fill and grading materials.
   2. Section 312213 - Rough Grading.
   3. Section 312317 - Trenching.
   4. Section 31 37 00 - Riprap.

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:
   1. AASHTO M147 - Standard Specification for Materials for Aggregate and Soil-Aggregate Subbase, Base and Surface Courses.
   2. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:
   1. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
   2. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
   3. ASTM D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6,000 ft-lbf/ft3 (2,700 kN-m/m3)).
   4. ASTM D2487 - Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).
   5. ASTM D4318 - Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

1.3 SUBMITTALS

A. Section 013300 - Submittal Procedures: Requirements for submittals.

B. Samples: Submit, in air-tight containers, 10 lb sample of each type of aggregate to testing laboratory.

C. Materials Source: Submit name of imported materials suppliers.

D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

A. Furnish each aggregate material from single source throughout the Work.

B. Perform Work in accordance with federal, state, and municipal standards.

PART 2 PRODUCTS

2.1 COARSE AGGREGATE MATERIALS

A. Coarse Aggregate (Gravel): Angular crushed washed non-calcareous stone; free of shale, clay, friable material and debris; graded in accordance with ASTM C136.

2.2 FINE AGGREGATE MATERIALS

A. Fine Aggregate (bedding): Conforming to Arkansas Department of Transportation standards for pipe bedding.

2.3 SOURCE QUALITY CONTROL

A. Section 014000 - Quality Requirements: Testing and inspection services.

B. Coarse Aggregate Material - Testing and Analysis: Perform in accordance with ASTM C136.

C. Fine Aggregate Material - Testing and Analysis: Perform in accordance with ASTM D698.

D. When tests indicate materials do not meet specified requirements, change material and retest.

PART 3 EXECUTION

3.1 STOCKPILING

A. Stockpile materials on site at locations designated by Engineer.

B. Stockpile in sufficient quantities to meet Project schedule and requirements.

C. Separate different aggregate materials with dividers or stockpile individually to prevent mixing.

D. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.

3.2 STOCKPILE CLEANUP

A. Remove stockpile, leave area in clean and neat condition. Grade site surface to prevent free standing surface water.

END OF SECTION

SECTION 311000

SITE CLEARING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Removing surface debris.
   2. Removing designated trees, shrubs, and other plant life.
   3. Excavating topsoil.

B. Related Sections:
   1. Section 312213 - Rough Grading.
   2. Section 312318 - Rock Removal.

1.2 QUALITY ASSURANCE

A. Perform Work in accordance with applicable federal, state, and muncipal standards.

B. Conform to applicable state regulations for environmental requirements, disposal of debris, and burning debris on site.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing plant life and waste disposal units designated to remain is tagged or identified.

B. Identify waste area for placing removed materials.

3.2 PREPARATION

A. Call Local Utility Line Information service not less than three working days before performing Work.
   1. Request underground utilities to be located and marked within and surrounding construction areas.

3.3 PROTECTION

A. Locate, identify, and protect utilities indicated to remain, from damage.

B. Protect bench marks, survey control points, and existing structures from damage or displacement.

3.4 CLEARING

A. Remove trees and shrubs within marked areas indicated. Remove stumps, main root ball, root system to depth of 12 inches below grade.

B. Clear undergrowth and deadwood, without disturbing subsoil.

C. Apply herbicide to remaining stumps to inhibit growth.

3.5 REMOVAL

A. Remove debris, rock, and extracted plant life from site.

3.6 TOPSOIL EXCAVATION

A. Excavate topsoil from areas to be further excavated or regraded without mixing with foreign materials for use in finish grading.

B. Do not excavate wet topsoil.

C. Stockpile in area designated on site to depth not exceeding 8 feet and protect from erosion.

D. Do not remove topsoil from site.

END OF SECTION

SECTION 312213

ROUGH GRADING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Excavating topsoil.
2. Excavating subsoil.
3. Cutting, grading, filling, rough contouring, and compacting, site for pads.

B. Related Sections:
1. Section 024116 - Structure Demolition.
2. Section 310513 - Soils for Earthwork: Soils for fill.
3. Section 310516 - Aggregates for Earthwork: Aggregates for fill.
4. Section 311000 - Site Clearing: Excavating topsoil.
5. Section 312316 - Excavation: Building excavation.
6. Section 312317 - Trenching: Trenching and backfilling for utilities.
7. Section 312318 - Rock Removal.
8. Section 312323 - Fill: General building area backfilling.

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:
1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:
1. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
2. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
3. ASTM D1556 - Standard Test Method for Density of Soil in Place by the Sand-Cone Method.
4. ASTM D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6,000 ft-lbf/ft3 (2,700 kN-m/m3)).
5. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.

6. ASTM D2419 - Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate.
7. ASTM D2434 - Standard Test Method for Permeability of Granular Soils (Constant Head).
8. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
9. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.3 CLOSEOUT SUBMITTALS

A. Sections 017300 - Execution and 017700 - Closeout Procedures: Requirements for submittals.

B. Project Record Documents: Accurately record actual locations of utilities remaining by horizontal dimensions, elevations or inverts, and slope gradients.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with applicable federal, state, and municipal standards.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify survey bench mark and intended elevations for the Work are as indicated on Drawings.

3.2 PREPARATION

A. Call Local Utility Line Information service not less than three working days before performing Work.
   1. Request underground utilities to be located and marked within and surrounding construction areas.

B. Identify required lines, levels, contours, and datum.

C. Notify utility company to remove and relocate utilities.

D. Protect utilities indicated to remain from damage.

E. Protect bench marks, survey control point, and existing structures, from excavating equipment and vehicular traffic.

3.3 TOPSOIL EXCAVATION

A. Excavate topsoil from areas to be further excavated or regraded without mixing with foreign materials for use in finish grading.

B. Do not excavate wet topsoil.

C. Stockpile in area designated on site to depth not exceeding 8 feet and protect from erosion.

D. Do not remove topsoil from site.

3.4 SUBSOIL EXCAVATION

A. Excavate subsoil from areas to be further excavated or regraded.

B. When excavating through roots, perform Work by hand and cut roots with sharp axe.

C. Stockpile subsoil in area designated on site to depth not exceeding 8 feet and protect from erosion.

D. Benching Slopes: Horizontally bench existing slopes greater than 1: 4 to key placed fill material to slope to provide firm bearing.

E. Stability: Replace damaged or displaced subsoil as specified for fill.

3.5 FILLING

A. Fill areas to contours and elevations with unfrozen materials.

B. Place material in continuous layers as follows:
   1. Subsoil Fill: Maximum 8 inches compacted depth.
   2. Structural Fill: Maximum 8 inches compacted depth.
   3. Low Permeability Soil: Maximum 6 inches compacted depth.

C. Maintain optimum moisture content of fill materials to attain required compaction density.

D. Make grade changes gradual. Blend slope into level areas.

E. Repair or replace items indicated to remain damaged by excavation or filling.

3.6 TOLERANCES

A. Section 014000 - Quality Requirements: Tolerances.

B. Top Surface of Subgrade: Plus or minus 1/10 foot from required elevation.

3.7 FIELD QUALITY CONTROL

A. Section 014000 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

END OF SECTION

SECTION 312316

EXCAVATION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Soil densification.
   2. Excavating for site structures.

B. Related Sections:
   1. Section 310513 - Soils for Earthwork: Stockpiling excavated materials.
   2. Section 310516 - Aggregates for Earthwork: Stockpiling excavated materials.
   3. Section 312213 - Rough Grading: Topsoil and subsoil removal from site surface.
   4. Section 312317 - Trenching: Excavating for utility trenches.
   5. Section 312318 - Rock Removal: Removal of rock during excavating.
   6. Section 312323 - Fill.

1.2 REFERENCES

A. ASTM International:
   1. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
   2. ASTM D1556 - Standard Test Method for Density of Soil in Place by the Sand-Cone Method.
   3. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
   4. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

B. Local utility standards when working within 24 inches of utility lines.

1.3 QUALITY ASSURANCE

A. Perform Work in accordance with applicable federal, state, and municipal standards.

1.4 QUALIFICATIONS

A. Prepare excavation protection plan under direct supervision of Professional Engineer experienced in design of this Work and licensed in the State of Arkansas.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 PREPARATION

A. Call Local Utility Line Information service not less than three working days before performing Work.
   1. Request underground utilities to be located and marked within and surrounding construction areas.

B. Identify required lines, levels, contours, and datum.

C. Notify utility companies to remove and relocate utilities.

D. Protect utilities indicated to remain from damage.

E. Protect bench marks, survey control points, and existing structures from excavating equipment and vehicular traffic.

3.2 SOIL DENSIFICATION - VIBRO-COMPACTION

A. Vibro-compact substrates below footing bearing surfaces for footings as indicated on Drawings before excavating site.

B. Densify existing subsoils with relative density rating of compact to dense to attain relative density rating of very dense.
   1. Densify subsoils to depth of 3 feet.

C. Densification Equipment:
   1. Depth Vibrator: Poker type with follower tubes with visible marking every 12 inches to enable insertion depth measurement.
   2. Motion: radial in horizontal plane.
   3. Data Acquisition System: Record amps or pressure of the vibrator motor over time and depth.

D. Perform densification in presence of Engineer directly under each footing with vibrator inserted in grid pattern at maximum 6 feet on center.
   1. Arrange compaction grid for each footing for maximum number of insertion points and with outermost insertion points within the bearing area of footings.
   2. Adjust compaction grid arrangement and spacing as directed by Engineer to achieve required densification.

E. Insert vibrator to maximum specified depth. Densify soils for 30 seconds or other time as directed by Engineer. Withdraw vibrator every 12 inches increments and repeat densification at each increment.
   1. When subsurface obstruction prevents vibrator insertion to specified depth, request instructions from Engineer to compensate for obstruction.

F. Tolerances:
   1. Maximum Deviation from Center of Completed Compaction: 8 inches from indicated position.
   2. Maximum Deviation from Vertical: 4 degrees during vibrator insertion.

3.3 EXCAVATION

A. Underpin adjacent structures which may be damaged by excavation work.

B. Excavate subsoil to accommodate site structures and construction operations.

C. Excavate to working elevation for piling work.

D. Grade top perimeter of excavation to prevent surface water from draining into excavation.

E. Trim excavation. Remove loose matter.

F. Notify Engineer of unexpected subsurface conditions.

G. Correct areas over excavated with structural fill specified in Section 312323 as directed by Engineer.

H. Stockpile subsoil in area designated on site to depth not exceeding 8 feet and protect from erosion.

I. Repair or replace items indicated to remain damaged by excavation.

3.4 FIELD QUALITY CONTROL

A. Section 014000 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

B. Request visual inspection of bearing surfaces by Engineer before installing subsequent work.

3.5 PROTECTION

A. Prevent displacement or loose soil from falling into excavation; maintain soil stability.

B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.

C. Protect structures, utilities and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth operations.

END OF SECTION

SECTION 312317

TRENCHING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Excavating trenches for utilities.
2. Compacted fill from top of utility bedding to subgrade elevations.
3. Backfilling and compaction.

B. Related Sections:
1. Section 033000 - Cast-In-Place Concrete: Concrete materials.
2. Section 310513 - Soils for Earthwork: Soils for fill.
3. Section 310516 - Aggregates for Earthwork: Aggregates for fill.
4. Section 312213 - Rough Grading: Topsoil and subsoil removal from site surface.
5. Section 312316 - Excavation: General building excavation.
6. Section 312318 - Rock Removal: Removal of rock during excavating.
7. Section 312323 - Fill: General backfilling.
8. Section 313700 - Riprap.

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:
1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:
1. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
2. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
3. ASTM D1556 - Standard Test Method for Density of Soil in Place by the Sand-Cone Method.
4. ASTM D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6,000 ft-lbf/ft3 (2,700 kN-m/m3)).

5. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
6. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
7. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.3 DEFINITIONS

A. Utility: Any buried pipe, duct, conduit, or cable.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with applicable federal, state, and municipal standards.

1.5 QUALIFICATIONS

A. Prepare excavation protection plan under direct supervision of Professional Engineer experienced in design of this Work and licensed in the State of Arkansas.

1.6 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.7 COORDINATION

A. Section 013100 – Project Management and Coordination: Coordination and project conditions.

B. Verify Work associated with lower elevation utilities is complete before placing higher elevation utilities.

PART 2 PRODUCTS

2.1 FILL MATERIALS

A. Structural Fill: As specified in Section 310513.

B. Granular Fill: As specified in Section 310516.

2.2 ACCESSORIES

A. Geotextile Fabric: Non-biodegradable, non-woven.
   1. Alkzo Nobel Geosynthetic Co.

2. Huesker, Inc.
3. TC Mirafi.
4. Tenax Corp.
5. Tensar Earth Technologies, Inc.

PART 3 EXECUTION

3.1 LINES AND GRADES

A. Lay pipes to lines and grades indicated on Drawings.
   1. Engineer reserves right to make changes in lines, grades, and depths of utilities when changes are required for Project conditions.

B. Use laser-beam instrument with qualified operator to establish lines and grades.

3.2 PREPARATION

A. Call Local Utility Line Information service not less than three working days before performing Work.
   1. Request underground utilities to be located and marked within and surrounding construction areas.

B. Identify required lines, levels, contours, and datum locations.

C. Protect bench marks and existing structures from excavating equipment and vehicular traffic.

D. Maintain and protect above and below grade utilities indicated to remain.

3.3 TRENCHING

A. Excavate subsoil required for utilities to utility service.

B. Remove lumped subsoil, boulders, and rock up of 1/6 cubic yard, measured by volume.

C. Do not advance open trench more than 200 feet ahead of installed pipe.

D. Cut trenches to width indicated on Drawings. Remove water or materials that interfere with Work.

E. Excavate trenches to depth indicated on Drawings. Provide uniform and continuous bearing and support for bedding material and pipe utilities.

F. When Project conditions permit, slope side walls of excavation starting 2 feet above top of pipe. When side walls can not be sloped, provide sheeting and shoring to protect excavation as specified in this section.

G. When subsurface materials at bottom of trench are loose or soft, excavate to greater depth as directed by Engineer until suitable material is encountered.

H. Cut out soft areas of subgrade not capable of compaction in place. Backfill with fill as specified in Section 312323 and compact to density equal to or greater than requirements for subsequent backfill material.

I. Correct areas over excavated areas with compacted backfill as specified for authorized excavation or replace with fill concrete as directed by Engineer.

J. Stockpile subsoil in area designated on site to depth not exceeding 8 feet and protect from erosion.

3.4 SHEETING AND SHORING

A. Sheet, shore, and brace excavations to prevent danger to persons, structures and adjacent properties and to prevent caving, erosion, and loss of surrounding subsoil.

B. Support trenches more than 5 feet deep excavated through unstable, loose, or soft material. Provide sheeting, shoring, bracing, or other protection to maintain stability of excavation.

C. Design sheeting and shoring to be left in place as part of the completed Work, cut off minimum 18 inches below finished grade.

D. Repair damage caused by failure of the sheeting, shoring, or bracing and for settlement of filled excavations or adjacent soil.

E. Repair damage to new and existing Work from settlement, water or earth pressure or other causes resulting from inadequate sheeting, shoring, or bracing.

3.5 BACKFILLING

A. Backfill trenches to contours and elevations with unfrozen fill materials.

B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.

C. Place fill material in continuous layers and compact.

D. Employ placement method that does not disturb or damage foundation perimeter drainage or utilities in trench.

E. Maintain optimum moisture content of fill materials to attain required compaction density.

F. Do not leave more than 50 feet of trench open at end of working day.

G. Protect open trench to prevent danger to personnel.

3.6 FIELD QUALITY CONTROL

A. Section 014000 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

3.7 PROTECTION OF FINISHED WORK

A. Sections 017300 - Execution and Section 017700 - Closeout Procedures: Protecting finished work.

B. Reshape and re-compact fills subjected to vehicular traffic during construction.

END OF SECTION

SECTION 312318

ROCK REMOVAL

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Removing discovered rock during excavation.

B. Related Sections:
   1. Section 312213 - Rough Grading.
   2. Section 312316 - Excavation: Building excavation.
   3. Section 312317 - Trenching: Trenching and backfilling for utilities.
   4. Section 312323 - Fill: Backfill materials.
   5. Section 313700 - Riprap.

1.2 REFERENCES

A. National Fire Protection Association:
   1. NFPA 495 - Explosive Materials Code.

1.3 DEFINITIONS

A. Site Rock: Solid mineral material with volume in excess of 1/3 cu yd or solid material that cannot be removed with 3/4 cu yd capacity excavator [without drilling or blasting].

1.4 SUBMITTALS

A. Survey Report: Submit survey report on conditions of buildings near locations of rock removal.

1.5 QUALITY ASSURANCE

A. Seismic Survey Firm: Licensed company specializing in seismic surveys with five years documented experience.

B. Explosives Firm: Company specializing in explosives for disintegration of rock, with five years documented experience within 100 miles of Project location.

1.6 PROJECT CONDITIONS

A. Conduct survey and document conditions of buildings near locations of rock removal, prior to blasting, and photograph existing conditions identifying existing irregularities.

B. Advise owners of adjacent buildings or structures in writing, prior to executing seismographic survey. Explain planned blasting and seismic operations.

C. Obtain seismic survey prior to rock excavation to determine maximum charges that can be used at different locations in area of excavation without damaging adjacent properties or other work.

1.7 SCHEDULING

A. Section 013100 – Project Management and Coordination: Coordination and project conditions.

B. Schedule Work to avoid disruption to nearby residences.

C. Conduct blasting operations between hours of 8:30 A.M. and 4:30 P.M. only.

PART 2 PRODUCTS

2.1 MATERIALS

A. Explosives: Type recommended by explosive firm following seismic survey and required by authorities having jurisdiction.

B. Delay Device: Type recommended by explosives firm.

C. Blast Mat Materials: Type recommended by explosives firm.

D. Mechanical Disintegration Compound: Grout mix recommended by explosives firm.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 013100 – Project Management and Coordination: Coordination and project conditions.

B. Verify site conditions and note subsurface irregularities affecting Work of this section.

3.2 PREPARATION

A. Identify required lines, levels, contours, and datum.

3.3 ROCK REMOVAL BY MECHANICAL METHOD

A. Excavate and remove rock by mechanical method.
   1. Drill holes and use expansive tools, wedges, or mechanical disintegration compound to fracture rock.

B. Cut away rock at bottom of excavation to form level bearing.

C. Remove shaled layers to provide sound and unshattered base.

D. In utility trenches, excavate to 6 inches below invert elevation of pipe and 24 inches wider than pipe diameter.

E. Remove excavated materials from site.

F. Correct unauthorized rock removal in accordance with backfilling and compacting requirements of Section 312323 as directed by Engineer.

3.4 ROCK REMOVAL BY EXPLOSIVE METHODS

A. When rock is uncovered requiring explosives method for rock disintegration, notify Engineer.

B. Provide seismographic monitoring during progress of blasting operations.

C. Drill blasting holes within 12 feet of finished slope.

D. Disintegrate rock and remove from excavation.

E. Remove rock at excavation bottom to form level bearing.

F. Remove shaled layers to provide sound and unshattered base.

G. In utility trenches, excavate to 6 inches below invert elevation of pipe and 24 inches wider than pipe diameter.

H. Remove excavated material from site.

I. Correct unauthorized rock removal in accordance with backfilling and compacting requirements of Section 312323.

3.5 FIELD QUALITY CONTROL

A. Section 014000 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

B. Request visual inspection of foundation bearing surfaces by Engineer before installing subsequent work.

END OF SECTION

SECTION 312319

DEWATERING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Dewatering system.
   2. Surface water control system.
   3. System operation and maintenance.
   4. Water disposal.

B. Related Sections:

   1. Section 310516 - Aggregates for Earthwork: Filter sand.
   2. Section 312316 - Excavation: Excavation for structures below ground water table.
   3. Section 312317 - Trenching: Trenching for utilities below ground water table.
   4. Section 312513 - Erosion Controls: Surface water runoff control.

1.2 REFERENCES

A. ASTM International:
   1. ASTM C33 - Standard Specification for Concrete Aggregates.

1.3 DEFINITIONS

A. Dewatering includes the following:
   1. Lowering of ground water table and intercepting horizontal water seepage to prevent ground water from entering excavations, trenches, tunnels, and shafts.
   2. Reducing piezometric pressure within strata to prevent failure or heaving of excavations, trenches, tunnels, and shafts.
   3. Disposing of removed water.

B. Surface Water Control: Removal of surface water within open excavations.

1.4 SYSTEM DESCRIPTION

A. Provide dewatering and surface water control systems to permit Work to be completed on dry and stable subgrade.

1. Install wells to dewater and relieve hydrostatic pressure within strata identified in subsurface investigation and located at approximate elevation.

B. Provide monitoring wells and monitoring equipment to obtain meaningful observations of conditions affecting excavation, adjacent structures, and adjacent water wells.

1.5 PERFORMANCE REQUIREMENTS

A. Design dewatering systems to:
1. Lower water table within areas of excavation to minimum 10 feet below bottom of excavation to permit Work to be completed on dry and stable subgrade.
2. Relieve hydrostatic pressures in confined water bearing strata below excavation to eliminate risk of uplift or other instability of excavation.
3. Prevent damage to adjacent properties, buildings, structures, utilities, and facilities from construction operations.
4. Prevent loss of fines, quick condition, or softening of foundation subgrade.
5. Maintain stability of sides and bottoms of excavations and trenches.

B. Design surface water control systems to:
1. Collect and remove surface water and seepage entering excavation.

1.6 SUBMITTALS

A. Section 013300 - Submittal Procedures: Requirements for submittals.

B. Shop Drawings: Signed and sealed by professional engineer.
1. Indicate dewatering system layout, well depths, well screen lengths, dewatering pump locations, pipe sizes and capacities, grades, filter sand gradations, surface water control devices, valves, and water disposal method and location.
2. Indicate primary and standby power system location and capacity.
3. Indicate layout and depth of monitoring wells, piezometers and flow measuring devices for system performance measurement.
4. Include detailed description of dewatering and monitoring system installation procedures and maintenance of equipment.
5. Include description of emergency procedures to follow when problems arise.

C. Product Data: Submit data for each of the following:

1. Dewatering Pumps: Indicate sizes, capacities, priming method, engine, and motor characteristics.
2. Pumping equipment for control of surface water within excavation.

D. Design Data: Signed and sealed by professional engineer.
1. Indicate design values, analyses, and calculations to support design.
2. Include description and profile of geology, soil, and groundwater conditions.

E. Field Reports: Test and monitoring reports as specified in Field Quality Control article.

1.7 CLOSEOUT SUBMITTALS

A. Sections 017300 - Execution and 017700 Closeout Procedures: Requirements for submittals.

B. Project Record Documents: Record actual locations and depths of capped wells and piping abandoned in place.

1.8 QUALITY ASSURANCE

A. Comply with authorities having jurisdiction for the following:
1. Drilling and abandoning of wells used for dewatering systems.
2. Water discharge and disposal from pumping operations.

B. Obtain permit from EPA under National Pollutant Discharge Elimination System (NPDES), for storm water discharge from construction sites.

C. Perform Work in accordance with applicable federal, state, and municipal standards.

1.9 QUALIFICATIONS

A. Installer: Company specializing in performing work of this section with minimum 10 years documented experience and responsible for design, operation, and maintenance of dewatering system.
1. Assume sole responsibility for dewatering and surface water control systems and for loss or damage resulting from partial or complete failure of protective measures and settlement or resultant damage caused by ground water control operations.

B. Design, install, and monitor operation of dewatering under direct supervision of Professional Engineer experienced in design of this Work and licensed in State of Arkansas.

1.10 PRE-INSTALLATION MEETINGS

A. Section 013100 – Project Management and Coordination: Pre-installation meeting.

B. Convene minimum one week prior to commencing work of this section.

1.11 SEQUENCING

A. Section 011000 - Summary: Requirements for sequencing.

B. Sequence work to obtain required permits before start of dewatering operations.

C. Sequence work to install and test monitoring systems minimum 7 days before testing and operating dewatering systems.

D. Sequence work to install and test dewatering and surface water control systems minimum 7 days before starting excavation.

1.12 COORDINATION

A. Section 013100 – Project Management and Coordination: Requirements for coordination.

B. Coordinate work to permit the following construction operations to be completed on dry stable substrate.
   1. Excavation for structures specified in Section 312316.
   2. Trenching for utilities specified in Section 312317.

PART 2 PRODUCTS

2.1 DEWATERING EQUIPMENT

A. Select dewatering equipment to meet specified performance requirements.

2.2 MONITORING EQUIPMENT

A. Piezometers: Standpipe type for push in installation to monitor water elevation.

2.3 ACCESSORIES

A. Valves and Fittings: Furnish valves and fittings to isolate each well from header pipe and to prevent loss of pump prime.

B. Filter Sand: Fine aggregate Type A6 as specified in Section 310516.

C. Grout: Mixture of portland cement and bentonite clay or sand suitable for sealing abandoned wells and piping.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 013100 – Project Management and Coordination: Verification of existing conditions before starting work.

B. Call Local Utility Line Information service not less than three working days before performing Work.
   1. Request underground utilities to be located and marked within and surrounding construction areas.

C. Employ licensed land surveyor to provide following documentation:
   1. Survey existing adjacent buildings, structures, and improvements for position and elevation of principal elements before and after completion of dewatering operations.

3.2 PREPARATION

A. Protect existing adjacent buildings, structures, and improvements from damage caused by dewatering operations.

3.3 MONITORING WELLS

A. Install monitoring wells at locations as specified for dewatering wells.

B. Test each monitoring well point to verify installation is performing properly.

C. Install piezometers, calibrate, and test for proper operation.

D. Protect monitoring well standpipes from damage by construction operations.

E. Maintain accessibility to monitoring wells continuously during construction operations.

3.4 DEWATERING SYSTEM

A. Install dewatering system in accordance with shop drawings.

B. Locate system components to allow continuous dewatering operations without interfering with installation of permanent Work and existing public rights-of-way, sidewalks, and adjacent buildings, structures, and improvements.

C. Drill wells in sizes and to depth indicated. Provide temporary surface casing when required to stabilize soil while advancing well.

D. Install Work in accordance with applicable federal, state, and municipal standards.

3.5 SURFACE WATER CONTROL SYSTEM

A. Provide ditches, berms, and other devices to divert and drain surface water from excavation area as specified in Section 312513.

B. Divert surface water and seepage water within excavation areas into sumps and pump water into drainage channels in accordance with requirements of agencies having jurisdiction.

C. Control and remove unanticipated water seepage into excavation.

3.6 SYSTEM OPERATION AND MAINTENANCE

A. Operate dewatering system continuously until backfill is minimum 2 feet above normal ground water table elevation.

B. Provide 24-hour supervision of dewatering system by personnel skilled in operation, maintenance, and replacement of system components.

C. Conduct daily observation of dewatering system and monitoring system. Make required repairs and perform scheduled maintenance.

D. Fill fuel tanks before tanks reach 25 percent capacity.

E. Start emergency generators at least twice each week to check operating condition.

F. When dewatering system cannot control water within excavation, notify Architect/Engineer and stop excavation work.
   1. Supplement or modify dewatering system and provide other remedial measures to control water within excavation.
   2. Demonstrate dewatering system operation complies with performance requirements before resuming excavation operations.

G. Modify dewatering and surface water control systems when operation causes or threatens to cause damage to new construction, existing site improvements, adjacent property, or adjacent water wells.

H. Correct unanticipated pressure conditions affecting dewatering system performance.

I. Do not discontinue dewatering operations without Architect/Engineer's approval.

3.7 WATER DISPOSAL

A. Discharge water into new sedimentation basin.

3.8 SYSTEM REMOVAL

A. Remove dewatering and surface water control systems after dewatering operations are discontinued.

B. Remove piezometers and monitoring wells.

C. Fill abandoned piping with grout.

D. Repair damage caused by dewatering and surface water control systems or resulting from failure of systems to protect property.

3.9 FIELD QUALITY CONTROL

A. Section 014000 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

B. After dewatering system is installed, perform pumping test to determine when selected pumping rate lowers water level in well below pump intake. Adjust pump speed, discharge volume, or both to ensure proper operation of each pump.

C. Monitor and record the following, daily, until steady state conditions occur. Then monitor and record conditions twice each week.
   1. Average discharge flow rate for each deep well, eductor header, and well point.

D. Monitor and record the following, daily, until dewatering system is discontinued. Then monitor and record conditions weekly until Work is completed, monitoring wells are removed, or until directed by Engineer.
   1. Ground water elevation.

E. Monitor ground water discharge for sand content. Sample and test water from each well weekly for sand content. Maximum permitted sand content 5 parts per million.

F. Monitor ground water discharge for contamination while performing pumping in vicinity of potentially contaminated sites. Sample and test water weekly for contaminates.

G. Survey existing adjacent buildings, structures, and improvements weekly to detect movement in comparison to original elevations during dewatering operations.
   1. Notify Engineer immediately of measured movement.

H. Submit initial installation reports including the following:
   1. Installation and development reports for well points and pumps.
   2. Installation and baseline reports for monitoring wells and piezometers.
   3. Test reports of monitoring well water analysis.
   4. Initial dewatering flow rates.

I. Submit weekly monitoring reports including the following:
   1. Dewatering flow rates.
   2. Piezometer readings.
   3. Test reports of discharge water analysis.
   4. Maintenance records for dewatering and surface water control systems.

END OF SECTION

SECTION 31232

FILL

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Fill under slabs-on-grade.
   2. Fill for over-excavation.

B. Related Sections:
   1. Section 033000 - Cast-In-Place Concrete: Concrete materials.
   2. Section 310513 - Soils for Earthwork: Soils for fill.
   3. Section 310516 - Aggregates for Earthwork: Aggregates for fill.
   4. Section 312213 - Rough Grading: Site filling.
   5. Section 312316 - Excavation.
   6. Section 312317 - Trenching: Backfilling of utility trenches.
   7. Section 31 37 00 - Riprap.

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:
   1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:
   1. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
   2. ASTM D1556 - Standard Test Method for Density of Soil in Place by the Sand-Cone Method.
   3. ASTM D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6,000 ft-lbf/ft3 (2,700 kN-m/m3)).
   4. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
   5. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
   6. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

7. ASTM D4253 - Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.

PART 2 PRODUCTS

2.1 FILL MATERIALS

A. Subsoil Fill: As specified in Section 310513.

2.2 ACCESSORIES

A. Geotextile Fabric: Non-biodegradable, non-woven.
   1. TC Mirafi.
   2. Tensar Earth Technologies, Inc.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify subdrainage, dampproofing, or waterproofing installation has been inspected.

B. Verify underground tanks are anchored to their own foundations to avoid flotation after backfilling.

C. Verify structural ability of unsupported walls to support loads imposed by fill.

3.2 PREPARATION

A. Compact subgrade to density requirements for subsequent backfill materials.

B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with structural fill and compact to density equal to or greater than requirements for subsequent fill material.

C. Scarify subgrade surface to depth of 6 inch.

D. Proof roll to identify soft spots; fill and compact to density equal to or greater than requirements for subsequent fill material.

3.3 BACKFILLING

A. Backfill areas to contours and elevations with unfrozen materials.

B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy subgrade surfaces.

C. Place fill material in continuous layers and compact.

D. Employ placement method that does not disturb or damage other work.

E. Maintain optimum moisture content of backfill materials to attain required compaction density.

F. Backfill simultaneously on each side of unsupported foundation walls until supports are in place.

G. Slope grade away from building minimum 5 percent slope for minimum distance of 10 ft, unless noted otherwise.

H. Make gradual grade changes. Blend slope into level areas.

3.4 TOLERANCES

A. Section 014000 - Quality Requirements: Tolerances.

3.5 FIELD QUALITY CONTROL

A. Section 014000 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

B. Perform laboratory material tests in accordance with ASTM D1557.

C. Perform in place compaction tests in accordance with the following:
   1. Density Tests: ASTM D1556.
   2. Moisture Tests: ASTM D3017.

D. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.

3.6 PROTECTION OF FINISHED WORK

A. Sections 017300 - Execution and 017700 - Closeout Procedures: Protecting finished work.

B. Reshape and re-compact fills subjected to vehicular traffic.

END OF SECTION

SECTION 312513

EROSION CONTROLS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Diversion Channels.
   2. Rock Energy Dissipator.
   3. Sediment Ponds.

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:
   1. AASHTO T88 - Standard Specification for Particle Size Analysis of Soils.
   2. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:
   1. ASTM C127 - Standard Test Method for Specific Gravity and Absorption of Coarse Aggregate.
   2. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
   3. ASTM D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6,000 ft-lbf/ft3 (2,700 kN-m/m3)).
   4. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
   5. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.3 SUBMITTALS

A. Section 013300 - Submittal Procedures: Requirements for submittals.

B. Product Data: Product Data: Submit data on geotextile.

1.4 CLOSEOUT SUBMITTALS

A. Sections 017300 - Execution and 017700 - Closeout Procedures: Requirements for submittals.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with applicable federal, state, and municipal standards.

1.6 PRE-INSTALLATION MEETINGS

A. Section 013100 – Project Management and Coordination: Pre-installation meeting.

B. Convene minimum one week prior to commencing work of this section.

PART 2 PRODUCTS

2.1 ROCK AND GEOTEXTILE MATERIALS

A. Furnish materials in accordance with applicable federal, state, and municipal standards.

B. Rock: Sound, hard and angular shape; well graded; without shale seams, structural defects and foreign substances; with width and thickness greater than one third its length; minimum specific gravity of 2.5, as determined in accordance with ASTM C127, bulk saturated, and surface dry basis;; size and gradation in accordance with NCSA Class, Size No. R7 within the following limits:

Square Opening inches (mm)	Percent Passing NCSA Size No.					
	R8	R7	R6	R5	R4	R3
42 (1066)	100					
30 (762)		100				
24 (610)	15-50		100			
18 (460)		15-50		100		
15 (380)	0-15					
12 (300)		0-15	15-50		100	
9 (225)				15-50		
6 (150)		0-15	0-15		15-50	100

4 (100)				0-15		
3 (75)					0-15	15-50
2 (50)						0-15

C. Geotextile Fabric: Furnish in accordance with Arkansas Department of Transportation standards.

2.2 PIPE MATERIALS

A. Pipe: Corrugated plastic, as specified in Section 334213.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 013100 – Project Management and Coordination: Verification of existing conditions before starting work.

B. Verify gradients and elevations of base or foundation for other work are correct.

3.2 DIVERSION CHANNELS

A. Windrow excavated material on low side of channel.

B. Compact to 95 percent maximum density.

C. On entire channel area, apply soil supplements and sow seed as specified in Section 329219.

D. Mulch seeded areas with hay as specified in Section 329219.

3.3 ROCK ENERGY DISSIPATOR

A. Excavate to indicated depth of rock lining or nominal placement thickness as follows. Remove loose, unsuitable material below bottom of rock lining, then replace with suitable material. Thoroughly compact and finish entire foundation area to firm, even surface.

NCSA Class	Nominal Placement Thickness inches
R8	48
R7	36
R6	30

R5	24
R4	18
R3	12

B. Install Work in accordance with applicable federal, state, and municipal standards.

3.4 SEDIMENTATION POND

A. Clear and grub storage area and embankment foundation area site.

B. Excavate key trench for full length of dam. Excavate emergency spillway in natural ground.

C. Install pipe spillway, with anti-seep collar attached, at location indicated.

D. Do not use coarse aggregate as backfill material around pipe. Backfill pipe with suitable embankment material to prevent dam leakage along pipe.

E. On entire sedimentation pond area, apply soil supplements and sow seed as specified in Section 329219.

F. Mulch seeded areas with hay as specified in Section 329219.

3.5 SITE STABILIZATION

A. Incorporate erosion control devices indicated on the Drawings into the Project at the earliest practicable time.

B. Construct, stabilize and activate erosion controls before site disturbance within tributary areas of those controls.

C. Stockpile and waste pile heights shall not exceed 35 feet. Slope stockpile sides at 2:1 or flatter.

D. Stabilize any disturbed area of affected erosion control devices on which activity has ceased and which will remain exposed for more than 20 days.
   1. During non-germinating periods, apply mulch at recommended rates.
   2. Stabilize disturbed areas which are not at finished grade and which will be disturbed within one year in accordance with Section 329219 at 20 percent of permanent application rate with no topsoil.
   3. Stabilize disturbed areas which are either at finished grade or will not be disturbed within one year in accordance with Section 329219 permanent seeding specifications.

E. Stabilize diversion channels, sediment traps, and stockpiles immediately.

3.6 FIELD QUALITY CONTROL

A. Section 014000 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

B. Inspect erosion control devices on a weekly basis and after each runoff event. Make necessary repairs to ensure erosion and sediment controls are in good working order.

3.7 CLEANING

A. Sections 017300 - Execution and 017700 - Closeout Procedures: Requirements for cleaning.

B. When sediment accumulation in sedimentation structures has reached a point one-third depth of sediment structure or device, remove and dispose of sediment.

C. Do not damage structure or device during cleaning operations.

D. Do not permit sediment to erode into construction or site areas or natural waterways.

E. Clean channels when depth of sediment reaches approximately one half channel depth.

3.8 PROTECTION

A. Sections 017300 - Execution and 017700 - Closeout Procedures: Requirements for protecting finished Work.

END OF SECTION

SECTION 313700

RIPRAP

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Riprap placed loose.

B. Related Sections:
   1. Section 310516 - Aggregates for Earthwork.
   2. Section 312213 - Rough Grading.
   3. Section 312316 - Excavation: Excavating for riprap.
   4. Section 312317 - Trenching
   5. Section 312323 - Fill.

1.2 SUBMITTALS

A. Section 013300 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data for riprap bags, binder and geotextile fabric.

1.3 QUALITY ASSURANCE

A. Furnish each aggregate material from single source throughout the Work.

B. Perform Work in accordance with applicable deferral, state, and municipal standards.

PART 2 PRODUCTS

2.1 MATERIALS

A. Furnish materials in accordance with Arkansas Department of Transportation standards.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 013100 – Project Management and Coordination: Verification of existing conditions before starting work.

B. Do not place riprap bags over frozen or spongy subgrade surfaces.

3.2 PLACEMENT

A. Place geotextile fabric over substrate, lap edges and ends.

B. Place riprap at culvert pipe ends and as indicated on Drawings.

C. Installed Thickness: As indicated on Drawings.

D. Place rock evenly and carefully over bagged riprap to minimize voids, do not tear bag fabric, place bags and rock in one consistent operation to preclude disturbance or displacement of substrate.

E. Cover riprap with topsoil as specified in Section 329119.

F. After placement, spray with water to moisten bagged mix. Keep bagged mix moist for 24 hours.

END OF SECTION

SECTION 320516

AGGREGATES FOR EXTERIOR IMPROVEMENTS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Coarse aggregate materials.

B. Related Sections:
   1. Section 310516 - Aggregates for Earthwork.

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:
   1. AASHTO M147 - Standard Specification for Materials for Aggregate and Soil-Aggregate Subbase, Base and Surface Courses.
   2. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:
   1. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
   2. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
   3. ASTM D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6,000 ft-lbf/ft3 (2,700 kN-m/m3)).
   4. ASTM D2487 - Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).
   5. ASTM D4318 - Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

1.3 SUBMITTALS

A. Section 013300 - Submittal Procedures: Requirements for submittals.

B. Materials Source: Submit name of imported materials suppliers.

C. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

A. Furnish each aggregate material from single source throughout the Work.

B. Perform Work in accordance with applicable, federal, state, and municipal standards.

PART 2 PRODUCTS

2.1 COARSE AGGREGATE MATERIALS

A. Coarse Aggregate: Furnish material as specified by the Arkansas Department of Transportation for gravel access roads.

2.2 SOURCE QUALITY CONTROL

A. Section 014000 - Quality Requirements: Testing and inspection services.

B. Coarse Aggregate Material - Testing and Analysis: Perform in accordance with ASTM D698, ASTM D1557, AASHTO T180, ASTM D4318, and ASTM C136.

C. When tests indicate materials do not meet specified requirements, change material and retest.

PART 3 EXECUTION

3.1 STOCKPILING

A. Stockpile materials on site at locations designated by Engineer.

B. Stockpile in sufficient quantities to meet Project schedule and requirements.

C. Separate different aggregate materials with dividers or stockpile individually to prevent mixing.

D. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.

3.2 STOCKPILE CLEANUP

A. Leave unused materials in neat, compact stockpile.

B. When borrow area is indicated, leave area in clean and neat condition. Grade site surface to prevent free standing surface water.

END OF SECTION

SECTION 323113

CHAIN LINK FENCES AND GATES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Fence framework, fabric, and accessories.
2. Excavation for post bases.
3. Concrete foundation for posts.
4. Manual gates and related hardware.

1.2 REFERENCES

A. ASTM International:
1. ASTM A121 - Standard Specification for Zinc-Coated (Galvanized) Steel Barbed Wire.
2. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
3. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
4. ASTM A392 - Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric.
5. ASTM A491 - Standard Specification for Aluminum-Coated Steel Chain-Link Fence Fabric.
6. ASTM A585 - Standard Specification for Aluminum-Coated Steel Barbed Wire.
7. ASTM A792/A792M - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
8. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
9. ASTM B429 - Standard Specification for Aluminum-Alloy Extruded Structural Pipe and Tube.
10. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete.
11. ASTM F567 - Standard Practice for Installation of Chain-Link Fence.
12. ASTM F668 - Standard Specification for Poly (Vinyl Chloride) (PVC)-Coated Steel Chain Link Fence Fabric.
13. ASTM F900 - Standard Specification for Industrial and Commercial Swing Gates.

14. ASTM F934 - Standard Specification for Standard Colors for Polymer-Coated Chain Link Fence Materials.
15. ASTM F1043 - Standard Specification for Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework.
16. ASTM F1083 - Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures.
17. ASTM F1184 - Standard Specification for Industrial and Commercial Horizontal Slide Gates.

B. Chain Link Fence Manufacturers Institute:
1. CLFMI - Product Manual.

1.3 SYSTEM DESCRIPTION

A. Fence Height: 10 feet as indicated on Drawings.

B. Line Post Spacing: At intervals not exceeding 10 feet.

C. Fence Post and Rail Strength: Conform to ASTM F1043 Light Industrial Fence quality.

1.4 SUBMITTALS

A. Section 013300 - Submittal Procedures: Requirements for submittals.

B. Shop Drawings: Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, gates, and schedule of components.

C. Product Data: Submit data on fabric, posts, accessories, fittings and hardware.

1.5 CLOSEOUT SUBMITTALS

A. Sections 017300 - Execution and 017700 - Closeout Procedures: Closeout procedures.

B. Project Record Documents: Accurately record actual locations of property perimeter posts relative to property lines and easements.

C. Operation and Maintenance Data: Procedures for submittals.

1.6 QUALITY ASSURANCE

A. Supply material in accordance with CLFMI - Product Manual.

B. Perform installation in accordance with ASTM F567.

C. Perform Work in accordance with applicable federal, state, and municipal standards.

1.7 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years documented experience.

B. Installer: Company specializing in performing work of this section with minimum three years documented experience.

1.8 DELIVERY, STORAGE AND HANDLING

A. Deliver fence fabric and accessories in packed cartons or firmly tied rolls.

B. Identify each package with manufacturer's name.

C. Store fence fabric and accessories in secure and dry place.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers:
   1. Anchor Fence Inc.
   2. Cyclone Inc.
   3. Page Aluminized Steel Corp.

2.2 MATERIALS AND COMPONENTS

A. Materials and Components: Conform to CLFMI Product Manual.

B. Intermediate Posts: Type I round.

C. Terminal, Corner, Rail, Brace, and Gate Posts: Type I round.

D. Concrete: ASTM C94/C94M, Option A; Normal Portland Cement, 2,500 psi strength at 28 days.

2.3 ACCESSORIES

A. Caps: Cast steel galvanized; sized to post diameter, set screw retainer.

B. Fittings: Sleeves, bands, clips, rail ends, tension bars, fasteners and fittings.

C. Extension Arms: Cast steel galvanized to accommodate 6 strands of barbed wire, single arm, vertical sloped to 45 degrees.

D. Gate Hardware: Fork latch with gravity drop; two 180 degree gate hinges for each leaf.

2.4 GATES

A. General:
1. Gate Types, Opening Widths and Directions of Operation: As indicated on Drawings.
2. Factory assemble gates.
3. Design gates for operation by one person.

B. Swing Gates:
1. Fabricate gates to permit 180 degree swing.
2. Gates Construction: ASTM F900 with welded corners. Use of corner fittings is not permitted.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install framework, fabric, accessories and gates in accordance with ASTM F567.

B. Set intermediate, terminal, and gate posts plumb, in concrete footings with top of footing 2 inches above finish grade. Slope top of concrete for water runoff.

C. Line Post Footing Depth Below Finish Grade: ASTM F567.

D. Corner, Gate and Terminal Post Footing Depth Below Finish Grade: ASTM F567.

E. Brace each gate and corner post to adjacent line post with horizontal center brace rail and diagonal truss rods. Install brace rail one bay from end and gate posts.

F. Install top rail through line post tops and splice with 6 inch long rail sleeves.

G. Install center and bottom brace rail on corner gate leaves.

H. Install bottom tension wire stretched taut between terminal posts.

I. Install support arms sloped inward and attach barbed wire; tension and secure.

J. Support gates from gate posts. Do not attach hinged side of gate from building wall.

K. Install gate with fabric and barbed wire overhang to match fence. Install three hinges on each gate leaf, latch, catches, and drop bolt.

L. Install posts with 6 inches maximum clear opening from end posts to buildings, fences and other structures.

M. Excavate holes for posts to diameter and spacing indicated on Drawings without disturbing underlying materials.

N. Center and align posts. Place concrete around posts, and vibrate or tamp for consolidation. Verify vertical and top alignment of posts and make necessary corrections.

O. Extend concrete footings 1 inches above grade, and trowel, forming crown to shed water.

P. Allow footings to cure minimum 7 days before installing fabric and other materials attached to posts.

END OF SECTION

SECTION 329113

SOIL PREPARATION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Preparation of subsoil, low permeability soil, and protective cover soil.
   2. Soil testing.

B. Related Sections:
   1. Section 312213 - Rough Grading: Rough grading of site.
   2. Section 312317 - Trenching: Rough grading over cut.
   3. Section 329219 - Seeding

1.2 QUALITY ASSURANCE

A. Perform Work in accordance with applicable federal, state, and municipal standards.

1.3 COORDINATION

A. Section 013100 – Project Management and Coordination: Requirements for coordination.

PART 2 PRODUCTS

2.1 SOIL MATERIALS

A. Soil Types: As specified in Section 310513.

2.2 ACCESSORIES

A. Edging: Galvanized steel.

2.3 SOURCE QUALITY CONTROL

A. Section 014000 - Quality Requirements: Testing, inspection and analysis requirements.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 013100 – Project Management and Coordination: Verification of existing conditions before starting work.

B. Verify prepared soil base is ready to receive the Work of this section.

3.2 PREPARATION OF SOIL

A. Screen soil to remove particles larger than 1 inch.

B. Mechanical methods for removing large particles may be used for the grading layer.

END OF SECTION

SECTION 329219

SEEDING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Fertilizing.
   2. Seeding.
   3. Hydroseeding.
   4. Mulching.
   5. Maintenance.

B. Related Sections:
   1. Section 312213 - Rough Grading: Rough grading of site.
   2. Section 312317 - Trenching: Rough grading over cut.

1.2 REFERENCES

A. ASTM International:
   1. ASTM C602 - Standard Specification for Agricultural Liming Materials.

1.3 DEFINITIONS

A. Weeds: Vegetative species other than specified species to be established in given area.

1.4 SUBMITTALS

A. Section 013300 - Submittal Procedures Requirements for submittals.

B. Product Data: Submit data for seed mix, fertilizer, mulch, and other accessories.

C. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.5 CLOSEOUT SUBMITTALS

A. Sections 017300 - Execution and 017700 - Closeout Procedures: Requirements for submittals.

B. Operation and Maintenance Data: Include maintenance instructions, cutting method and maximum grass height.

1.6 QUALITY ASSURANCE

A. Provide seed mixture in containers showing percentage of seed mix, germination percentage, inert matter percentage, weed percentage, year of production, net weight, date of packaging, and location of packaging.

B. Perform Work in accordance with applicable federal, state, and municipal standards.

1.7 QUALIFICATIONS

A. Seed Supplier: Company specializing in manufacturing Products specified in this section with minimum three years documented experience.

B. Installer: Company specializing in performing work of this section with minimum three years documented experience approved by manufacturer.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.

B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.9 MAINTENANCE SERVICE

A. Sections 017300 - Execution and 017700 - Closeout Procedures: Requirements for maintenance service.

B. Maintain seeded areas for three months from Date of Substantial Completion.

PART 2 PRODUCTS

2.1 SEED MIXTURE

A. Furnish materials in accordance with applicable federal, state, and municipal standards.

2.2 ACCESSORIES

A. Mulching Material: Oat or wheat straw, free from weeds, foreign matter detrimental to plant life, and dry. Hay or chopped cornstalks are acceptable.

B. Fertilizer: Commercial grade; recommended for grass; of proportion necessary to eliminate deficiencies of topsoil ,as indicated in analysis, to the following proportions: Nitrogen 30 percent, phosphoric acid 30 percent, soluble potash 30 percent.

2.3 SOURCE QUALITY CONTROL

A. Section 014000 - Quality Requirements: Testing, inspection and analysis requirements.

B. Analyze to ascertain percentage of nitrogen, phosphorus, potash, soluble salt content, organic matter content, and pH value.

C. Provide recommendation for fertilizer and lime application rates for specified seed mix as result of testing.

D. Testing is not required when recent tests and certificates are available for imported topsoil. Submit these test results to testing laboratory. Indicate, by test results, information necessary to determine suitability.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 013100 – Project Management and Coordination: Verification of existing conditions before starting work.

B. Verify prepared soil base is ready to receive the Work of this section.

3.2 FERTILIZING

A. Apply fertilizer at application rate recommended by soil analysis.

B. Apply after smooth raking of topsoil and prior to roller compaction.

C. Do not apply fertilizer at same time or with same machine used to apply seed.

D. Mix fertilizer thoroughly into upper 2 inches of topsoil.

E. Lightly water soil to aid dissipation of fertilizer. Irrigate top level of soil uniformly.

3.3 SEEDING

A. Apply seed at rate of 4 lbs per 1000 sq ft evenly in two intersecting directions. Rake in lightly.

B. Do not seed areas in excess of that which can be mulched on same day.

C. Planting Season: Spring.

D. Do not sow immediately following rain, when ground is too dry, or when winds are over 12 mph.

3.4 HYDROSEEDING

A. Apply fertilizer, mulch and seeded slurry with hydraulic seeder at rate of 5 lbs per 1000 sq ft evenly in one pass.

B. After application, apply water with fine spray immediately after each area has been hydroseeded. Saturate to 4 inches of soil and maintain moisture levels two to four inches.

3.5 SEED PROTECTION

A. Identify seeded areas with stakes and string around area periphery.

B. Cover seeded slopes where grade is 4 inches per foot or greater with erosion fabric. Roll fabric onto slopes without stretching or pulling.

C. Lay fabric smoothly on surface, bury top end of each section in 6 inch deep excavated topsoil trench. Overlap edges and ends of adjacent rolls minimum 12 inches. Backfill trench and rake smooth, level with adjacent soil.

D. Secure outside edges and overlaps at 36 inch intervals with stakes.

E. Lightly dress slopes with topsoil to ensure close contact between fabric and soil.

F. At sides of ditches, lay fabric laps in direction of water flow. Lap ends and edges minimum 6 inches.

3.6 MAINTENANCE

A. Mow grass at regular intervals to maintain at maximum height of 2-1/2 inches. Do not cut more than 1/3 of grass blade at each mowing. Perform first mowing when seedlings are 40 percent higher than desired height.

B. Neatly trim edges and hand clip where necessary.

C. Immediately remove clippings after mowing and trimming. Do not let clippings lay in clumps.

D. Water to prevent grass and soil from drying out.

E. Control growth of weeds. Apply herbicides. Remedy damage resulting from improper use of herbicides.

F. Immediately reseed areas showing bare spots.

G. Repair washouts or gullies.

H. Protect seeded areas with warning signs during maintenance period.

END OF SECTION

SECTION 330513

MANHOLES AND STRUCTURES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Monolithic concrete manholes and structures with masonry transition to cover frame, covers, anchorage, and accessories.
2. Modular precast concrete manhole and structures with tongue-and-groove joints with masonry transition to cover frame, covers, anchorage, and accessories.
3. Monolithic FRP manholes and structures with transition to cover frame, covers, anchorage, and accessories.
4. Masonry manholes and structures with masonry transition to cover frame, covers, anchorage, and accessories.
5. Bedding and cover materials.

B. Related Sections:
1. Section 033000 - Cast-In-Place Concrete: Concrete type for manhole [and structures] base pad construction.
2. Section 310513 - Soils for Earthwork: Soil for backfill in trenches.
3. Section 310516 - Aggregates for Earthwork: Aggregate for backfill in trenches.
4. Section 312316 - Excavation: Excavating for manholes [and structures].
5. Section 312323 - Fill: Backfilling after manhole [and structure] installation.

1.2 REFERENCES

A. American Concrete Institute:
1. ACI 318 - Building Code Requirements for Structural Concrete.
2. ACI 530/530.1 - Building Code Requirements for Masonry Structures and Specifications for Masonry Structures.

B. ASTM International:
1. ASTM A48/A48M - Standard Specification for Gray Iron Castings.
2. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
3. ASTM A536 - Standard Specification for Ductile Iron Castings.

4. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
5. ASTM C55 - Standard Specification for Concrete Brick.
6. ASTM C62 - Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale).
7. ASTM C913 - Standard Specification for Precast Concrete Water and Wastewater Structures.
8. ASTM D3753 - Standard Specification for Glass-Fiber-Reinforced Polyester Manholes.

1.3 DESIGN REQUIREMENTS

A. Equivalent strength: Based on structural design of reinforced concrete as outlined in ACI 318.

B. Design of Lifting Devices for Precast Components: In accordance with ASTM C913.

C. Design of Joints for Precast Components: In accordance with ASTM C913; maximum leakage of 0.025 gallons per hour per foot of joint at 3 feet of head.

1.4 SUBMITTALS

A. Section 013300 - Submittal Procedures: Requirements for submittals.

B. Shop Drawings: Indicate manhole and structure locations, elevations, piping, and conduit sizes and elevations of penetrations.

C. Product Data: Submit cover and frame construction, features, configuration, and dimensions.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with applicable federal, state, and municipal standards.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years documented experience.

1.7 DELIVERY, STORAGE AND HANDLING

A. Comply with precast concrete manufacturer’s instructions for unloading, storing and moving precast manholes and structures.

B. Store precast concrete manholes and structures to prevent damage to Owner's property or other public or private property. Repair property damaged from materials storage.

C. Mark each precast structure by indentation or waterproof paint showing date of manufacture, manufacturer, and identifying symbols and numbers shown on Drawings to indicate its intended use.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Maintain materials and surrounding air temperature to minimum 50 degrees F prior to, during, and 48 hours after completion of masonry work.

PART 2 PRODUCTS

2.1 MANHOLES [AND STRUCTURES]

A. Manhole and Structure Sections: Reinforced precast concrete in accordance with ASTM C478 with gaskets in accordance with ASTM C923.

2.2 FRAMES AND COVERS

A. Manufacturers:
1. Barry Pattern and Foundry Co. Inc.
2. Campbell Foundry Co.
3. McKinley Iron Works
4. Neenah Foundry Co.

B. Product Description: ASTM A48/A48M, Class 30B Cast iron construction, machined flat bearing surface, removable lockable lid, closed cover design; live load rating of 200 psf.

2.3 COMPONENTS

A. Manhole and Structure Steps: Formed galvanized steel rungs; 3/4 inch diameter.

B. Base Pad: Cast-in-place concrete of type specified in Section 033000, leveled top surface.

2.4 CONFIGURATION

A. Steps: As required by applicable code.

2.5 FINISHING - STEEL

A. Galvanizing: ASTM A123/A123M; minimum 2.0 oz/sq ft coating thickness]; galvanize after fabrication.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 013000 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify items provided by other sections of Work are properly sized and located.

C. Verify built-in items are in proper location, and ready for roughing into Work.

D. Verify correct size of manhole and structure excavation.

3.2 PREPARATION

A. Coordinate placement of inlet and outlet pipe or duct sleeves required by other sections.

B. Do not install structures where site conditions induce loads exceeding structural capacity of structures.

C. Inspect precast concrete structures immediately prior to placement in excavation to verify structures are internally clean and free from damage. Remove and replace damaged units.

3.3 INSTALLATION

A. Excavation and Backfill:
   1. Excavate for manholes and structures in accordance with Section 312316 in location and to depth shown. Provide clearance around sidewalls of structure for construction operations.
   2. When groundwater is encountered, prevent accumulation of water in excavations. Place manholes and structures in dry trench.
   3. Where possibility exists of watertight structure becoming buoyant in flooded excavation, anchor structure to avoid flotation.

B. Place base pad, trowel top surface level.

C. Place manhole and structure sections plumb and level, trim to correct elevations, anchor to base pad.

D. Backfill excavations for manholes and structures in accordance with Section 312316.

E. Form and place manhole and structures cylinder plumb and level, to correct dimensions and elevations. As Work progresses, build fabricated metal items.

F. Cut and fit for pipe.

G. Grout base of shaft sections to achieve slope to exit piping. Trowel smooth. Contour to form continuous drainage channel as indicated on Drawings.

H. Set cover frames and covers level without tipping, to correct elevations.

I. Coordinate with other sections of Work to provide correct size, shape, and location.

3.4 MASONRY MANHOLE AND STRUCTURE INSTALLATION

A. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.

B. Form flush mortar joints.

C. Lay masonry units in full bed of mortar, with full head joints, uniformly jointed with other Work.

D. Install joint reinforcement 16 inches on center.

E. Place joint reinforcement in first horizontal joints above base pad and below cover frame opening.

F. As work progresses, build in fabricated metal items.

G. Cut and fit for pipe.

H. Set cover frames and covers level without tipping, to correct elevations.

I. Grout base of shaft sections to achieve slope to exit piping. Trowel smooth. Contour to form continuous drainage channel as indicated on Drawings.

J. Coordinate with other sections of Work to provide correct size, shape, and location.

3.5 PRECAST CONCRETE MANHOLE AND STRUCTURE INSTALLATION

A. Lift precast components at lifting points designated by manufacturer.

B. When lowering manholes and structures into excavations and joining pipe to units, take precautions to ensure interior of pipeline and structure remains clean.

C. Set precast structures bearing firmly and fully on crushed stone bedding, compacted in accordance with provisions of Section 312316 or on other support system shown on Drawings.

D. Assemble multi-section structures by lowering each section into excavation. Lower, set level, and firmly position base section before placing additional sections.

E. Remove foreign materials from joint surfaces and verify sealing materials are placed properly. Maintain alignment between sections by using guide devices affixed to lower section.

F. Joint sealing materials may be installed on site or at manufacturer’s plant.

G. Verify manholes and structures installed satisfy required alignment and grade.

H. Remove knockouts or cut structure to receive piping without creating openings larger than required to receive pipe. Fill annular space with mortar.

I. Cut pipe to finish flush with interior of structure.

J. Shape inverts through manhole and structures as shown on Drawings.

3.6 FRAME AND COVER INSTALLATION

A. Set frames using mortar and masonry. Install radially laid concrete brick with 1/4 inch thick vertical joints at inside perimeter. Lay concrete brick in full bed of mortar and completely fill joints. Where more than one course of concrete brick is required, stagger vertical joints.

B. Set frame and cover 2 inches above finished grade for manholes [and structures] with covers located within unpaved areas to allow area to be graded away from cover beginning 1 inch below top surface of frame.

3.7 FIELD QUALITY CONTROL

A. Section 014000 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

END OF SECTION

SECTION 33 42 13

PIPE CULVERTS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Corrugated steel pipe culvert.
   2. Concrete pipe culvert.
   3. Joints and accessories.
   4. Bedding.
   5. Slope protection at pipe end.

B. Related Sections:
   1. Section 033000 - Cast-In-Place Concrete: Concrete grout fill to adjacent construction.
   2. Section 310516 - Aggregates for Earthwork.
   3. Section 313700 - Riprap.

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:
   1. AASHTO M294 - Specification for Corrugated Polyethylene Pipe, 305- to 915-mm (12- to 36-In.) Diameter.
   2. AASHTO T99 - Standard Specification for the Moisture-Density Relations of Soils Using a 2.5 kg (5.5 lb) Rammer and a 305 mm (12 in.) Drop.
   3. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:
   1. ASTM A929/A929M - Standard Specification for Steel Sheet, Metallic-Coated by the Hot-Dip Process for Corrugated Steel Pipe.
   2. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
   3. ASTM D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6,000 ft-lbf/ft3 (2,700 kN-m/m3)).

4. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
5. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.3 SUBMITTALS

A. Section 013300 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data on pipe, fittings and accessories.

C. Manufacturer's Installation Instructions: Submit special procedures required to install Products specified.

1.4 CLOSEOUT SUBMITTALS

A. Sections 017300 - Execution and 017700 - Closeout Procedures: Requirements for submittals.

B. Project Record Documents:
1. Accurately record actual locations of pipe runs, connections, and invert elevations.
2. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

C. Operation and Maintenance Data: Procedures for submittals.

PART 2 PRODUCTS

2.1 STEEL CULVERT PIPE

A. Manufacturers:
1. Hall Pacific Corrugated Pipe.

B. Corrugated Steel Pipe: ASTM A929/A929M, galvanized.

C. Tapered Ends: Same material as pipe, machine cut, for joining to pipe end.

D. Coupling Bands: Galvanized steel, 0.052 inches thick x 10 inches wide; connected with two neoprene "O" ring gaskets and two galvanized steel bolts.

2.2 ACCESSORIES

A. Geotextile Fabric: Non-biodegradable, non-woven.

1. Alkzo Nobel Geosynthetic Co.
2. Huesker, Inc.
3. TC Mirafi.
4. Tenax Corp.
5. Tensar Earth Technologies, Inc.

B. Fill at Pipe Ends: Riprap as specified in Section 313700.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 013100 – Project Management and Coordination: Verification of existing conditions before starting work.

B. Verify trench cut is ready to receive work and excavations, dimensions, and elevations are as indicated on layout drawings.

3.2 PREPARATION

A. Remove large stones or other hard matter which could damage piping or impede consistent backfilling or compaction.

3.3 EXCAVATION AND BEDDING

A. Excavate culvert trench to 12 inches below pipe invert. Hand trim excavation for accurate placement of pipe to elevations indicated.

B. Place bedding material at trench bottom, level fill materials in one continuous layer not exceeding 6] inches compacted depth, compact to 95 percent.

C. Maintain optimum moisture content of bedding material to attain required compaction density.

D. Place filter fabric over compacted bedding.

3.4 INSTALLATION - PIPE

A. Lift or roll pipe into position. Do not drop or drag pipe over prepared bedding.

B. Shore pipe to required position; retain in place until after compaction of adjacent fills. Ensure pipe remains in correct position and to required slope.

C. Repair surface damage to pipe protective coating with two coats of compatible bituminous paint coating.

D. Install cover at sides and over top of pipe. Install top cover to minimum compacted thickness of 12 inches.

E. Maintain optimum moisture content of bedding material to attain required compaction density.

F. Place filter fabric over compacted cover.

G. Install culvert end gratings.

H. Refer to Section 312323 for backfilling and compacting requirements. Do not displace or damage pipe when compacting.

3.5 PIPE ENDS

A. Place fill at pipe ends as indicated on Drawings.

3.6 ERECTION TOLERANCES

A. Section 014000 - Quality Requirements: Tolerances.

B. Lay pipe to alignment and slope gradients noted on Drawings; with maximum variation from indicated slope of 1/8 inch in 10 feet.

C. Maximum Variation From Intended Elevation of Culvert Invert: 1/2 inch.

D. Maximum Offset of Pipe From Indicated Alignment: 1 inch.

E. Maximum Variation in Profile of Structure From Intended Position: 1 percent.

3.7 FIELD QUALITY CONTROL

A. Section 014000 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

B. Request inspection prior to and immediately after placing aggregate cover over pipe.

C. Compaction Testing: In accordance with ASTM D1557.

D. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.

3.8 PROTECTION OF INSTALLED CONSTRUCTION

A. Sections 017300 - Execution and 017700 Closeout Procedures: Protecting installed construction.

B. Protect pipe and bedding from damage or displacement until backfilling operation is in progress.

END OF SECTION