

**SANTA FE SOLID WASTE
MANAGEMENT AGENCY**

REQUEST FOR BIDS

BID NO. '20/13/B



**CONTRACT DOCUMENTS
AND SPECIFICATIONS**

FOR

CAJA DEL RIO LANDFILL

**PHASE 3 LANDFILL GAS (LFG) COLLECTION
SYSTEM EXPANSION**

March 26, 2020

**City Purchasing Office
City of Santa Fe
200 Lincoln Avenue, Room 122
Santa Fe, NM 87501**

**CAJA DEL RIO LANDFILL
PHASE 3 LANDFILL GAS (LFG) COLLECTION
SYSTEM EXPANSION
BID NO. '20/13/B**

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Section 1 Invitation to Bid

**SANTA FE SOLID WASTE MANAGEMENT AGENCY
ADVERTISEMENT FOR BIDS**

INVITATION TO BID NO.: **‘20/13/B**

SEALED BID FOR: Santa Fe Solid Waste Management Agency (SFSWMA)
Caja del Rio Landfill
Phase 3 Landfill Gas (LFG) Collection System Expansion

BID SCHEDULE: Advertisement: February 28, 2020
Issuance of Bid Packages: February 28, 2020
Pre-Bid Conference: March 10, 2020
Bid Opening: March 26, 2020
Bid Award (Joint Powers Board): April 16, 2020
Anticipated Notice to Proceed: September, 2020

TO BE OPENED AT: City Purchasing Office
City of Santa Fe
200 Lincoln Ave., Room 122
Santa Fe, NM 87501

TIME: 3:00 p.m. Local Prevailing Time

DATE: March 26, 2020

ADDRESSED TO: Ms. Fran Dunaway, CPO
Purchasing Officer
City of Santa Fe
200 Lincoln Ave., Room 122
Santa Fe, NM 87501

PRE-BID CONFERENCE: A **mandatory pre-bid conference** will be held at 10:00 a.m. on March 10, 2020, at the Caja del Rio Landfill, 149 Wildlife Way, Santa Fe, NM 87506. The pre-bid conference will provide significant aspects of the project and address any potential bidder questions. Immediately after the pre-bid conference, bidders may participate in an optional site visit of the landfill gas (LFG) collection system expansion project at the Caja del Rio Landfill with representatives from SCS Engineers (Engineer) and Santa Fe Solid Waste Management Agency (Owner).

The work to be performed for this project consists of furnishing all equipment, labor and materials for the Phase 3 Landfill Gas (LFG) Collection System Expansion Construction Plans, Specifications, and other Contract Documents ("Work").

Bids will be received until the above time, then opened publicly at the City of Santa Fe Purchasing Office, 200 Lincoln Ave., Room 122, Santa Fe, NM and read aloud. Bids received after the above time will be returned unopened.

Contract Documents may be reviewed at the following address:

Santa Fe Solid Waste Management Agency
Attn: Rosalie Cardenas
149 Wildlife Way
Santa Fe, NM 87506
(505) 424-1850
Email: rcardenas@sfswma.org

OBTAINING COPIES OF CONTRACT DOCUMENTS: Construction plans, specifications and other contract documents ("Contract Documents") may be obtained at the following address:

SCS Engineers
1901 Central Drive, Suite 550
Bedford, Texas 76021
Phone: (817) 571-2288
Email: bdevries@scsengineers.com

Complete sets of Contract Documents, including plans and specifications may be purchased directly from SCS Engineers. Contract Documents on a compact disc (CD) are available for \$25.00. Shipping options are also available by calling SCS Engineers at (817) 571-2288. Bidders are advised that the cost of the CD and any costs to reproduce hard copies of the Contract Documents or portions thereof are non-refundable. Bidders may also view the Contract Documents at <http://www.santafenm.gov/bids.aspx>.

Bids for the project will be presented in the form of a unit price or lump sum bid, as indicated on the **Bid Form**. The bidder shall bid all items listed. Each bidder must conform to the conditions specified in the section entitled **Instructions for Bidders**.

BID GUARANTEE: Each bid shall be accompanied by an acceptable form of bid guarantee (Bid Security) in an amount equal to at least five percent (5%) of the amount of the bid payable to the Santa Fe Solid Waste Management Agency as a guarantee that if the bid is accepted. The Bidder will execute the Contract and file acceptable **Performance and Labor and Material Payment Bonds** within fifteen (15) days after the award of the Contract.

The bid shall also include a signed **Non-Collusion Affidavit of Prime Bidder**, a signed **Certificate of Bidder Regarding Equal Employment Opportunity**, **Certificate of Nonsegregated Facilities**, and **Acknowledgement for Receipt of Addenda**. The successful Bidder shall, upon notice of award of Contract, secure from each of its subcontractors a signed **Non-Collusion Affidavit of Subcontractor**. Bidders must possess an applicable license to perform the Work under the Contract, provided for in the New Mexico Construction Industries Rules and Regulations.

The Work shall be substantially completed within thirty-five (35) calendar days following issuance of a notice-to-proceed to the successful Bidder. Following the thirty-five (35) calendar day contract time, the Owner will impose liquidated damages for failure to comply with this time limit, as specified in the Contract Documents.

Performance Bond and Labor & Material Payment Bond, each 100% of the Contract sum, will be required of the successful Bidder entering into the construction Contract.

Bidders agree to hold their bid prices for ninety (90) days subject to action by the Owner.

OWNERS RIGHTS RESERVED: The Santa Fe Solid Waste Management Agency, herein called the Owner, reserves the right to reject any or all bids and to waive any formality or technicality in any bid in the best interest of the Owner.

Wages paid on this project shall not be less than the minimum prevailing wage rates listed in the Contract Documents.

To receive a resident or resident veteran business preference pursuant to Section 13-4-2 NMSA 1978, a resident or resident veteran contractor shall submit with its bid a copy of a valid resident or resident veteran business certificate issued by the New Mexico Taxation and Revenue Department pursuant to Section 13-1-22 NMSA 1978.

EQUAL OPPORTUNITY IN EMPLOYMENT: All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, or national origin. Bidders on this work will be required to comply with the Presidents Executive Order No. 11246 as amended.

ATTEST:

 CFO 2/25/2020
Fran Dunaway, CFO
Purchasing Officer

Received by the Santa Fe New Mexican on February 25, 2020
To be published on February 28, 2020

Received by the Albuquerque Journal on February 25, 2020
To be published on February 28, 2020

Section 2 Instructions to Bidders

INSTRUCTIONS FOR BIDDERS

Bids are requested by the Santa Fe Solid Waste Management Agency for the Caja del Rio Landfill Phase 3 Landfill Gas (LFG) Collection System Expansion in accordance with the construction plans, specifications and contract documents.

1. **LOCATION AND DESCRIPTION OF WORK:** The Work under this Contract shall be performed on-site at the Caja del Rio Landfill, 149 Wildlife Way, Santa Fe, NM 87506. The Work consists of the drilling and completion of vertical LFG extraction wells and 2-inch well heads; installation of LFG header and lateral piping, connections to vertical wells and existing lateral/header piping; installation of a condensate management system, including installation of condensate force main and air supply line and connection to existing condensate management piping; and add alternates which may be required as a result of existing site conditions at the time of construction as shown and specified in the Contract Documents.
2. **TIME AND PLACE OF RECEIVING AND OPENING BIDS:** This information will be found in the "Advertisement for Bids" form attached hereto. A bid received after the specified time will not be considered and will be returned to the bidder unopened.
3. **SPECIFICATIONS:** The construction of this project will be in accordance with the General and Supplemental Conditions, Construction Plans and Technical Specifications contained in the Contract Documents.
4. **CONTRACT DOCUMENT DEPOSIT:** Complete sets of Contract Documents, including plans and specifications may be purchased directly from SCS Engineers by calling (817) 571-2288. Bidders are advised that the cost of the CD of the Contract Documents or portions thereof are non-refundable.
5. **DEFINED TERMS:** Terms used in these Instructions to bidders have the meanings assigned to them in this Request for Bids.
6. **EXAMINATION OF CONTRACT DOCUMENTS AND SITE:** Before submitting the bid, each bidder must (a) examine the Contract Documents thoroughly, (b) visit the site to familiarize itself with local conditions that may affect performance of the Work, (c) become familiar with Federal, State and local laws, ordinances, rules and regulations affecting performance of the Work; and (d) carefully correlate the bidder's observations with the requirements of the Contract Documents. The submission of a bid constitutes a representation by Bidder that Bidder has complied with every requirement of this paragraph and that the Contract Documents are sufficient in scope to indicate and convey an understanding of all terms and conditions for performance of the Work.
7. **THE COMPLETE CONTRACT DOCUMENTS CONTAIN THE FOLLOWING:** Everything that is contained herein, and General and Supplemental Conditions, Construction Plans and Technical Specifications referenced.
8. **INTERPRETATIONS, ADDENDA AND AMENDMENTS:** Any prospective bidder who desires to receive notice of interpretations, addenda, or amendments to this Request for Bids shall provide contact information to the Owner. All questions about the meaning or intent of the Contract Documents shall be submitted to the Owner in writing or e-mailed to Brett DeVries, bdevries@scsengineers.com. Replies will be issued by Addenda via emailed or faxed to all parties recorded by the Owner as having provided their contact information at

least two (2) days before the issuance of any Addenda. Questions received after March 17, 2020, will not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect. The Owner reserves the right to amend these time frames if a critical Addendum is required or if the bid deadline needs to be extended in the best interest of the Owner.

9. **BID SECURITY:** Bid Security (bid guarantee) in the amount of 5% of the bid shall accompany the Bid Form and must be in the form of a certified or bank cashier's check made payable to the Owner or a bid bond issued by a surety licensed to conduct business in the State of New Mexico, or otherwise supplied in a form satisfactory to the Owner. The Bid Security of the successful Bidder will be retained until the Bidder has executed the Construction Agreement and furnished the required Contract Security (Performance and Labor and Material Payment Bonds), after which it will be returned. If the Bidder fails to execute and deliver the Construction Agreement and furnish the required Contract Security within ten (10) days of the Notice of Award, the Owner may annul the Notice of Award and the Bid Security of that Bidder will be forfeited. The Bid Security of any Bidder whom the Owner believes to have a reasonable chance of receiving the award may be retained by the Owner until either the seventh (7) day after the executed Construction Agreement is delivered by the Owner to Contractor and the required Contract Security is furnished; or the sixty-first (61) day after the bid opening, whichever is earlier. Bid Security of unsuccessful Bidders will be returned within fifteen (15) days of the bid opening, or sooner.

10. **RESIDENT BUSINESS PREFERENCE:**

INTENT AND POLICY: The Owner recognizes that the intent of the state resident preference statute is to give New Mexico businesses and contractors an advantage over those businesses, manufacturers and contractors from outside the State of New Mexico. The underlying policy is to give a preference to those persons and companies who contribute to the economy of the State of New Mexico by maintaining plants and other facilities within the State and giving employment to residents of the State (1969 OP. Attorney. Gen. No. 6942).

APPLICATION: With acknowledgement of this intent and policy, the resident preference will only be applied when bids are received from in-state businesses, manufacturers and contractors that are within five (5) percent of low bids received from out-of-state businesses, manufacturers and contractors (NMSA 1978, §§ 13-1-21 and 13-4-2).

To be considered a resident for application of the preference, the in-state Bidder must include a valid resident business certificate or resident contractor certificate with the submitted bid.

NON-APPLICATION OF RESIDENT BUSINESS PREFERENCES:

If the lowest responsive bid and the next responsive bids within five (5) percent of the lowest bid are all from bidders who have submitted a resident business certificate or a resident contractor certificate, then the resident preference will not be applied.

Preferences shall not be applied when expenditures of Federal funds designated for a specific contract is involved.

NEW MEXICO RESIDENT VETERAN BUSINESS PREFERENCE: New Mexico law, NMSA 1978, § 13-1-22, provides a preference in the award of a public works contract for a "resident veteran business." Certification by the NM Department of Taxation and Revenue for the resident veteran business requires the Offeror to provide evidence of annual revenue

and other evidence of veteran status.

To receive a Resident Veteran Business Preference, the Bidder must submit with its bid, a copy of a valid Resident Veteran Business certificate issued by the New Mexico Department of Taxation and Revenue.

If an Offeror submits a copy of their Resident Veteran Business Preference certificate with its proposal, the preference is ten percent (10%).

Certification by the New Mexico Department of Taxation and Revenue for the resident veteran business requires the Bidder to provide evidence including, but not limited to, of gross revenues of up to three million dollars (\$3,000,000) in the preceding tax year.

A resident veteran business shall not benefit from the preference pursuant to this section for more than ten consecutive years. A person that is an owner of a business that is a resident veteran business shall not benefit from the preference pursuant to this section for more than ten consecutive years. A person shall not benefit from the provisions of this section based on more than one business concurrently.

The resident business preference is not cumulative with the resident veteran business preference.

11. **CONTRACT TIME:** The number of days for the completion of Work (the Contract Time) is thirty-five (35) calendar days as set forth in the Bid Proposal and will be included in the executed Construction Agreement.
12. **SUBCONTRACTORS, SUPPLIERS AND OTHERS:**
 - A. Contractor, in the bid documents, must identify in writing to the Owner those portions of the Work proposed to be subcontracted and after the Notice of Award, may only subcontract other portions of the work with the Owner's written consent.
 - B. Contractor shall list all Subcontractor names, addresses and type of work to be performed.
 - C. The Subcontractor threshold amount for this project is \$5,000. Contractor must list all subcontractors who will perform work in excess of this threshold. Only one Subcontractor may be listed for each category of work as defined by Contractor. The Subcontractors Fair Practices Act (13-4-31 through 14-3-43 NMSA 1988) shall apply.
 - D. **EXEMPTION:** In accordance with the "SUBCONTRACTOR'S FAIR PRACTICES ACT", Section 13-4-35, Contractor shall not be required to submit a Subcontractor's Listing form with the bid for contracts for construction, improvement or repair of streets or highways, including bridges, underground utilities within easements, including but not limited to water lines, sewer lines and storm sewer lines. The SUBCONTRACTOR'S FAIR PRACTICES ACT shall apply, however, to that portion of contracts for construction, improvement or repair of streets or highways which covers street lighting and traffic signals.
 - E. The Bidder shall list the Subcontractor(s) or material supplier(s) proposed to be used for all trades or items on the Subcontractor Listing Form attached to the Bid Form. The listing must include Subcontractors specifically identified in Paragraph D above. If awarded the contract, the Bidder shall use the firm listed, or itself if "General Contractor" has been listed, unless a request for a change or substitution is approved by the Owner of any reason as outlined herein.

- F. For subcontract work involving the application of the "SUBCONTRACTORS FAIR PRACTICES ACT," NMSA 1988 §§13-4-31 thru 13-4-42, these provisions shall apply:
1. Contractor may not substitute any Subcontractor listed, unless the Owner approves, in writing, the substitution based on these situations:
 - a. The Subcontractor fails or refuses to execute a contract due to bankruptcy or insolvency;
 - b. The Subcontractor fails or refuses to perform;
 - c. Contractor demonstrates to the Owner that the listed Subcontractor was due to an inadvertent clerical error;
 - d. Acceptance of an alternate by the Owner causes the original Subcontractor's bid not to be low;
 - e. Contractor can substantiate to the Owner that a Subcontractor's bid is incomplete, or;
 - f. The Subcontractor fails or refuses to meet the Contractor's bond requirements.
 2. Prior to approval of Contractor's request for substitution, the Owner shall give notice to the listed Subcontractor by certified mail. The Subcontractor shall have five (5) working days to submit written objections to the Owner. Failure to respond shall constitute Subcontractor's consent to the substitution. If written objections are received, the Owner shall give five (5) working days of a notice of a hearing.
 3. No other substitution of Subcontractors may be permitted by Contractor, other than for requested change orders to the Work or unless Contractor can show that no bids were received.
 4. It shall be the responsibility of the Subcontractor to be prepared to submit performance or payment bonds if requested by Contractor. If the Subcontractor does not furnish such requested bonding, Contractor may substitute another Subcontractor, as per the provisions of item 1 above. (The requirement of such bonding must be included in the Contractor's written or published request for Subcontract bids.)
 5. If Contractor does not specify a Subcontractor, then Contractor represents that Contractor shall perform the work.
 6. If Contractor is claiming an inadvertent clerical error, notice shall be given to the Owner and to the involved Subcontractor within two (2) working days of the bid opening. The Subcontractor shall have six (6) working days from the bid opening to submit written objections. Failure to respond shall constitute Subcontractor's agreement that an error was made.
 7. If determined to be an emergency, upon written finding, subcontracting may be permitted although not originally designated in the bid.
 8. Violation of this Act may allow the Owner to cancel the Contract or assess the Contractor a penalty up to ten (10) percent of the subcontract involved, but in no case less than the difference between the amount of the listed Subcontractor and the Subcontractor used. Contractor shall be entitled to a hearing after the notice of intent to assess a penalty.

9. If a hearing is held, the dispute shall be stated in writing and the Owner shall evaluate the issues of both sides and render a determination within ten (10) days of the hearing and provide the parties with a written copy of the decision by certified mail. The Owner may also refer the matter to arbitration.

13. BID FORM:

- A. The Bid Form is included in the Contract Documents.
- B. The Bid Form must be completed in either ink or typewritten. The bid price of each item on the form must be in numerals and written words; if an error in extensions in the unit price schedule occurs, the unit price in written words shall govern.
- C. Bids by corporations must be executed in the corporate name by the president or a vice president (or other corporate officer accompanied by evidence of authority to sign). The corporate address and state of incorporation shall be shown below the signature.
- D. Bids by partnerships must be executed in the partnership name and signed by a partner, and the title must appear under its signature and the official address of the partnership must be shown below the signature.
- E. All names must be typed or printed below the signature.
- F. The bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which shall be filled in on the Bid Form).

14. QUALIFICATION OF BIDS: All Bidders must have a valid New Mexico Contractor's License appropriate to the Work herein specified.

15. SUBMISSION OF BIDS: Bids shall be submitted at the time and place stated in the Advertisement for Bids and shall be enclosed in an opaque sealed envelope, marked with the project title, name and address of the Bidder, N.M. License Number, and accompanied by the Bid Security, list of subcontractors and other required documents. The Bid Form shall not be detached from the bound set of Contract Documents. All blanks must be filled in. Conditional bids will not be considered. The envelope shall be addressed to:

Ms. Fran Dunaway, CPO
Purchasing Officer
200 Lincoln Ave., Room 122
Santa Fe, NM 87501

16. MODIFICATION AND WITHDRAWAL OF BIDS: Bids may be modified or withdrawn by an appropriate document duly executed and delivered to the place where bids are to be submitted prior to the opening of bids.

17. BID OPENING PROCEDURE: The person or persons opening the bids shall verify the following bid components are included:

- A. Bid Proposal;
- B. Bid Form and Completed Bid Schedule - Name of Bidder and Bidder's New Mexico Contractor's License with a check for proper signatures, subcontractor/material listing, and acknowledgment of Addenda, if any;
- C. Bid Bond or Check for Bid Security;

- D. Non-Collusion Affidavit of Prime Bidder;
 - E. Non-Collusion Affidavit of Subcontractor(s);
 - F. Certification of Nonsegregated Facilities;
 - G. Certification of Bidder regarding Equal Employment Opportunity;
 - H. Certification of Subcontractor regarding Equal Employment Opportunity; and
 - I. Resident Veteran Contractor / Resident Contractor, if any.
18. BIDS TO REMAIN OPEN: If a Contract is to be awarded, it will be awarded to the lowest responsible base bid whose evaluation indicates to the Owner that the award will be in the best interests of the project and the Owner. All bids shall remain open for sixty (60) days after the day of the bid opening, but the Owner may, in its sole discretion, release any bid and return the Bid Security prior to that date.
19. AWARD OF CONTRACT:
- A. The Owner reserves the right to reject any and all bids and waive any and all informalities or technicalities and the right to disregard all nonconforming or conditional bids or counter bids.
 - B. If a Contract is to be awarded, it will be awarded to the lowest responsible base bid whose evaluation indicates to the Owner that the award will be in the best interests of the project and the Owner. Additive Alternatives may be added in total or in part, based on available funding or timing to be exercised by the Owner at its discretion. If Alternatives are to be awarded, the Owner will award the Contract to the responsible Bidder submitting the low base bid, excluding NMGRT, including any combination of any Additive Alternates or Deductive Alternates.
 - C. Simultaneously with delivery of the executed counterparts of the Agreement to the Owner, Contractor shall deliver to the Owner the required Contract Bonds.
 - D. If a Contract is to be awarded, the Owner will give the apparent successful Bidder a Notice of Award within thirty (30) days after the day of the bid opening.
 - E. If the lowest responsible Bidder has otherwise qualified, the lowest Bidder may negotiate with the Owner for a lower bid if the lowest bid is within ten percent over budgeted project funds. No change in the original scope of the project or terms and conditions will be allowed. Terms and conditions refer to the Contract requirements, warranties, and bonds. Negotiation may be permitted with product, materials, and equipment alternatives as determined to be in the best interest of the Owner.
20. WAGE RATES: The Bidder's attention is directed to the fact that wages to be paid on this project shall not be less than the prevailing wage rates as listed by the New Mexico State Labor and Industrial Commission. It shall be the successful Bidder's responsibility to inform itself thoroughly of all state, federal and local laws and statutes pertaining to the employment of labor, the freedom of organization and the conditions of employment and shall strictly adhere to such laws and regulations as are applicable. There shall be no discrimination because of race, creed, color, national origin, or political affiliation in the employment of persons qualified by training and experience for work under this contract.

21. REQUIRED SUBMITTALS:

- A. Bid Proposal;
- B. Bid Form and Completed Bid Schedule - Name of Bidder and Bidder's New Mexico Contractor's License with proper signatures, subcontractor/material listing, and acknowledgment of Addenda, if any;
- C. Bid Bond or Check for Bid Security;
- D. Non-Collusion Affidavit of Prime Bidder;
- E. Non-Collusion Affidavit of Subcontractor(s);
- F. Certification of Nonsegregated Facilities;
- G. Certification of Bidder regarding Equal Employment Opportunity;
- H. Certification of Subcontractor regarding Equal Employment Opportunity; and
- I. Resident Veteran Contractor / Resident Contractor (where applicable).

If any of the above requirements have not been met, the bid shall not be read.

- 22. **SUBSTITUTIONS:** The bid shall not be qualified by the bid of substitutions for specified materials or equipment.
- 23. **OWNER PREFERENCES:** In the construction of this project, the Owner has no preference for any process, type of equipment, or kind of material, but will consider all processes, types of equipment or kinds of material offered on a usual competitive basis if they are equal to that specified and will accomplish the intended purpose of the project. The Owner reserves the right to be the sole judge as to whether or not a different process, type of equipment or kind of material offered is equal to that specified.
- 24. **LICENSE OR ROYALTY FEES:** Licenses and/or royalty fees for products or processes must be paid for directly by Contractor.
- 25. **PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND:** Contractor will be required to furnish surety bonds in an amount at least equal to one hundred percent (100%) each of the total Contract price as security for the faithful performance of the Contract and payment for all labor and materials. The surety company must be authorized to do business in the State of New Mexico and must be acceptable to the Owner.
- 26. **ADDENDUM:** Each Addendum shall be made a part of the Contract Documents to the same extent as though contained in the original Documents and itemized listing thereof. Each Bidder shall acknowledge receipt of each Addendum in the space provided on the Bid Form.
- 27. **COLLUSION:** No Bidder shall be interested in more than one bid. Collusion among Bidders or the submission of more than one bid under different names by any firms or individual shall be cause for rejection of all bids in question without consideration.
- 28. **QUANTITIES:** The quantities set forth in the Bid Form are estimated quantities on which bids will be compared and which will be the basis for Award of Contract. Payment will be made for the Work actually performed.
- 29. **UTILITY INSPECTION:** All work done on the existing Owner owned utilities shall be inspected by a representative of the Owner before backfilling.
- 30. **POWER OF ATTORNEY:** Attorneys who sign bonds must attach certified effective copies

of their Power of Attorney to all bonds.

31. PRE-BID CONFERENCE: A **mandatory pre-bid conference** will be held at 10:00 a.m. on March 10, 2020, at the Caja del Rio Landfill, 149 Wildlife Way, Santa Fe, NM 87506, as specified in the Advertisement for Bids.
32. PROTEST PROCEDURE: Any Bidder or Contractor who is aggrieved in connection with the procurement may protest to the City Purchasing Director. The protest must be in writing and be submitted within fifteen (15) days after the facts or occurrences.

The complete procedures and requirements regarding protests and resolution of protests are available from the Purchasing Office upon request.

33. CONSIDERATION OF BIDS:

33.1 RECEIPT, OPENING AND RECORDING

Bids received on time will be opened publicly and will be read aloud, and an abstract of the amounts of the Base Bids and Alternates or Bid Items, if any, will be made available to the Bidders. Each Bid shall be open to public inspection.

33.2 BID EVALUATION AND AWARD

33.2.1 It is the intent of the Owner to award a contract to the lowest responsible base bid, provided the bid has been submitted in accordance with the requirements of the Contract Documents. The unreasonable failure of a Bidder to promptly supply information in connection with an inquiry with respect to responsibility is grounds for a determination that the Bidder is not a responsible Bidder. Post-bid information that may be required of a Contractor as to qualifications can include, but not be limited to those items listed in paragraph 33.

33.2.2 If the Base Bid is within the funds available to finance the construction Contract, Contract award will be made to the responsible Bidder submitting the low Base Bid, excluding New Mexico gross receipts tax (NMGRT). If alternatives are to be awarded, the Owner will award the Contract to the responsible Bidder submitting the low Base Bid, excluding NMGRT, including any combination of any Additive Alternates or Deductive Alternates.

33.2.3 Discrepancies in the Bid Form between words and figures will be resolved in favor of words. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

33.3 COMPETITIVE SEALED BIDS

Contracts solicited by competitive sealed bids shall require that the bid amount exclude applicable New Mexico gross receipts tax or applicable local option taxes, but that the Owner shall be required to pay the applicable taxes, including any increase in the applicable tax which becomes effective after the date the Contract is entered into. The applicable gross receipts tax shall be computed and shown as a separate amount on the Bid Form and each request for payment made under the Contract.

33.4 NOTICE OF AWARD

A written Notice of Award shall be issued by the Owner after review and approval of the bid and related documents by the SFSWMA Joint Powers Board, with reasonable promptness.

33.5 IDENTICAL BIDS

When two or more bids submitted are identical in price and are the low bid, the Owner may:

- A. Award under the multiple source award provisions of the Procurement Code;
- B. Award to a resident business if the identical low bids are submitted by a resident business and a nonresident business;
- C. Award to a resident manufacturer if the identical low bids are submitted by a resident manufacturer and a non-resident manufacturer;
- D. Award to one of the identical low Bidders;
- E. Reject all bids and re-solicit bids for the required services, construction, or items of tangible personal property.

33.6 CANCELLATION OF AWARD

When in the best interest of the public, the Owner may cancel the award of any contract at any time before the execution of the contract by all parties with no liability against the Owner.

34. POST-BID INFORMATION

34.1 RETURN OF BID SECURITY

All Bid Security in checks, except those retained by the owner per paragraph 8.0 of this Instruction to Bidders will be returned within fifteen (15) days following the bid opening. The retained Bid Security of the Successful Bidder(s), if in a check, will be returned after satisfactory Contract Bonds have been furnished and the Contract has been executed as stated in the above referenced paragraph 8.0. Bid Securities in Bid Bonds will be returned only upon the request of the unsuccessful Bidder but will be released by the Owner after the Notice of Award is sent by the Owner.

34.2 NOTICE TO PROCEED

The Owner will issue a written Notice to Proceed to Contractor stipulating the date from which Contract Time will be charged and the date Contract Time is to expire, subject to valid modifications of the Contract authorized by Change Order.

34.3 FAILURE TO EXECUTE CONTRACT

Failure to return the signed Contract with acceptable Contract Bonds and Certificate of Insurance within ten (10) calendar days after the Notice of Award shall be just cause for the cancellation of the Award and the forfeiture of the Bid Security, which shall become payable to Owner damages sustained. Award may then be made to the next lowest responsible Bidder, or the work may be re-advertised and constructed under contract or otherwise, as the Owner may decide.

34.4 CONTRACTOR'S QUALIFICATION STATEMENT

Bidder to whom award of a Contract is under consideration shall submit, upon request, information and data to prove that their financial resources, production or service facilities, personnel, and service reputation and experience are adequate to make satisfactory delivery of the services, construction, or items of personal property described in the Contract Documents and the form of submittal shall be a Statement of Bidder's Qualifications.

34.5 CONTRACT BONDS REQUIREMENTS

The Successful Bidder, where the Contract Price exceeds twenty-five thousand dollars (\$25,000), shall post a one hundred (100) percent Performance Bond and one hundred (100) percent Labor and Material Payment Bond. Bonds shall be executed on Performance Bond and Labor and Material Payment Bond forms attached hereto, with amount payable conforming to the terms of the Contract. Surety shall be a company licensed to do business in the State of New Mexico and acceptable to the Owner.

34.6 INSURANCE REQUIREMENTS

34.6.1 Contractor shall carry insurance to protect the Owner from and against all claims, demands, actions, judgments, costs, expenses and liabilities which may arise or result directly or indirectly from or by reasons of loss, injury or damage related to the Project. Contractor shall file with the Owner current certificates evidencing public liability insurance with limits as provided in the New Mexico Tort Claims Act, Section 41-4-19 NMSA 1978, and as that section or successors section may be amended from time to time. Contractor shall also carry such insurance as it deems necessary to protect it from all claims under any workmen's compensation law in effect that may be applicable to Contractor. All insurance required by the Contract shall be kept and remain in full force and effect for the entire life of the Contract.

34.6.2 The insurance coverage shall include worker's compensation, employer's liability, comprehensive general liability (Premises-Operations, independent contractors, products and completed operations, broad form property damage, contractual liability, explosion and collapse hazard, underground hazard, personal injury) comprehensive automobile liability (owned and hired), excess liability (umbrella form), and all-risk builder's risk.

34.6.3 All insurance coverage must be maintained for the entire term of the Contract. Products and completed operations coverage shall be maintained for a minimum period of one (1) year after final payment.

34.6.4 A valid certificate of insurance must be submitted to the Owner prior to issuance of a Notice-to-Proceed.

35. MINIMUM WAGE RATES

Any Contract entered into over sixty thousand dollars (\$60,000) for construction, alteration, demolition, or repair, or any combination of these, including painting and decorating of public buildings or public works, is subject to the minimum wage rate determination issued by the New Mexico State Labor and Industrial Commission for this project. Federal Funded Contracts over two thousand dollars (\$2,000) are subject to Federal Labor Standards Requirements of Davis Bacon Act. The Bidder shall ensure that, in submitting the bid, the minimum wage rate determination, included herein, has been utilized in preparing the bid.

Section 3 Bid Proposal

**BID PROPOSAL
BID No. '20/13/B
Caja del Rio Landfill
Phase 3 Landfill Gas (LFG) Collection System Expansion**

CONTRACTOR NAME _____

ADDRESS _____

To Santa Fe Solid Waste Management Agency, State of New Mexico (Owner):

The undersigned proposes to furnish and deliver all the material and to do all the work and labor required to construct "Caja del Rio Landfill Phase 3 Landfill Gas (LFG) Collection System Expansion" at the Caja del Rio Landfill in County of Santa Fe, State of New Mexico, according to the Construction Plans and Specifications at the prices named and shown on the Bid Form.

The undersigned declares that the only person or parties interested in the bid as principals are those named herein; that the bid is made without collusion with any person, firm or corporation; that the specifications have been carefully examined, including General and Supplemental Conditions, if any, and that the undersigned has made a personal examination of the site of the work has been made, that all the necessary machinery, tools, apparatus and other means of construction will be furnished and will do all the work and finish all the materials specified in the manner and the time prescribed; that the undersigned understands that the quantities are approximate only and subject to increase or decrease and that the undersigned is willing to perform any increased or decreased quantities of work at the unit price bid.

The undersigned hereby agrees to execute and deliver the Contract Construction Agreement and required bonds within ten (10) days, or such further time as allowed in writing by the Owner after receiving notification of the acceptance of this bid, and it is hereby mutually understood and agreed that if we do not, we forfeit the accompanying check or bid bond to the Owner as liquidated damages, and the said Owner may proceed to award the Contract to others.

The undersigned hereby agrees to commence the Work within ten (10) days, or such further time as may be allowed in writing by the after notification to proceed, and to complete the Work within thirty-five (35) calendar days, as outlined in the Contract Documents.

The undersigned proposes to furnish Labor and Material Payment Bond and Performance Bond in the amount of one hundred (100%) percent of the Contract Amount each as surety conditioned for the full complete and faithful performance of this contract, and to indemnify and save harmless the Owner from any damage or loss of which the Owner may become liable by the default of said Contractor, or for any neglect or carelessness on the part of said Contractor, its agents or employees, or by or on account of any act or omission of said Contractor, its servants, agents or employees, in performance of this contract.

Signature

Date

Section 4 Bid Form

**BID FORM
SANTA FE SOLID WASTE MANAGEMENT AGENCY
CAJA DEL RIO LANDFILL
PHASE 3 LANDFILL GAS (LFG) COLLECTION SYSTEM EXPANSION
CONTRACTING AGENCY AND OWNER**

NAME: _____

ADDRESS: _____

Hereinafter called Bidder.

TO: Ms. Fran Dunaway, CPO
Purchasing Officer
City of Santa Fe
200 Lincoln Ave., Room 122
Santa Fe, NM 87501

Hereinafter called Owner,

**BID FOR: CAJA DEL RIO LANDFILL
PHASE 3 LANDFILL GAS (LFG) COLLECTION SYSTEM EXPANSION**

Santa Fe Solid Waste Management Agency: Bid No. '20/13/B

1. The Bidder has familiarized itself with the existing conditions on the Project area affecting the cost of the Work and with the Contract Documents which includes:
 - a. Advertisement for Bids
 - b. Instructions for Bidders
 - c. Bid Proposal
 - d. Bid Form
 - e. Supplemental Bid Forms
 - f. Construction Agreement
 - g. Performance Bond
 - h. Labor and Material Payment Bond
 - i. General and Supplemental Conditions
 - j. Technical Specifications
 - k. Construction Plans.

The Bidder hereby proposes to furnish all supervision, technical personnel, labor, materials, tools, appurtenances, equipment, and services (including all utility and transportation services) required to construct and complete the improvements, all in accordance with the above listed Documents.

2. Bidder agrees to perform all work to construct the Phase 3 Landfill Gas (LFG) Collection System Expansion described in the Specifications and shown on the Construction Plans for

the following unit prices provided in the Bid Schedule (Unit Prices) below.

Amounts are to be shown in both words and figures. If discrepancy occurs, the amount in words will govern.

**BID SCHEDULE (UNIT PRICES)
BID NO. '20/13/B**

Item No.	Estimated Quantity	Brief Description of Item With Unit Bid Price in Words	Unit Bid Price In Figures	Extended Total
1.	L.S.	Mobilization/Demobilization. _____ Dollars and Cents per lump sum.	\$	\$
2.	593 V.F.	Vertical LFG Extraction Wells (6-inch HDPE SDR 11 Pipe) _____ Dollars and Cents per vertical foot.	\$	\$
3.	4 H.R.	Drilling Past Obstructions/Drilling less than 5 foot/hour _____ Dollars and Cents per hour.	\$	\$
4.	50 V.F.	Wellbore Abandonment _____ Dollars and Cents per vertical foot.	\$	\$
5.	8 E.A.	Standard Wellhead Installation _____ Dollars and Cents per each.	\$	\$
6.	1 E.A.	Remote Wellhead Installation _____ Dollars and Cents per each.	\$	\$

Item No.	Estimated Quantity	Brief Description of Item With Unit Bid Price in Words	Unit Bid Price In Figures	Extended Total
7.	9 E.A.	Extraction Well Soil and Aggregate Mound _____ Dollars and Cents per each.	\$	\$
8.	500 L.F.	2-inch HDPE SDR 9 Air Supply Line (Common Pipe Trench) _____ Dollars and Cents per linear foot.	\$	\$
9.	500 L.F.	2-inch HDPE SDR 11 Condensate Forcemain (Common Pipe Trench) _____ Dollars and Cents per lump sum.	\$	\$
10.	2,000 L.F.	6-inch HDPE SDR 17 Lateral _____ Dollars and Cents per linear foot.	\$	\$
11.	500 L.F.	8-inch HDPE SDR 17 Header _____ Dollars and Cents per linear foot.	\$	\$
12.	2 E.A.	Tie-in to Existing 6-inch Lateral/Lateral Riser (Below Grade) _____ Dollars and Cents per each.	\$	\$
13.	1 E.A.	Tie-in to Existing 12-inch Blind Flange, 2-inch Air Supply Line, and 2-inch Condensate Forcemain (Below Grade) _____ Dollars and Cents per lump sum.	\$	\$

Item No.	Estimated Quantity	Brief Description of Item With Unit Bid Price in Words	Unit Bid Price In Figures	Extended Total
AA-1	80 L.F.	12-inch CMP Road Crossing <hr/> Dollars and Cents per linear foot.	\$	\$
AA-2	40 L.F.	18-inch CMP Road Crossing <hr/> Dollars and Cents per linear foot.	\$	\$
AA-3	600 L.F.	Trench Depth Between 5-feet and 7-feet <hr/> Dollars and Cents per linear foot.	\$	\$
AA-4	600 L.F.	Trench Depth Between 7-feet and 10-feet <hr/> Dollars and Cents per linear foot.	\$	\$

SUBTOTAL - BASE BID AMOUNT FOR ITEMS 1-12: \$ _____

SUBTOTAL – ADD ALTERNATE AMOUNT FOR ITEMS 1-4 \$ _____

NEW MEXICO GROSS RECEIPTS TAX FOR BASE BID @ 7.125% \$ _____

NEW MEXICO GROSS RECEIPTS TAX FOR ADD ALTERNATE @ 7.125%
\$ _____

TOTAL – BASE BID PLUS NM GROSS RECEIPTS TAX \$ _____

TOTAL – BASE BID, ADD ALTERNATE, PLUS NM GROSS RECEIPTS TAX
\$ _____

- In submitting this bid, the Bidder understands that the right is reserved by the Owner to reject any irregular or all bids, waive any technicalities in the bids, and accept the bid deemed to be in the best interest of the SFSWMA and that the Owner intends to award one contract (if at all) for the items bid. If written notice of the acceptance of this bid is mailed, telegraphed, or otherwise delivered to the undersigned within sixty (60) days after the opening thereof or at any time thereafter before this bid is withdrawn, the undersigned agrees to execute and deliver.

4. All Addenda pertaining to this project shall be acknowledged by the Bidder in the spaces provided below (Indicate none if no Addenda have been issued):

Addendum		Acknowledged by Bidder or its Authorized Representative	Date Acknowledged
No.	Date		

Failure to acknowledge the receipt of all Addenda may be considered sufficient grounds for disqualification of the Bidder and rejection of the bid. A record of all Addenda and copies of same will be available to all qualified bidders from SFSWMA, 149 Wildlife Way, Santa Fe, NM, 87506, after 3:00 p.m., two (2) days prior to the letting. It shall be the bidder's responsibility to become advised of all Addenda prior to submitting their bid.

5. The Bidder agrees to commence work under this Contract within ten (10) days after a date to be specified in a written Notice to Proceed (NTP) from the Owner or its authorized agents, and fully complete construction within thirty-five (35) calendar days. Bidder further agrees to substantially complete the Work or to pay liquidated damages as provided in the Contract Documents.

6. Security for five (5) percent of the bid in form of (check one):

_____ Bid Bond _____ Certified Check

is attached hereto in accordance with the "Instructions for Bidders".

7. This Bid Form contains the following:

- A. Bid Proposal;
- B. Bid Form, subcontractor/material list, and acknowledgment of Addenda, if any;
- C. Bid Bond or Check for Bid Security;
- D. Non-Collusion Affidavit of Prime Bidder;
- E. Non-Collusion Affidavit of Subcontractor(s);
- F. Certification of Nonsegregated Facilities;
- G. Certification of Bidder regarding Equal Employment Opportunity;
- H. Certification of Subcontractor regarding Equal Employment Opportunity; and
- I. Resident Veteran Business / Resident Business (if applicable).

Respectfully Submitted:

Name of Bidder _____

By: _____

(Signature)

Title: _____

Date: _____

Official Address: _____

Telephone No.: _____

New Mexico Contractor's License Number and Types:

Contractor's CRS Number: _____

Federal Tax ID No. (EIN): _____

Resident Business Preference Certification Number

if any: _____

Resident Veteran Business/Contractor Preference Certification Number

if any: _____

TWO COMPLETE COPIES OF THE BID SUBMITTAL IS REQUIRED

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Section 5 Bid Bond

BID BOND

A. KNOW ALL MEN BY THESE PRESENTS, THAT WE _____, hereinafter called the PRINCIPAL, and the _____, of _____ a Corporation duly organized under the laws of the State of _____, and, authorized to do business in the State of New Mexico, hereinafter called the SURETY, as SURETY are held and firmly bound unto the Santa Fe Solid Waste Management Agency, hereinafter called the OBLIGEE, in the sum of _____ dollars (\$ _____) for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted the accompanying bid, dated _____, 2020, (Bid No. '20/13/B) for the construction of the Santa Fe Solid Waste Management Agency, Caja del Rio Landfill Phase 3 Landfill Gas (LFG) Collection System Expansion, 149 Wildlife Way, Santa Fe, NM 87506.

B. NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof or in the event of the failure of the Principal to enter such contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

C. SIGNED AND SEALED THIS _____ DAY OF _____, 2020.

	_____ BIDDER
	By: _____ (SEAL) PRINCIPAL
_____ WITNESS	
	By: _____ SURETY
_____ WITNESS	
	_____ TITLE

Section 6 Supplemental Bid Forms

SUPPLEMENTAL BID FORMS

<u>INDEX</u>	<u>PAGE</u>
Non-Collusion Affidavit of Prime Bidder	6-3
Non-Collusion Affidavit of Subcontractor(s)	6-5
Certification of Non-Segregated Facilities	6-6
Certification of Bidder Regarding Equal Employment Opportunity	6-7
Certification of Subcontractor Regarding Equal Employment Opportunity	6-8

NON-COLLUSION AFFIDAVIT OF PRIME BIDDER

STATE OF NEW MEXICO

COUNTY OF _____

_____ being first duly sworn, deposes and says that:

- (1) The undersigned is the _____ of _____ the Bidder that has submitted the attached Bid Proposal;
- (2) The undersigned is fully informed respecting the preparation and contents of the attached Bid Proposal and of all pertinent circumstances respecting such bid;
- (3) Such bid is genuine and is not a collusive or sham bid;
- (4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affidavit, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham bid in connection with the Contract for which the attached bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communications or conference with any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the Contracting Agency or any person interested in the proposed Contract; and
- (5) The price or prices quoted in the attached bid are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affidavit.

(SIGNED) _____

TITLE _____

SUBSCRIBED AND SWORN to before me this _____ day of _____ 2020.

NOTARY PUBLIC

My Commission Expires _____

SUBCONTRACTS

- A. Contractor shall not execute an agreement with any subcontractor or permit any subcontractor to perform any work included in this contract until Contractor has submitted a Non-Collusion Affidavit from the Subcontractor, which is in substantially the form that follows page 6-5 and has received written approval of such Subcontractor from the Owner.
- B. No proposed Subcontractor shall be disapproved by the Owner except for cause.
- C. Contractor shall be as fully responsible to the Owner for the acts and omissions of the Subcontractors and of persons either directly or indirectly employed by them, as Contractor is for the acts and omissions of persons directly employed by Contractor.
- D. Contractor shall cause appropriate provision to be inserted in all subcontracts relative to the work to require compliance by each Subcontractor with the applicable provisions of the Contract for the improvements embraced.
- E. Nothing contained in the Contract shall create any contractual relationship between any Subcontractor and the Owner.

NON-COLLUSION AFFIDAVIT OF SUBCONTRACTOR

STATE OF NEW MEXICO

COUNTY OF _____

_____ being first duly sworn, deposes and says that:

- (1) The undersigned is the _____ of _____, hereinafter referred to as "Subcontractor".
- (2) The undersigned is fully informed respecting the preparation and contents of the Subcontractor's proposal submitted by Subcontractor to _____, Contractor, for certain work in connection with the _____ contract pertaining to the project in _____.
- (3) Such Subcontractors proposal is genuine and is not a collusive or sham proposal.
- (4) Neither Subcontractor nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affidavit, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham bid in connection with the Contract for which the attached bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communications or conference with any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the Contracting Agency or any person interested in the proposed Contract; and
- (5) The price or prices quoted in Subcontractor's proposal are fair and proper and are, not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affidavit.

(SIGNED) _____

(PRINT NAME) _____

TITLE _____

SUBSCRIBED AND SWORN to before me this _____ day of _____ 2020.

NOTARY PUBLIC

My Commission Expires _____

CERTIFICATION OF NON-SEGREGATED FACILITIES

(Applicable to construction contracts and related subcontracts exceeding \$10,000 which are not exempt from the Equal Opportunity Clause).

The construction Contractor certifies that Contractor does not maintain or provide for its employees any segregated facilities at any of its establishments and does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The construction Contractor certifies further that Contractor will not maintain or provide for its employees any segregated facilities at any of its establishments, and that Contractor will not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The construction Contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract. As used in this certification, the term "segregated facilities" means any waiting room, work areas, restrooms and washrooms, restaurants and other eating areas, time clock, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreating or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise. The construction Contractor agrees that (except where Contractor has obtained identical certifications from proposed subcontractors for specific time periods) Contractor will obtain identical certifications from proposed SUBCONTRACTORS prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause and that Contractor will retain such certifications in its files.

(SIGNED) _____

PRINT NAME _____

TITLE _____

SUBSCRIBED AND SWORN to before me this _____ day of _____ 2020.

NOTARY PUBLIC

My Commission Expires _____

**CERTIFICATION OF BIDDER REGARDING
EQUAL EMPLOYMENT OPPORTUNITY
INSTRUCTIONS**

This certification is required pursuant to Executive Order 11246 (30 F. R. 12319-25). The implementing rules and regulations provide that any bidder or prospective contractor, or any of their proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract or subcontract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicates that the bidder has not filed a compliance report due under applicable instructions, such bidder shall be required to submit a compliance report within seven (7) calendar days after bid opening. No contract shall be awarded unless such report is submitted.

CERTIFICATION OF BIDDER

Bidder's Name: _____

Address: _____

1. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.
Yes _____ No _____

2. Compliance reports were required to be filed in connection with such contract or subcontract.
Yes _____ No _____

Certification: The information above is true and complete to the best of my knowledge and belief.

NAME AND TITLE OF SIGNER (PLEASE TYPE)

SIGNATURE

DATE

**CERTIFICATION OF SUBCONTRACTOR REGARDING
EQUAL EMPLOYMENT OPPORTUNITY**

INSTRUCTIONS

This certification is required pursuant to Executive Order 11246 (30 F. R. 12319-25). The implementing rules and regulations provide that any bidder or perspective contractor, or any of their proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract or subcontract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicates that the bidder has not filed a compliance report due under applicable instructions, such bidder shall be required to submit a compliance report within seven (7) calendar days after bid opening. No contract shall be awarded unless such report is submitted.

CERTIFICATION OF SUBCONTRACTOR

Subcontractor's Name: _____

Address: _____

1. Subcontractor has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.
Yes _____ No _____
2. Compliance reports were required to be filed in connection with such contract or subcontract.
Yes _____ No _____

Certification: The information above is true and complete to the best of my knowledge and belief.

NAME AND TITLE OF SIGNER (PLEASE TYPE)

SIGNATURE

DATE

Section 7

Agreement between Owner and Contractor

SANTA FE SOLID WASTE MANAGEMENT AGENCY

**AGREEMENT BETWEEN
OWNER AND CONTRACTOR**

**CAJA DEL RIO LANDFILL
PHASE 3 LANDFILL GAS (LFG) COLLECTION SYSTEM EXPANSION**

This Agreement, entered into this _____ day of _____, 2020, by and between the **SANTA FE SOLID WASTE MANAGEMENT AGENCY**, herein known as the Owner, and _____, herein known as Contractor for the following:

PROJECT: Caja del Rio Landfill
Phase 3 Landfill Gas (LFG) Collection System
Expansion

PROJECT No.: '20/13/B

ENGINEER OF RECORD: SCS Engineers
1901 Central Drive, Suite 550
Bedford, TX 76021

DISTRIBUTION:

OWNER SANTA FE SOLID WASTE MANAGEMENT AGENCY

CONTRACTOR _____

ENGINEER SCS Engineers

USER AGENCY _____

OTHER _____

RECITALS

WHEREAS, the Owner, through its Solid Waste Joint Powers Board, is authorized to enter into a construction contract for the project; and

WHEREAS, the Owner, has let this contract according to the established State and Local Purchasing procedures for contracts of the type and amount let; and

WHEREAS, the Solid Waste Joint Powers Board approved this contract at its meeting of _____, 2020.

The OWNER and Contractor agree:

ARTICLE 1
THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, the Conditions of the Contract (General, Supplementary, and other Conditions), the Construction Plans, the Specifications, all Addenda issued prior to and all Modifications issued after execution of this Agreement. These documents form the Contract, and all are as fully a part of the Contract as if attached to this Agreement or repeated herein.

ARTICLE 2
THE WORK

Contractor shall perform all the Work required by the Contract Documents for SFSWMA, Phase 3 Landfill Gas (LFG) Collection System Expansion, 149 Wildlife Way, Santa Fe, NM 87506.

ARTICLE 3
TIME OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

The work to be performed under this Contract shall be commenced not later than ten (10) consecutive calendar days after the date of written Notice to Proceed. Substantial Completion for the Bid Work shall be achieved within thirty-five (35) calendar days after the date of written Notice to Proceed [the Contract Time] except as hereafter extended by valid written Change Order by the Owner.

ARTICLE 4
CONTRACT SUM

The Owner shall pay Contractor in current funds for the performance of the Work, subject to additions and deductions by Change Order as provided in the Contract Documents, the Contract Sum of _____ dollars (\$_____).

The Contract Sum is determined as follows:

Base Bid Work	\$ _____
Add Alternate Work	\$ _____
NM Gross Receipts Tax	\$ _____
TOTAL	\$ _____

ARTICLE 5
PROGRESS PAYMENTS

Based upon Application for Payment submitted to the Owner by Contractor and Certificates for Payment issued by the Owner, the Owner shall make progress payments on account of the Contract Sum to Contractor as provided in the Contract Documents for the period ending the last day of the month. Owner, Contractor or subcontractor shall not retain, withhold, hold back or in any other manner not pay amounts owed for work completed as provided in the Contract Documents in accordance with the Prompt Payment Act (Section 57-28-5, NMSA 1978). Not later than thirty (30) calendar days following the end of the period covered by the Application for Payment, the amount of the progress payment request that is properly allocable to labor, materials, and equipment incorporated in the work, less the aggregate of previous payments made by the Owner; and upon substantial completion of the entire work, less such amounts as the Owner shall determine for all incomplete work and unsettled claims as provided in the Contract Documents shall be paid.

ARTICLE 6
LIQUIDATED DAMAGES

Should Contractor neglect, refuse, or otherwise fail to complete the work within the Contract Period of thirty-five (35) calendar days or any extension in the Contract thereof, Contractor agrees to pay to the Owner the amount of one thousand dollars (\$1,000) per consecutive calendar day of delay until the work is completed and accepted or until voided pursuant to the provisions of the General Conditions of the Contract, not as a penalty, but as liquidated damages for such breach of the Contract.

ARTICLE 7
FINAL PAYMENT

Final payment, constituting the entire unpaid balance of the Contract Sum, shall be paid by the Owner to Contractor within thirty (30) calendar days after all deficiencies to the Contract document noted during the Substantial Completion Inspection and listed on the attachment to the Certificate of Substantial Completion have been corrected, and provided the Contract has been fully performed and a final Certificate for Payment has been issued by the Owner. In addition, Contractor shall provide to the Owner a certified statement of Release of Lien (AIA Document G706A or approved form), Consent of Surety, Warranty from Prime Contractor, Warranties from Suppliers and Manufacturers, training sessions, equipment/operating manuals, and as-built drawings.

ARTICLE 8
SCHEDULE

Contractor shall, within five (5) working days after the effective date of Notice to Proceed, prepare and submit five (5) copies of a progress schedule covering project operations for the Contract Period of thirty-five (35) calendar days for the Work. This progress schedule shall be of the type generally referred to as a Critical Path Method (CPM), Critical Path Schedule (CPS), and Critical Path Analysis (CPA), and other similar designations. The CPM shall be used to control the timing and sequences of the project. All work shall be done in accordance with the CPM Planning and Scheduling. A written statement of explanation shall be submitted with the

progress schedule. All costs incurred by Contractor to implement the CPM shall be borne by Contractor, and are part of their contract.

ARTICLE 9
GENERAL AND SPECIAL PROVISIONS

- 9.1 This Agreement shall be governed exclusively by the provisions hereof and by the laws of the State of New Mexico as the same from time to time exist.
- 9.2 Terms used in this agreement, which are defined in the Conditions of the Contract, shall have the meanings designated in those Conditions.
- 9.3 Contractor shall defend, indemnify, and hold harmless the Owner against any and all injury, loss, or damage, including, without limitation, cost of defense, court costs and attorney's fees arising out of the acts, errors, or omissions of Contractor.
- 9.4 An enumeration of Contractor's Liability Insurance requirements appears in the General Conditions of the Contract for construction. Insurance requirements are also described in the Instructions to the Bidder section of the Project Manual. Contractor shall maintain adequate insurance in at least the aggregate maximum amounts in which the Owner could be liable under the New Mexico Tort Claims Act and shall provide proof of such insurance coverage to the SFWMA. It is the sole responsibility of Contractor to be in compliance with the law.
- 9.5 This Agreement shall not become effective until approved by the SFSWMA Joint Powers Board and signed by all parties required to sign this Agreement.
- 9.6 Contractor and Contractor's agents and employees are independent contractors performing professional and technical services for the Owner and are not employees of the Owner. Contractor and Contractor's agents and employees shall not accrue leave, retirement, insurance, bonding, use of Owner's vehicles, or any other benefits afforded to employees of the Owner as a result of this Agreement.
- 9.7 Contractor shall not subcontract any portion of the services to be performed under this Agreement without the prior written approval of the Owner.
- 9.8 Contractor shall maintain detailed time records, which indicate the date, time and nature of services rendered. These records shall be subject to inspection by the Owner, the Department of Finance and Administration and the State Auditor. The Owner shall have the right to audit the billing both before and after payment; payment under this Agreement shall not foreclose the right of the Owner to recover excessive illegal payments.
- 9.9 The terms of this Agreement are contingent upon sufficient appropriations and authorization being made by the Owner for the performance of this Agreement. If sufficient appropriations and authorization are not made by the Owner, this Agreement shall terminate upon written notice being given by the Owner to Contractor. The Owner's decision as to whether sufficient appropriations are available shall be accepted by Contractor and shall be final.
- 9.10 Contractor warrants that Contractor presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance or services required under this Agreement.

- 9.11 Contractor hereby warrants that Contractor is in compliance with the Americans with Disabilities Act, 29 CFR 1630.
- 9.12 Contractor, upon final payment of the amounts due under this Agreement, releases the Owner, the Owner's officers and employees, and SFSWMA from all liabilities and obligations arising from or under this Agreement, including, without limitation, to all damages, losses, costs, liability, and expenses, including, without limitation, to attorney's fees and costs of litigation that Contractor may have.
- 9.13 Contractor agrees not to purport to bind the Owner to any obligation not assumed herein by the Owner, unless Contractor has express written authority to do so, and then only within the strict limits of that authority.
- 9.14 Notices. Any and all notices provided for hereunder shall be in writing and shall be deemed delivered, given and received when personally delivered, or five (5) days after the same are deposited in the United States mail, postage prepaid, registered or certified mail, return receipt requested, addressed to the applicable party at the address indicated below for such party, or at such other address as may be designated by either party in a written notice to the other party.

OWNER: Santa Fe Solid Waste Management Agency
Attn: Mr. Randall Kippenbrock, P.E.,
Executive Director
149 Wildlife Way
Santa Fe, NM 87506

CONTRACTOR: _____

New Mexico Contractor License No. _____

- 9.15 Gender, Singular/Plural. Words of any gender used in this Agreement shall be held and construed to include any other gender, and words in the singular number shall be held to include the plural, unless the context otherwise requires.
- 9.16 Captions and Section Headings. The captions and section headings contained in this Agreement are for convenience of reference only, and in no way limit, define, or enlarge the terms, scope and conditions of this Agreement.
- 9.17 This document shall be executed in no less than five (5) counterparts, each of which shall be deemed an original.
- 9.18 Certificates and Documents Incorporated. All certificates and documentation required by the provisions of the Agreement shall be attached to this Agreement at the time of execution, and are hereby incorporated by reference as though set forth in full in this Agreement to the extent they are consistent with its conditions and terms.

- 9.19 Separability. If any clause or provision of this Agreement is illegal, invalid or unenforceable under present or future laws effective during the term of this Agreement, then and in that event, it is the intention of the parties hereto that the remainder of this Agreement shall not be affected thereby.
- 9.20 Waiver. No provision of this Agreement shall be deemed to have been waived by either party unless such waiver be in writing signed by the party making the waiver and addressed to the other party; nor shall any custom or practice which may evolve between the parties in the administration of the terms hereof be construed to waive or lessen the right of either party to insist upon the performance by the other party in strict accordance with the terms hereof. Further, the waiver by any party of breach by the other party of any term, covenant, or condition hereof shall not operate as a waiver of any subsequent breach of the same or any other term, covenant, or condition thereof.
- 9.21 Entire Agreement. This Agreement represents the entire Contract between the parties and, except as otherwise provided herein, may not be amended, changed, modified, or altered without the written consent of the parties hereto. This Agreement incorporates all of the conditions, agreements, and understandings between the parties concerning the subject matter of this Contract, and all such conditions, understandings, and agreements have been merged into this written Agreement. No prior conditions, agreements, or understandings, verbal or otherwise, of the parties or their agents shall be valid or enforceable unless embodied in this written Agreement.
- 9.22 Interchangeable Terms. For purposes of all provisions within this Agreement and all attachments hereto, the terms "Agreement" and "Contract" shall have the same meaning and shall be interchangeable.
- 9.23 Words and Phrases. Words, phrases, and abbreviations that have well-known technical or trade meanings used in the Contract documents shall be used according to such recognized meaning. In the event of a conflict, the more stringent meaning shall govern.
- 9.24 Relationship of Contract Documents. The Contract Documents are complementary, and any requirement of one contract document shall be as binding as if required by all.
- 9.25 Pursuant to Section 13-1-191, NMSA 1978, reference is hereby made to the Criminal Laws of New Mexico (including Sections 30-14-1, 30-24-2, and 30-41-1 through 30-41-3, NMSA 1978) which prohibit bribes, kickbacks, and gratuities, the violation of which constitutes a felony. Further, the Procurement Code (Sections 13-1-28 through 13-1-199, NMSA 1978) imposes civil and criminal penalties for its violation.
- 9.26 By entering into this Agreement, the parties do not intend to create any right, title or interest in or for the benefit of any person other than the Owner and Contractor. No person shall claim any right, title or interest under this Agreement or seek to enforce this Agreement as a third-party beneficiary of this Agreement.

9.27 This Agreement is entered into as of the day and year first written above.

SANTA FE SOLID WASTE MANAGEMENT AGENCY - JOINT POWERS BOARD

CHAIRPERSON

ATTEST:

GERALDINE SALAZAR
SANTA FE COUNTY CLERK

CONTRACTOR:

APPROVED AS TO FORM:

NANCY R. LONG
SFSWMA ATTORNEY

Section 8 Performance Bond

PERFORMANCE BOND

A. KNOW ALL MEN BY THESE PRESENTS, that _____ (here insert the name and address or legal title of Contractor) as Principal, hereinafter called Contractor, and _____ (here insert the legal title of Surety) as Surety, hereinafter called Surety, are held firmly bound unto the Santa Fe Solid Waste Management Agency as Oblige, hereinafter called Owner, in the amount of _____ DOLLARS (\$ _____) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

B. WHEREAS, Contractor has by written agreement dated, _____, 2020, entered into a Contract with the Santa Fe Solid Waste Management for the _____ in accordance with Construction Plans and Specifications prepared by the Owner which Contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

C. NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

1. The Surety hereby waives notice of any alteration or extension of time made by the Owner.
2. Whenever Contractor shall be, and declared by the Owner to be in default under the Contract, the Owner having performed Owner's obligations thereunder, the Surety may promptly remedy the default or shall promptly:
 - a. Complete the Contract in accordance with its terms and conditions or
 - b. Obtain a bid or bids for submission to Owner for completing the Contract in accordance with its terms and conditions, and upon determination by Owner and Surety of the lowest responsible bidder, arrange for a contract between such bidder and Owner, and make available as work progresses (even though there should be a default or a secession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price, but not exceeding, including other costs and damages for which the surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Contract price" as used in this paragraph, shall mean the total amount payable by Owner to Contractor under the Contract and any amendments thereto, less the amount properly paid by Owner to Contractor.
3. Any suit under this bond must be instituted before the expiration of two (2) years

from the date on which final payment under the contract falls due.

4. No right of action shall accrue on this bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators or successors of the Owner.

(SIGNED) _____

TITLE _____

SUBSCRIBED AND SWORN to before me this _____ day of _____, 2020.

NOTARY PUBLIC

My Commission Expires _____

CONTRACTOR- PRINCIPAL

By: _____

Title: _____

Approved as to form:

SURETY

Title: _____

Countersigned: _____

Surety's Authorized New Mexico Agent

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Section 9 Labor and Material Payment Bond

LABOR AND MATERIAL PAYMENT BOND

A. KNOW ALL MEN BY THESE PRESENTS THAT

(HERE INSERT THE NAME AND ADDRESS OR LEGAL TITLE OF CONTRACTOR) as
Principal, hereinafter called Principal, and _____

(HERE INSERT THE LEGAL TITLE OF SURETY)

As Surety, hereinafter called Surety, are held and firmly bound unto the Santa Fe Solid Waste Management Agency as Obligee, hereinafter called Owner, for the use and benefits of claimants as herein below defined, in the amount of _____
DOLLARS, (\$ _____) for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

B. WHEREAS, Principal has by written agreement dated _____,
2020 entered into a contract with the Santa Fe Solid Waste Management Agency for the

in accordance with Construction Plans and Specifications prepared by the Santa Fe Solid Waste Management Agency, which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

C. NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise, it shall remain in full force, subject, however, to the following conditions.

1. A claimant is defined as one having a direct contract with the principal or with a subcontractor of the principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.
2. The above-named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for payment of any cost or expenses of any such suit.
3. No suit or action shall be commenced hereunder by any claimant:
 - a. Unless claimant, or other than one having a direct contract with the principal, shall have written notice to any two of the following: the Principal, the Owner, or the Surety above named, within ninety (90) days after such said claim is made, stating

- with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed.
- b. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, Owner or Surety, at any place where an office is regularly maintained for the transaction of business, or revised in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such services need not be made by a public officer.
 - c. After the expiration of one (1) year following the date on which Principal ceased work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
 - d. Other than in a state court of competent jurisdiction in and for the Owner or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.
4. The amount of this bond shall not be reduced by and to the extent of any payments made in good faith hereunder, inclusive of the payment by Surety of mechanics liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.

SIGNED AND SEALED on _____, 2020

In the presence of:

NOTARY PUBLIC

My Commission Expires: _____

NAME OF COMPANY

By: _____

Title: _____

SURETY

By: _____

Title: _____

Countersigned:

Surety's Authorized New Mexico Agent

This bond is issued simultaneously with performance bond in favor of contracting agency for the faithful performance of the contract.

Section 10 General Conditions

NOTICE

This document has been prepared by the Owner for use in construction projects.

DOCUMENT - SECTION 00710

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

NOTE: THIS DOCUMENT HAS IMPORTANT LEGAL CONSEQUENCES; CONSULTATION WITH AN ATTORNEY IS ENCOURAGED WITH RESPECT TO ITS COMPLETION OR MODIFICATION.

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ARTICLE 1

CONTRACT DOCUMENTS

1.1 DEFINITIONS

1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents consist of the Owner-Contractor Agreement, the Conditions of the Contract (General, Supplementary, and Other Conditions), the Construction Plans, the Specifications, and all Addenda issued prior to and all Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a written interpretation issued by the Engineer pursuant to Subparagraph 2.2.6, or (4) a written order for a minor change in the work issued by the Engineer pursuant to Paragraph 12.4. The Contract Document does not include Bidding Documents such as the Advertisement or Invitation to Bid, the Instructions to Bidders, sample forms, Contractor's bid, or portions of Addenda relating to any of these, or any other documents unless specifically enumerated in the Owner-Contractor Agreement.

1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. This Contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification as defined in Subparagraph 1.1.1. The Contract Documents shall not be construed to create any contractual relationship of any kind between the Engineer and Contractor, but the Engineer shall be entitled to performance of obligations intended for its benefit, and to enforcement thereof. Nothing contained in the Contract Documents shall create any contractual relationship between the Owner or the Engineer and any Subcontractor or Sub-subcontractor.

1.1.3 THE WORK

The Work comprises the design and completed construction required by the Contract Documents, and includes design specifications, and all labor necessary to produce such construction, and all materials and equipment incorporated or to be incorporated in such construction.

1.1.4 THE PROJECT

The Project is the total design and construction of which the work performed under the Contract Documents may be the whole or a part.

1.2 EXECUTION, CORRELATION AND INTENT

1.2.1 At least five (5) copies of the Contract Documents shall be signed by the Owner and Contractor. If either the Owner or Contractor or both do not sign the Conditions of the Contract, Construction Plans, Specifications, or any of the other Contract Documents, the Engineer shall identify such Documents.

1.2.2 By executing the Contract, Contractor represents that Contractor has visited the site, familiarized itself with the local conditions under which the work is to be performed, and correlated its observations with the requirements of the Contract Documents.

1.2.3 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the work. The Contract Documents are complementary, and what is required by any one shall be as binding as if required by all work not covered in the Contract Documents will not be required unless it is consistent therewith and is reasonably inferable therefrom as being

necessary to produce the intended results. Words and abbreviations which have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings. In the event of a conflict between the Contract Documents, the more stringent requirements shall govern.

- 1.2.4 The organization of the Specifications into divisions, sections and articles, and the arrangement of Construction Plans shall not control Contractor in dividing the work among Subcontractors or in establishing the extent of work to be performed by any trade.

1.3 OWNERSHIP AND USE OF DOCUMENTS

- 1.3.1 All designs, construction plans, technical specifications, notes, and other work developed in the performance of this Contract shall be and remains the sole property of the Owner and may be used on any other work without additional compensation to the Engineer. With respect thereto, the Engineer agrees not to assert any rights and not to establish any claims under the design patent of copyright laws.

ARTICLE 2

ENGINEER/ OWNER

2.1 DEFINITION

- 2.1.1 The Engineer is the person lawfully licensed to practice Engineering, or an entity lawfully practicing Engineering identified as such in the Owner-Contractor Agreement, and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term “Engineer” means the Owner or authorized representative.

2.2 ADMINISTRATION OF THE CONTRACT

- 2.2.1 The Engineer will administer the Contract as hereinafter described.
- 2.2.2 The Engineer will be the Owner’s representative during construction and until final payment is due. The Engineer will advise and consult with the Owner. The Owner’s instructions to Contractor shall be forwarded through the Engineer. The Engineer shall have the authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified by written instrument in accordance with Subparagraph 2.2.17.
- 2.2.3 The Engineer shall submit to the Owner, for approval, a list of critical inspection points based upon the construction schedule furnished by the Contract (Paragraph 4.11.1). The Engineer and its staff (including the on-site representative, if agreed upon) shall make visits to the site at those critical points and at other times as the Engineer deems appropriate during the progress of the work. Additionally, the Engineer shall familiarize itself with the progress and quality of the work and determine if the work is proceeding in accordance with the Contract Documents. On the basis of on-site observations, as an Engineer, it shall guard the Owner against defects and deficiencies in the construction. Should the Engineer determine that any portion of the work varies from the intent of the Contract Documents it shall immediately notify Contractor and the Owner of the non-compliance and the nature of the work required to correct such non-compliance. The Engineer shall recommend to the Owner, in writing, to issue a “stop work order” for any portion of the work that does not substantially comply with the intent of the Contract Documents, except as follows.
- 2.2.4 The Engineer shall not be responsible for construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the work. Additionally, the Engineer shall not be responsible for Contractor’s failure to carry out the work in accordance with the Contract Documents. The Engineer shall reject work which does not meet or exceed the

standards established by the Contract Documents. Whenever, in Engineer's reasonable opinion, it considers it necessary or advisable to ensure the proper implementation of the intent of the Contract Documents, it will have authority to require special inspection or testing of any work in accordance with the provisions of the Contract Documents whether or not such work be then fabricated, installed or completed.

- 2.2.5 The Engineer shall at all times have access to the work wherever it is in preparation and progress. Contractor shall provide facilities for such access so the Engineer may perform its functions under the Contract Documents.
- 2.2.6 Based on the Engineer's observations and an evaluation of Contractor's Application for Payment, the Engineer will determine the amounts owing to Contractor and will issue Certificates for Payment in such amounts, as provided in Paragraph 9.4.
- 2.2.7 The Engineer will be the interpreter of the requirements of the Contract Documents and the judge of the performance there under by both the Owner and Contractor.
- 2.2.8 The Engineer will render interpretations necessary for the proper execution or progress of the work, with reasonable promptness and in accordance with any time limit agreed upon. Either party to the Contract may make written request to the Engineer for such interpretations.
- 2.2.9 Claims, disputes, and other matters in question between Contractor and the Owner relating to the execution or progress of the work or the interpretation of the Contract Documents shall be referred to the Engineer for decision which it will render in writing within a reasonable time.
- 2.2.10 All interpretations and decisions of the Engineer shall be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of Construction Plans. In its capacity as interpreter and judge, it will endeavor to secure faithful performance by both the Owner and Contractor, will not show partiality to either, and will not be liable for the result of any interpretation or decision rendered in good faith in such capacity.
- 2.2.11 The Engineer's decisions in matters relating to artistic effect may be final if consistent with the intent of the Contract Documents.
- 2.2.12 The Engineer will have authority to reject work which does not conform to the Contract Documents. Whenever, in its opinion, it considers it necessary or advisable for the implementation of the intent of the Contract Documents, it will have authority to require special inspection or testing of the work in accordance with Subparagraph 7.7.2 whether or not such work be fabricated, installed or completed. However, neither the Engineer's authority to act under this Subparagraph 2.2.12, nor any decision made by Engineer in good faith either to exercise or not to exercise such authority, shall give rise to any duty or responsibility of the Engineer to Contractor, any Subcontractor, any of their agents or employees, or any other person performing any of the work.
- 2.2.13 The Engineer will review and approve or take other appropriate action upon Contractor's submittals such as Shop Drawings, Product Data and samples, but only for conformance with the design concept of the work and with the information given in the Contract Documents. Such action shall be taken with reasonable promptness so as to cause no delay. The Engineer's approval of a specific item shall not indicate approval of an assembly of which the item is a component.
- 2.2.14 The Engineer will prepare Change Orders in accordance will Article 12 and will have authority to order minor changes in the work as provided in Subparagraph 12.4.1.
- 2.2.15 The Engineer will conduct inspections to determine the dates of Substantial Completion and Final Completion and forward the dates to the Owner for the Owner's review of written warranties and related documents required by the Contract and assembled by Contractor and will issue a final

Certificate of payment upon compliance with the requirements of Paragraph 9.9

- 2.2.16 If the Owner and Engineer agree, the Engineer will provide one or more Project Representatives to assist the Engineer in carrying out its responsibilities at the site. The duties, responsibilities and limitations of authority of any such Project Representative shall be as set forth in an exhibit to be incorporated in the Contract Documents.
- 2.2.17 The duties, responsibilities and limitations of authority of the Engineer as the Owner's representative during construction as set for in the Contract Documents will not be modified or extended without written consent of the Owner, Contractor and the Engineer.
- 2.2.18 In case of the termination of the employment of the Engineer, the Owner shall appoint an Engineer whose status under the Contract Documents shall be that of the former Engineer.

ARTICLE 3

OWNER

3.1 DEFINITION

- 3.1.1 The Owner is the person or entity identified as such in the Owner-Contractor Agreement and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term "Owner" means the Owner or its authorized representative.

3.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

- 3.2.1 The Owner shall, at the request of Contractor, at the time of execution of the Owner-Contractor Agreement, furnish to Contractor reasonable evidence that it had made financial arrangements to fulfill its obligations under the Contract. Unless such reasonable evidence is furnished, Contractor is not required to execute the Owner-Contractor Agreement or to commence the work.
- 3.2.2 The Owner shall furnish all surveys describing the physical characteristics, legal limitation and utility locations for the site for the Project, and a legal description of the site.
- 3.2.3 Except as provided in Subparagraph 4.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments, and charges required for the construction, use or occupancy of permanent structures or for permanent changes in existing facilities.
- 3.2.4 Information or services under the Owner's control shall be furnished by the Owner with reasonable promptness to avoid delay in the orderly progress of the work.
- 3.2.5 Unless otherwise provided in the Contract Documents, Contractor will be furnished, free of charge, all copies of Construction Plans and Specifications reasonable necessary for the execution of the work.
- 3.2.6 The Owner shall forward all instructions to Contractor through the Engineer.
- 3.2.7 The foregoing is in addition to other duties and responsibilities of the Owner enumerated herein and especially those in respect to work by Owner or by Separate Contractors, Payments and Completion, and Insurance in Articles 6, 9 and 11 respectively.

3.3 OWNER'S RIGHT TO STOP THE WORK

- 3.3.1 If Contractor fails to correct defective work as required by Paragraph 13.2 or persistently fails to carry out the work in accordance with the Contract Documents, the Owner, by a written order

signed personally or by an agent specifically so empowered by the Owner in writing, may order Contractor to stop the work, or any portion thereof, until the cause of such order has been eliminated; however, this right of the Owner to stop the work shall not give rise to any duty on the part of the Owner to exercise this right for the benefit of Contractor or any other person or entity, except to the extent required by Subparagraph 6.1.3.

3.4 OWNER'S RIGHT TO CARRY OUT THE WORK

- 3.4.1 If Contractor defaults or neglects to carry out the work in accordance with the Contract Documents and fails within seven (7) days after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, after seven (7) days following receipt by Contractor of an additional written notice and without prejudice to any other remedy it may have, make good such deficiencies. In such case, an appropriate Change Order shall be issued deducting from the payments then or thereafter due Contractor the cost of correcting such deficiencies, including compensation for the Engineer additional services made necessary by such default, neglect or failure. Such action by the Owner and the amount charged to Contractor are both subject to the prior approval of the Engineer. If the payments then or thereafter due to Contractor are not sufficient to cover such amount, Contractor shall pay the difference to the Owner.

ARTICLE 4

CONTRACTOR

4.1 DEFINITION

- 4.1.1 Contractor is the person or entity identified as such in the Owner-Contractor Agreement and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term "Contractor" means Contractor or its authorized representative.

4.2 REVIEW OF CONTRACT DOCUMENTS

- 4.2.1 Contractor shall carefully study and compare the Contract Documents and shall at once report to the Engineer any error, inconsistency or omission it may discover. Contractor shall not be liable to the Owner or the Engineer for any damage resulting from any such errors, inconsistencies or omissions in the Contract Documents. Contractor shall perform no portion of the work at any time without Contract Documents or, where required, approved Shop Drawings, Product Data or Samples for such portion of the work.

4.3 SUPERVISION AND CONSTRUCTION PROCEDURES

- 4.3.1 Contractor shall supervise and direct the work, using its best skill and attention. Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the work under the contract.
- 4.3.2 Contractor shall be responsible to the Owner for the acts and omissions of its employees, Subcontractors and their agents and employees, and other persons performing any of the work under a contract with Contractor.
- 4.3.3 Contractor shall not be relieved from its obligations to perform the work in accordance with the Contract Documents either by the activities or duties of the Engineer in its administration of the Contract, or by inspections, tests or approvals required or performed under Paragraph 7.8 by persons other than Contractor.

4.4 LABOR AND MATERIALS

- 4.4.1 Unless otherwise provided in the Contract Documents, Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the work, whether or not incorporated or to be incorporated in the work.
- 4.4.2 Contractor shall at all times enforce strict discipline and good order among its employees and shall not employ on the work any unfit person or anyone not skilled in the task assigned to Contractor.

4.5 WARRANTY

- 4.5.1 Contractor warrants to the Owner and Engineer that all materials and equipment furnished under this Contract will be new unless otherwise specified, and that all work will be of good quality, free from faults and conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. If required by the Engineer, Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. This warranty is not limited by the provisions in Paragraph 13.2.
- 4.5.2 Contractor shall and hereby does warrant and guarantee all workmanship, labor, and materials performed and supplied by Contractor or its Subcontractors for a period of one (1) year from the date of completion as evidenced by the date of the Engineer's Final Certificate of Payment of this Contract. This also included all labor required for replacing materials or equipment found to be defective with the one (1) year period. All guarantees for a longer period of time required by the work sections of these specifications shall be secured by Contractor from Subcontractors and delivered to the Engineer and are hereby warranted by Contractor as much as if countersigned by Contractor.

4.6 TAXES

- 4.6.1 Contractor shall pay all sales, consumer gross receipts tax, use and other similar taxes for the work or portions thereof provided by Contractor which are legally enacted at the time bids are received, whether or not yet effective.

4.7 PERMITS, FEES AND NOTICES

- 4.7.1 Unless otherwise provided in the Contract Documents, Contractor shall secure and pay for the building permit and for all other permits and governmental fees, licenses and inspections necessary for the proper execution and completion of the work which are customarily secured after execution of the Contract and which are legally required at the time the bids are received.
- 4.7.2 Contractor shall give all notices and comply with all laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the work.
- 4.7.3 It is not the responsibility of Contractor to make certain that the Contract Documents are in accordance with applicable laws, statutes, building codes and regulations. If Contractor observes that any of the Contract Documents are at variance therewith in any respect, Contractor shall promptly notify the Engineer in writing, and any necessary changes shall be accomplished by appropriate Modification.
- 4.7.4 If Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Engineer, Contractor shall assume full responsibility therefore and shall in turn notify the Owner's Representative of such action.

4.8 ALLOWANCES

- 4.8.1 Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by these allowances shall be supplied for such amounts and by these allowances shall be supplied for such amounts and by such persons as the Owner may direct, but Contractor will not be required to employ persons against whom Contractor makes a reasonable objection.
- 4.8.2 Unless otherwise provided in the Contract Documents:
- A. These allowances shall cover the cost to Contractor, less any applicable trade, discount of the materials and equipment required by the allowance delivered at the site, and all applicable taxes;
 - B. Contractor's costs for unloading and handling on the site, labor, installations costs, overhead, profit and other expenses contemplated for the original allowance shall be included in the Contract Sum and not in this allowance;
 - C. Whenever the cost is more than or less than the allowance, the Contract Sum shall be adjusted accordingly by Change Order, the amount of which will recognize changes, if any, in handling costs on the site, labor, installation costs, overhead, profit and other expenses.

4.9 SUPERINTENDENT

- 4.9.1 Contractor shall employ a competent Superintendent and necessary assistants who shall be in attendance at the project site during the progress of the work. The Superintendent shall represent Contractor, and all communications given to the Superintendent shall be as binding as if given to Contractor. Important communications shall be confirmed in writing. Other communications shall be so confirmed on written request in each case.

4.10 PROGRESS SCHEDULES

- 4.10.1 Contractor shall, within five (5) working days after the effective date of Notice to Proceed, furnish five copies of a preliminary progress schedule covering its operations for the first ninety (90) days. The preliminary progress schedule shall be a bar graph or an arrow diagram showing the items Contractor intends to commence and complete the various work stages, operations, and contract means planned to be started during the first thirty-five (35) days.
- 4.10.2 Unless otherwise specified in the Special Provisions, Contractor shall submit for approval by the Engineer, within five (5) working days after the effective date of Notice to Proceed, five copies of a critical-path-type analysis. The critical-path-type analysis shall include as a minimum; a graphic network diagram; a computer printout or list of activities; and a brief written explanation of the proposed schedule.
- 4.10.3 The graphic network diagram shall consist of an arrow diagram or a geometric figure and connector diagram which clearly depicts the major subdivisions of the work, the order and interdependencies of activities planned by Contractor, as well as, activities by others which affect Contractor's planning. The intended time for starting and completing each activity, the associated float time and the quantity and kinds of major equipment to be used shall be shown for each construction operation. For those activities lasting more than thirty (30) days, either the estimated time for 25-50 and 75 percent completion or other significant milestones in the course of the activity, shall be shown. In addition to the actual construction operations, the network diagram shall show such items as submittal of samples and Shop Drawings, delivery of materials and equipment, construction in the area by other forces, traffic detour controls, and other significant items related to the progress of construction. The graphic network diagram shall be printed or neatly and legibly drawn to a linear scale.

- 4.10.4 Activities shown shall be coordinated insofar as possible with the Contract Bid items, types of work and maximum number of activities of each type.
- 4.10.5 The computer printout or list of activities shall show for each activity the estimated duration, the earliest starting and finishing dates, the latest starting and finishing dates, and float or slack time. Activities which constitute the critical sequence shall be identified showing total job duration equal to the Contract Time.
- 4.10.6 The written explanation shall contain sufficient information to describe the construction methods to be used and to enable the Engineer to evaluate the schedule and supporting analysis for validity and practicability. If the schedule or written explanation is not accepted by the Owner, Contractor shall resubmit the rejected items within ten (10) days after rejection.
- 4.10.7 The analysis may employ the use of an electric computer or may consist of a non-computer analysis if the latter is suitable to analyze the number of activities required. The adequacy of the system selected shall be acceptable to the Engineer.
- 4.10.8 Contractor shall submit to the Engineer monthly progress status reports on dates directed by the Engineer. Such reports shall list those uncompleted activities which have less than thirty (30) days float and which are either in progress or scheduled to be started within the next reporting period. For each of the listed activities, the following shall be shown:
- A. Starting date scheduled in last critical-path-analysis.
 - B. Actual or intended starting date.
 - C. Revised activity duration, if any.

If the noted starting dates or duration delay the scheduled project completion date, the delay shall be named. Reasons for the delay shall be given with an explanation of Contractor's proposed corrective action. The Contract shall also note each activity completed during the report period.

- 4.10.9 A revised critical-path-type analysis shall be submitted when one or more of the following conditions occur:
- A. When an approved change Order significantly affects the contract completion date, or the sequence of activities.
 - B. When progress of any critical activity falls significantly behind the scheduled progress.
 - C. When delay on a non-critical activity is of such magnitude as to change the course of the critical path.
 - D. At any time Contractor elects to change any sequence of activities affecting the critical path.

The revised analysis shall be made in the same form and detail as the original submittal and shall be accompanied by an explanation of the reasons for the revisions.

- 4.10.10 Contractor shall prosecute the work in accordance with the latest critical path type analysis. Deviations therefrom shall be submitted to the Engineer for review. In the event that the progress of items along the critical path is delayed, Contractor shall revise its planning to include additional forces, equipment, shifts or hours necessary to meet the contract completion date. All additional cost resulting therefrom will not be borne by the Owner.

4.11 DOCUMENTS AND SAMPLES AT THE SITE

- 4.11.1 Contractor shall maintain at the site, for the Owner, one record copy of all Construction Plans, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to record all changes made during construction, and approved Shop Drawings, Product Data and Samples. These shall be available to the Owner upon completion of the work.

4.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- 4.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the work by Contractor or any Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the work.
- 4.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by Contractor to illustrate a material, product or system for some portion of the work.
- 4.12.3 Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the work will be judged.
- 4.12.4 Contractor shall review, approve and submit, with reasonable promptness and in such sequence as to cause no delay in the work or in the work of the Owner of any separate Contractor, all Shop Drawings, Product Data and Sample required by the Contract Documents.
- 4.12.5 By approving and submitting Shop Drawings, Product Data and Samples, Contractor represents that it has determined and verified all materials, field measurements, and field construction criteria related thereto, or will do so, and that it has checked and coordinated the information contained within such submittals with the requirements of the work and of the Contract Documents.
- 4.12.6 Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Engineer's approval of Shop Drawings, Product Data or Samples under Subparagraph 2.2.13 unless Contractor has specifically informed the Engineer in writing of such deviation at the time of submission and the Engineer has given written approval to the specific deviation. Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data or Samples by the Engineer approval thereof.
- 4.12.7 Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data or Samples, to revisions other than those requested by the Engineer on previous submittals.
- 4.12.8 No portion of the work requiring submission of a Shop Drawing, Product Data or Sample shall be commenced until the submittal has been approved by the Engineer as provided in Subparagraph 2.2.13. All such portions of the work shall be in accordance with approved submittals.

4.13 USE OF SITE

- 4.13.1 Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents and shall not reasonably encumber the site with any materials or equipment.
- 4.13.2 Contractor shall hold and save the Owner free and harmless from liability of any nature or kind arising from use, trespass or damage occasioned by third persons.

4.14 CUTTING AND PATCHING OF WORK

- 4.14.1 Contractor shall be responsible for all cutting, fitting or patching that may be required to complete the work or to make its several parts fit together properly.

- 4.14.2 Contractor shall not damage or endanger any portion of the work or the work of the Owner or any separate contracts by cutting, patching or otherwise altering any work, or by excavation. Contractor shall not cut or otherwise alter the work of the Owner or any separate Contractor except with the written consent of the Owner and of such separate Contractor. Contractor shall not unreasonably withhold from the Owner any separate Contractor its consent to cutting or otherwise altering the work.

4.15 CLEANING UP

- 4.15.1 Contractor at all times shall keep the premises free from accumulation of waste materials (e.g., concrete), trash or debris caused by its operations. At the completion of the work, Contractor shall remove all its waste materials, trash and debris from and about the Project as well as all its tools, construction equipment, machinery and surplus materials.
- 4.15.2 If Contractor fails to clean up at the completion of the work, the Owner may do so as provided in Paragraph 3.4, and the cost thereof shall be charged to Contractor.
- 4.15.3 Contractor shall be solely responsible for performance of the following clean up as they apply:
- A. Debris: Regardless of the nature of the debris, it shall be immediately cleared from the work area. Each trade shall cooperate with other trades in the removal of debris and in keeping a clean job throughout.

4.16 COMMUNICATIONS

- 4.16.1 Contractor shall forward all communications to the Owner through the Engineer.

4.17 ROYALTIES AND PATENTS

- 4.17.1 Contractor shall pay all royalties and license fees. Contractor shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from loss on account thereof, except that the Owner shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified; but if Contractor has reason to believe that the design, process or product specified is an infringement of a patent, Contractor shall be responsible for such loss unless it promptly gives such information to the Engineer.

4.18 INDEMNIFICATION

- 4.18.1 To the fullest extent permitted by law, Contractor shall indemnify and hold harmless the Owner and the Engineer and their agents and employees from and against all claims, damages, losses and expenses, including but not limited to attorneys' fees arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself), including the loss of use resulting therefrom, and (2) is caused in whole or in part by any negligent act or omission on Contractor, any Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such negligent shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnify which would otherwise exist as to any party or person described in this Paragraph 4.18.
- 4.18.2 In any and all claims against the Owner or the Engineer or any of their agents or employees by an employee of Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Paragraph 4.18 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for Contractor or any Subcontractor under

workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

- 4.18.3 The obligation of Contractor under this Paragraph 4.18 shall not extend to the liability of the Engineer, its agents or employees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs, or specifications, or (2) the giving of or the failure to give directions by the Engineer, its agents or employees, provided such giving or failure to give is the primary cause of the injury or damage.

ARTICLE 5

SUBCONTRACTOR

5.1 DEFINITION

- 5.1.1 A Subcontractor is a person or entity who has a direct contract with Contractor to perform any of the work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and masculine in gender and means a Subcontractor or its authorized representative. The term "Subcontractor" does not include any separate Contractor or its Subcontractors.
- 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform any of the work at the Site.

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

- 5.2.1 Unless otherwise required by the Contract Documents of the Bidding Documents, Contractor, as soon as practicable after the award of the Contract, shall furnish to the Owner and the Engineer in writing the names of the persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each of the principal portions of the work. The Engineer will promptly reply to Contractor in writing stating whether or not the Owner or the Engineer, after due investigation, has reasonable objection to any such proposed person or entity. Failure of the Owner or the Engineer to reply promptly shall constitute notice of no reasonable objection.
- 5.2.2 Contractor shall not contract with any such proposed person or entity to whom the Owner or the Engineer has made reasonable objection under the provisions of Subparagraph 5.2.1. Contractor shall not be required to contract with anyone to whom it has a reasonable objection.

5.3 SUBCONTRACTUAL RELATION

- 5.3.1 By an appropriate written agreement, Contractor shall require each Subcontractor, to the extent of the work to be performed by the Subcontractor, to be bound to Contractor by the terms of the Contract Documents, and to assume toward Contractor all the obligations and responsibilities which Contractor, by these Documents, assumes toward the Owner and the Engineer. Said agreement shall preserve and protect the rights of the Owner and the Engineer under the Contract Documents with respect to the work to be performed by the Subcontractor so that the subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in Contractor-Subcontractor agreement, the benefit of all rights, remedies and redress against Contractor that Contractor, by these Documents, has against the Owner. Where appropriate, Contractor shall require each Subcontractor to enter into similar agreements with its Sub-subcontractors. Contractor shall make available to each proposed Subcontractor, prior to the execution of the Subcontract, copies of the Contract Documents to which the Subcontractor will be bound by this Paragraph 5.3 and identify the Subcontractor any terms and conditions of the proposed Subcontract which may be at variance with the Contract Documents. Each Subcontractor shall similarly make copies of such Documents available to its Subcontractors.

ARTICLE 6

WORK BY OWNER OR BY SEPARATE CONTRACTORS

6.1 OWNER'S RIGHT TO PERFORM WORK AND TO AWARD SEPARATE CONTRACTS

- 6.1.1 The Owner reserves the right to perform work related to the Project with its own forces, and to award separate contracts in connection with other portions of the Project or other work on the site under these or similar Conditions of the Contract. If Contractor claims that delay or additional cost is involved because of such action by the Owner, it shall make such claim as provided elsewhere in the Contract Documents.
- 6.1.2 When separate contracts are awarded for different portions of the Project or other work on the site, the term "Contractor" in the Contract Documents in each case shall mean Contractor who executes each separate Owner-Contractor Agreement.
- 6.1.3 The Owner will provide for the coordination of the work of its own forces and of each separate Contractor with the work of Contractor, who shall cooperate therewith as provided in paragraph 6.2.

6.2 MUTUAL RESPONSIBILITY

- 6.2.1 Contractor shall afford the Owner and the Separate Contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work and shall connect and coordinate its work with theirs as required by the Contract Documents.
- 6.2.2 If any part of Contractor's work depends for proper execution or results upon the work of the Owner or any separate Contractor, Contractor shall, prior to proceeding with the work, promptly report to the Engineer any apparent discrepancies or defects in such other work that render it unsuitable for such proper execution and results. Failure of Contractor so to report shall constitute an acceptance of the Owner's or the separate Contractor's work as fit and proper to receive its work, except as to defects which may subsequently become apparent in such work by others.
- 6.2.3 Any costs caused by defective or ill-timed work shall be borne by the party responsible thereof.
- 6.2.4 Should Contractor wrongfully cause damage to the work or property of the Owner or to other work on the site, Contractor shall promptly remedy such damage as provided in Subparagraph 10.2.5.
- 6.2.5 Should Contractor wrongfully cause damage to the work or property of any separate Contractor, Contractor shall upon due notice promptly attempt to settle with such other Contractor by agreement, or otherwise to resolve the dispute. If such separate Contractor sues or initiates an arbitration proceeding against the Owner on account of any damage alleged to have been caused by Contractor, the Owner shall notify Contractor, who shall defend such proceedings at the Owner's expense, and if any judgment or award against the Owner arises therefrom, Contractor shall pay or satisfy it and shall reimburse the Owner for all attorneys' fees and court or arbitration costs which the Owner has incurred.

6.3 OWNER'S RIGHT TO CLEAN UP

- 6.3.1 If a dispute arises between Contractors and separate Contractors as to their responsibility for cleaning up as required by Paragraph 4.15, the Owner may clean up and charge the cost thereof to Contractors responsible therefor as the Engineer shall determine to be just.

ARTICLE 7

MISCELLANEOUS PROVISIONS

7.1 GOVERNING LAW

7.1.1 The Contract shall be governed by the law of the State of New Mexico.

7.1.2 The Owner and Contractor each binds itself, its partners, successors, assigns and legal representatives to the other party hereto and to the partners, successors, assigns and legal representatives of such other party in respect to all covenants, agreements, and obligations contained in the Contract Documents. Neither part to the Contract shall assign the Contract or sublet it as a whole without the written consent of the other, nor shall Contractor assign any moneys due or to become due to Contractor thereunder, without the previous written consent of the Owner.

7.2 WRITTEN NOTICE

7.2.1 Written notice shall be deemed to have dully served if delivered in person to the individual or member of the firm or entity or to an officer of the corporation for whom it was intended, or if delivered at or sent by registered or certified mail to the last business address known to it who gives the notice.

7.3 CLAIMS FOR DAMAGES

7.3.1 Should either party to the Contract suffer injury or damage to person or property because of any act or omission of the other party or of any of its employees, agents or others for whose acts it is legally liable, claim shall be made in writing to such other party within a reasonable time after the first observance of such injury or damage.

7.4 PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

7.4.1 Contractor to whom the Contract is awarded shall furnish and pay for reputable and approved Performance and Labor and Material Payment Bonds, each for the full amount of the Contract Sum. Bonds shall be executed on standard AIA forms.

7.5 RIGHTS AND REMEDIES

7.5.1 The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

7.5.2 No action or failure to act by the Owner, the Engineer, or Contractor shall constitute a waiver of any right or duty afforded any of them under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

7.6 TESTS

7.6.1 If the Contract Document, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any portion of the work to be inspected, tested or approved, Contractor shall give the Engineer timely notice of its readiness so the Engineer may observe such inspection, testing or approval. Contractor shall bear all costs of such inspections, tests or approvals. Tests specifically called for by specifications shall be made by a professional testing laboratory

acceptable to the Engineer, and Contractor shall employ same and pay all charges in connection therewith. Records of tests shall be delivered to the Engineer in duplicate on acceptable forms.

- 7.6.2 If the Engineer determines that any work requires special inspection, testing, or approval which Subparagraph 7.6.1 does not include, it will, upon written authorization from the Owner, instruct Contractor to order such special inspection, testing or approval, and Contractor shall give notice as provided in Subparagraph 7.6.1. If such special inspection or testing reveals a failure of the work to comply with the requirements of the Contract Documents, Contractor shall bear all costs thereof, including compensation for the Engineer's additional services made necessary by such failure; otherwise the Owner shall bear such costs, and an appropriate Change Order shall be issued.

7.7 INTEREST

- 7.7.1 The Owner will not pay interest on payments due and unpaid under the Contract Document.

ARTICLE 8

TIME

8.1 DEFINITIONS

- 8.1.1 Unless otherwise provided, the Contract Time is the period of time allotted in the Contract Documents for Substantial Completion of the work as defined in Subparagraph 8.1.3, including authorized adjustments thereto.
- 8.1.2 The date of commencement of the work is the date established in a Notice to Proceed. If there is no Notice to Proceed, it shall be the date of the Owner-Contractor Agreement or such other date as may be established therein.
- 8.1.3 The Date of Substantial Completion of the work or designated portion thereof is the Date certified by the Engineer and approved by the Owner when construction is deficiently 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.
- 8.1.4 The term "day" as used in the Contract Document shall mean calendar day unless otherwise specifically designated.

8.2 PROGRESS AND COMPLETION

- 8.2.1 All time limits stated in the Contract Documents are the essence of the Contract.
- 8.2.2 Contractor shall begin the work on the date of commencement as defined in Subparagraph
- 8.2.3 Contractor shall carry the work forward expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

8.3 DELAYS AND EXTENSIONS OF TIME

- 8.3.1 If Contractor is delayed at any time in the progress of the work by any act or neglect of the Owner or the Engineer or by any employees of either, or by any separate Contractor employed by the Owner or by changes ordered in the work, or by labor disputes, fire, unusual delay in unavoidable casualties, or any causes beyond Contractor's control or by delay authorized by the Owner pending arbitration, or by any other cause which the Engineer determines may justify the delay,

then the Contract Time shall be extended by Change Order for such reasonable time as the Engineer may determine.

- 8.3.2 Any claim for extension of time shall be made in writing to the Engineer not more than twenty (20) days after the commencement of the delay; otherwise it shall be waived. In the case of a continuing delay, only one claim is necessary. Contractor shall provide an estimate of the probable effect of such delay on the progress of the work.
- 8.3.3 If written agreement is made stating the dates upon which interpretations as provided in Subparagraph 2.28 shall be furnished, then no claim for delay shall be allowed on account of failure to furnish such interpretations until fifteen (15) days after written request is made for them, and not then unless such claim is reasonable.
- 8.3.4 This Paragraph 8.3 does not exclude the recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9

PAYMENTS AND COMPLETION

9.1 CONTRACT SUM

- 9.1.1 The Contract Sum is stated in the Owner-Contractor Agreement and including authorized adjustments thereto, is the total amount payable by the Owner to Contractor for the performance of the work under the Contract Documents.

9.2 SCHEDULE OF VALUES

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

9.3 APPLICATIONS FOR PAYMENT

- 9.3.1 At least ten (10) days before the date for each progress payment established in the Owner-Contractor Agreement, Contractor shall submit to the Engineer an itemized Application for Payment, notarized if required, supported by such data substantiating Contractor's right to payment.
- 9.3.2 Unless otherwise provided in the Contract Documents, payments will be made on account of materials or equipment not incorporated in the work 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 Contractor of bills of sale or such other procedures satisfactory to the Owner 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.
- 9.3.3 Contractor warrants that title to all work, materials and equipment covered by an Application for Payment will pass to the Owner either by incorporation in the construction or upon the receipt of payment by Contractor, whichever occurs first, free and clear of all liens, claims, security interest or encumbrances hereinafter referred to in this Article 9 as "liens"; and that no work, materials or equipment covered by an Application for Payment will have been acquired by Contractor, or by any other person performing work at the site or furnishing materials or equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by

the seller or otherwise imposed by Contractor or such other person.

9.4 CERTIFICATES FOR PAYMENT

- 9.4.1 The Engineer will within seven (7) days after the receipt of the Contract's Application for Payment, either issue a Certificate for Payment to the Owner with a copy to Contractor for such amount as the Engineer determines is properly due, or notify Contractor in writing of its reasons for withholding a Certificate as provided in Subparagraph 9.6.1.
- 9.4.2 The issuance of Certificate for Payment will constitute a representation by the Engineer to the Owner, based on its observations at the site as provided in Subparagraph 2.2.3 and the data comprising the Application for Payment, that the work has progressed to the point indicated; that, to the best of its knowledge, information and belief, the quality of the work is in accordance with the Contract Documents (subject to an evaluation of the work for conformance with the Contract Documents upon Substantial Completion, to the results of any subsequent tests required by or performed under the Contract Documents correctable prior to completion, and to any specific qualifications stated in its Certificate); and that Contractor is entitled to payment in the amount certified. However, by issuing a Certificate for Payment, the Engineer shall not thereby be deemed to represent that it has made exhaustive or continuous on-site inspections to check the quality or quantity of the work or that it has reviewed the construction means, methods, techniques, sequences or procedures, or that it has made an examination to ascertain how or for what purpose Contractor has used the amounts of money previously paid on account of the Contract Sum.

9.5 PROGRESS PAYMENTS

- 9.5.1 After the Engineer has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents.
- 9.5.2 Contractor shall promptly pay each Subcontractor upon receipt of payment from the Owner, out of the amount paid to Contractor on account of such Subcontractor's work, the amount to which said Subcontractor is entitled, reflecting the percentage actually retained, if any, from payments to Contractor on account of such Subcontractor's work. Contractor shall, by an appropriate agreement with each Subcontractor, require each Subcontractor to make payment to its Subcontractors in similar manner.
- 9.5.3 The Engineer may, on request and at its discretion, furnish to any Subcontractor, if practicable, information regarding the percentages of completion or the amounts applied for by Contractor on the action taken thereon by the Engineer on account of work done by such Subcontractor.
- 9.5.4 Neither the Owner nor the Engineer shall have any obligation to pay or to see to the payment of any monies to any Subcontractor except as may otherwise be required by law.
- 9.5.5 No Certificate for progress payment, no progress payment, nor any partial or entire use of occupancy of the Project by the Owner shall constitute acceptance of any work not in accordance with the Contract Documents.

9.6 PAYMENT WITHHELD

- 9.6.1 The Engineer may decline to certify payment and may withhold its Certificate in whole or in part, to the extent necessary to reasonably protect the Owner, if in its opinion it is unable to make representations to the Owner as provided in Subparagraph 9.4.2.
- 9.6.2 If the Engineer is unable to make representations to the Owner, as provided in Subparagraph 9.4.2 and to certify payment in the amount of the Application, it will notify Contractor as provided in

Subparagraph 9.4.1. If Contractor and Engineer cannot agree on a revised amount, the Engineer will promptly issue a Certificate for Payment for the amount for which it is able to make such representations to the Owner. The Engineer may also decline to certify payment, or because of subsequently discovered evidence or subsequent observations, it may nullify the whole or any part of any Certificate for Payment previously issued, to such extent as may be necessary in its opinion to protect the Owner from loss because of:

- A. Defective work not remedied;
- B. Third-party claims filed or reasonable evidence indicating probable filing of such claims;
- C. Failure of Contractor or make payments properly to Subcontractors or for labor, materials or equipment;
- D. Reasonable evidence that the work cannot be completed for the unpaid balance of the Contract Sum;
- E. Damage to the work of another Contractor;
- F. Reasonable evidence that the work will not be completed within the Contract Time; or,
- G. Failure to carry out the work in accordance with the Contract Documents.

9.6.2 When the above grounds in Subparagraph 9.6.1 removed, payment shall be made for amounts withheld because of them.

9.7 FAILURE OF PAYMENT

9.7.1 If the Engineer does not issue a Certificate for Payment, through no fault of Contractor, within seven (7) days after receipt of Contractor's Application for Payment, or if the Owner does not pay Contractor within seven (7) days after the date established in the Contract Documents any amount certified by the Engineer, then Contractor may, upon seven (7) additional days' written notice to the Owner and the Engineer, stop the work until payment of the amount owing has been received. The Contract Sum shall be increased by the amount of Contractor's reasonable costs of shut-down, delay and start-up, which shall be effected by appropriate Change Order in accordance with Paragraph 12.3.

9.8 SUBSTANTIAL COMPLETION

9.8.1 When Contractor considers that the work, or a designated portion thereof which is acceptable to the Owner, is substantially complete as defined in Subparagraph 8.1.3, Contractor shall prepare for submission to the Engineer a list of items to be completed or corrected. The failure to include any items on such list does not alter the responsibility of Contractor to complete all work in accordance with the Contract Documents. When the Engineer, with the Owner, on the basis of an inspection determines that the work or designated portion thereof is substantially complete, Contractor will then prepare a Certificate of Substantial Completion Form, AIA Document G704-1978, which shall establish the Date of Substantial Completion, shall state the responsibilities of the Owner and Contractor for security, maintenance within which Contractor shall complete the items listed therein. Warranties required by the Contract Document shall commence on the date of Final Completion of the work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion. The Certificate of Substantial Completion shall be submitted to Contractor and the Owner for their written acceptance of the responsibilities assigned to them in such certificate.

9.8.2 Upon Substantial Completion of the work or designated portion thereof and upon application by Contractor and certification by the Engineer, the Owner shall make payment, reflecting adjustment

in retainage, if any, for such work or portion thereof, as provided in the Contract Documents.

9.9 FINAL COMPLETION AND FINAL PAYMENT

- 9.9.1 Upon receipt of written notice that the work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Engineer will promptly make such inspection and, if Engineer finds the work acceptable under the Contract Documents and the Contract fully performed, Engineer will promptly issue final Certificate for Payment stating that, to the best of its observations and inspections, the work has been completed in accordance with the terms and conditions of the Contract Documents and that the entire balance found to be due Contractor and noted in said Final Certificate, is due and payable. The Engineer's Final Certificate of payment will constitute a further representation that the conditions precedent to Contractor's being entitled to final payment as set forth in Subparagraph 9.9.2 have been fulfilled.
- 9.9.2 The final payment shall not become due until Contractor submits to the Engineer (1) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the work for which the Owner or its property might in any way be responsible have been paid or otherwise satisfied, (2) consent of surety, if any, to final payment, and (3) if required by the Owner, other data establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of liens arising out of the Contract, to the extent and in such form as may be designed by the Owner. If any Subcontractor refuses to furnish a release or waiver required by the Owner Contractor may furnish a bond satisfactory to the Owner to indemnify itself against any such lien. If any such lien remains unsatisfied after all payments are made, Contractor shall refund to the Owner all amounts of money that the latter may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.
- 9.9.3 If, after Substantial Completion of the work, final completion thereof is materially delayed through no fault of Contractor or by the issuance of Change Orders affecting final completion, and the Engineer so confirms, the Owner shall, upon application by Contractor and certification by the Engineer and without terminating the Contract, make payment of the balance for that portion of the work fully completed and accepted. If the remaining balance for work not fully completed or corrected is less than the retainage stipulated in the Contract Document, and if bonds have been furnished as provided in Paragraph 7.5, the written consent of the surety to the payment of the balance due for that portion of the work fully completed and accepted shall be submitted by Contractor to the Engineer prior to certification of such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.
- 9.9.4 The making of final payment shall constitute a waiver of all claims by the Owner except those arising from:
- A. Unsettled liens;
 - B. Faulty or defective work appearing after Substantial Completion;
 - C. Failure of the work to comply with the requirements of the Contract Documents; and
 - D. Terms of any special warranties required by the Contract Documents.
- 9.9.5 The acceptance of final payment shall constitute a waiver of all claims by Contractor except those previously made in writing and identified by Contractor as unsettled at the time of the final Application for Payment.

ARTICLE 10

PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

10.1.1 Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work.

10.2. SAFETY OF PERSONS AND PROPERTY

10.2.1 Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to:

- A. All employees on the work and all other persons who may be affected thereby;
- B. All the work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of Contractor or any of its Subcontractors or Sub-subcontractors; and
- C. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities no designated for removal, relocation or replacement in the course of construction.

10.2.2 Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on the safety of persons or property or their protection from damage, injury or loss.

10.2.3 Contractor shall erect and maintain, as required by existing conditions and progress of the work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying Owners and users of adjacent utilities.

10.2.4 When the use of storage of explosives or other hazardous materials or equipment is necessary for the execution of the work, Contractor shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.

10.2.5 Contractor shall promptly remedy all damage or loss (other than damage of loss insured under paragraph 11.3) to any property referred to in Clauses 10.2.1.2 and 10.2.1.3 caused in whole or in part by Contractor, any Subcontractor or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable and for which Contractor is responsible under clauses 10.2.1.2 and 10.2.1.3, except damage or loss attributable to the acts or omissions of the Owner or the Engineer or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and no attributable to the fault or negligence of Contractor. The foregoing obligations of Contractor are in addition to its obligations under Paragraph 4.18.

10.2.6 Contractor shall designate a responsible member of its organization at the site whose duty shall be the prevention of accidents. This person shall be Contractor's Superintendent unless otherwise designated by Contractor in writing to the Owner and the Engineer.

10.2.7 Contractor shall not load or permit any part of the work to be loaded so as to endanger its safety.

10.3 EMERGENCIES

- 10.3.1 In any emergency affecting the safety of persons or property, Contractor shall act, at its reasonable discretion, to prevent threatened damage, injury or loss. Any additional compensation or extension of time claimed by Contractor on account of emergency work shall; be determined as provided in Article 12 for Changes in the work.

ARTICLE 11

INSURANCE

11.1 CONTRACTOR'S LIABILITY INSURANCE

- 11.1.1 Contractor shall maintain in effect, and shall require all Subcontractors and others performing any portion of this Contract to maintain in effect, insurance of the types and respective minimum limits set for in Article 11. Such insurance shall cover all operations under this Contract. Maintenance of such insurance in at least the specified minimum amounts shall not relieve Contractor or liability for loss in excess of the limits of liability specified herein or otherwise not covered by the coverage's required herein. Contractor shall bear the cost of such insurance and include its costs in the bid. The following limits of insurance shall be maintained, unless otherwise listed in the Certificate of Insurance.

Type of Required Coverage

Workman's Compensation - including accident and occupational disease coverage. Statutory Employer's Liability

Comprehensive General Liability - including endorsements providing broad form property damage coverage, personal injury coverage, and contractual assumption of liability coverage for all liability Contractor has assumed under its Contract.

Auto Liability - including non-owned auto coverage.

Minimum Limits of Liability

Carry such insurance as it deems necessary to protect it from all claims under any workman's compensation law in effect that may be applicable to Contractor.

With limits of coverage in the maximum amount which the Owner could be held liable under the New Mexico Tort Claims Act for each person injured and for each accident resulting in damage to property.

Same limits as General Liability.

- 11.1.2 Certificates of Insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the work. These Certificates shall contain a provision that coverage afforded under the policies will not be canceled until at least thirty (30) days; prior written notice has been given to the Owner. Contractor shall furnish one (1) copy of each of the Certificates of insurance herein required for each copy of the contract.

11.2 OWNER'S LIABILITY INSURANCE

- 11.2.1 The Owner shall be responsible for purchasing and maintaining its own liability insurance and, at its option, may purchase and maintain such insurance as will protect itself against all claims which may arise from operations under the Contract.

11.3 PROPERTY INSURANCE

- 11.3.1 Contractor shall maintain builder's risk property insurance or self insurance, or a combination of insurance and self insurance, upon the work at the site for at least the actual cash value thereof. The builder's risk insurance shall cover the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the work. The insurance shall insure against at least the following perils: fire extended coverage, vandalism, and malicious mischief. Contractor shall bear the cost of such

insurance and include its cost in the bid.

- 11.3.2 Any loss insured or self insured under Subparagraph 11.3.1 is to be adjusted with the Owner and made payable to the Owner as trustee for the insured, as their interests may appear subject to the requirements of any applicable mortgage clause. The Owner shall deposit the proceeds in a separate account and shall distribute them in accordance with such agreement as the parties in interest, including the Owner, may reach. Contractor shall pay each Subcontractor a just share of any insurance proceeds which Contractor receives and shall require by written agreement signed by the Subcontractor that the Subcontractor will make payments to its Sub-subcontractors in a similar manner. If after such loss no other special agreement is made, replacement of damaged work shall be covered by an appropriate order.
- 11.3.3 To the extent permitted under their respective property insurance policies, the Owner and Contractor hereby waive all rights, each against the other, for damages caused by fire or other perils to the extent covered by Insurance obtained pursuant to this Article 11 or any other property insurance applicable to the work, except such rights as they may have to the proceeds of such Insurance held by the Owner as trustee. The Owner or Contractor, as appropriate, shall require the Engineer, other Contractors, Subcontractors, and Sub-subcontractors to waive rights of subrogation or property insurers similarly.
- 11.3.4 If the Owner finds it necessary to occupy use of any portion of the work prior to Substantial Completion, such occupancy or use shall not commence prior to the time mutually agreed to by the Owner and Contractor and, if required by the applicable insurance or self insurance coverage not prior to the time the builder's risk property insurer has consented to such occupancy or use. Contractor's consent to such occupancy or use shall not be unreasonably withheld.

11.4 LOSS OF USE INSURANCE

- 11.4.1 The Owner, at its option, may purchase and maintain such insurance as will insure itself against loss of use of its property due to fire or other hazards, however caused.

ARTICLE 12

CHANGES IN THE WORK

12.1 CHANGE ORDERS

- 12.1.1 A Change Order is a written order to Contractor signed by the Engineer and Contractor and approved in writing by the Owner. A Change Order may be issued only after the execution of the Contract and shall be the only means used to order changes in the work for which Contractor requires additional compensation, changes to the Contract Time, or changes to the Contract Sum. Minor changes in the work for which Contractor requires no additional compensation or time shall be executed in accordance with the provision of Subparagraph 12.4.1.
- 12.1.2 The Owner, without invalidating the Contract, may order changes in the work within the general scope of Contractor consisting of additions, deletions or other revisions, the Contract Sum and the Contract Time being adjusted accordingly. All such changes in the work shall be authorized by Change Order and shall be performed under the applicable conditions of the Contract Documents.
- 12.1.3 The cost or credit to the Owner resulting from a change in the work shall be determined in one or more of the following ways:
- A. By mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
 - B. By unit prices stated in the Contract Documents or subsequently agreed upon;

- C. By cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
 - D. By the method provided in Subparagraph 12.1.4.
- 12.1.4 If none of the methods set forth in Clauses 12.1.2., 12.1.3. or 12.1.3. is agreed upon, Contractor, provided Contractor receives a written order signed by the Owner, shall promptly proceed with the work involved. The cost of such work shall be determined by the Engineer on the basis of the reasonable expenditures and savings of those performing the work attributable to the change, including, in the case of an increase in the Contract Sum, a reasonable allowance for overhead and profit. In such case, Contractor shall keep and present, in such form as the Engineer may prescribe, an itemized accounting together with appropriate supporting data for inclusion in a Change Order. Unless otherwise provided in the Contract Documents, cost shall be limited to the following: cost of materials, including sales tax and cost of delivery; cost of labor, including social security, old age and unemployment insurance, and fringe benefits, required by agreement or custom, workers' or workmen's compensation insurance; bond premiums; rental value of equipment and machinery; and the additional costs of supervision and field office personnel directly attributable to the change. Pending final determination of cost to the Owner payments on account shall be made on the Engineer's Certificate for payment. The amount of credit to be allowed by Contractor to the Owner for any deletion or change which results in a net decrease in the Contract Sum will be the amount of the actual net cost as confirmed by the Engineer. When both additions and credits covering related work or substitutions are involved in any one change, the allowance for overhead and profit shall be figured on the basis of the net increase, if any, with respect to that change.
- 12.1.5 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if the quantities originally contemplated are so changed in a proposed Change Order that application of the agreed unit prices to the quantities of work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.
- 12.1.6 By submission of a bid, Contractor agrees and binds itself to the following method of calculating Change Order costs. The Owner also agrees to the following method of calculating the cost of any changes to the Contract. With each proposal for a change in the amount of the Contract, Contractor shall submit an itemized breakdown of all increases or decreases in the cost of Contractor's and all Subcontractor's and Sub-subcontractor's work to include at least the following detail in the general order listed:
- A. Material quantities and unit costs;
 - B. Labor amounts and hourly rates (identified with specific items of material to be placed or operation to be performed);
 - C. Costs inherent in the use of Contractor/Sub-subcontractor owned equipment;
 - D. Equipment rental, if any;
 - E. Workmen's compensation and public liability insurance;
 - F. General administration, overhead, supervision, project insurance and profit, based on the following schedule:

<u>Subtotal before Applying the Percentage Shown</u>	<u>\$500 & Less</u>	<u>Over \$500</u>
Contractor for work performed by its own forces	22%	19%
Contractor for work performed by Subcontractor	10%	8%
Subcontractor for work performed by its own forces	18%	15%
Subcontractor for work performed by Sub-subcontractor	10%	8%
Sub-subcontractor for work performed by its own forces	18%	15%
G. Employment taxes under FICA and FUTA; and		
H. State gross receipts tax (Contractor only).		

12.1.7 The quotation for work under a Change Order shall be binding for sixty (60) days from the date submitted by Contractor.

12.2 CONCEALED CONDITIONS

12.2.1 Should concealed conditions encountered in the performance of the work below the surface of the ground or should concealed or unknown conditions in an existing structure be at variance with the conditions indicated by the Contract Documents, or should unknown physical conditions below the surface of the ground or should concealed or unknown conditions in an existing structure of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the Character provided for in this Contract, be encountered, the Contract Sum shall be equitably adjusted by change Order upon verified claim by either party made within twenty (20) days after the first observance of the conditions.

12.2.2 If Contractor wishes to make a claim for an increase in the Contract Sum, Contractor shall give the Engineer written notice thereof within twenty (20) days after the occurrence of the event giving rise to such claim. This notice shall be given by Contractor before proceeding to execute the work, except in an emergency endangering life or property, in which case Contractor shall proceed in accordance with Paragraph 10.3. No such claim shall be valid unless so made. If such claims are justified and the Owner authorizes an increase in the Contract Sum, the Owner and Contractor shall proceed to negotiate the amount of the adjustment in the Contract Sum. If the Owner and Contractor cannot agree on the amount of the adjustment in the Contract Sum, it shall be determined by the Engineer. Any change in the Contract Sum resulting from such claim shall be authorized by Change Order.

12.2.3 If Contractor claims that additional cost is involved because of, but not limited to, (1) any written interpretation pursuant to Subparagraph 2.2.8, (2) any order by the Owner to stop the work pursuant to Paragraph 3.3 where Contractor was not at fault, (3) any written order for a minor change in the work issued pursuant to Paragraph 12.4, or (4) failure of payment by the Owner pursuant to Paragraph 9.7, Contractor shall make such claims provided in Subparagraph 12.3.1.

12.3 MINOR CHANGES IN THE WORK

12.3.1 The Engineer will have authority to order minor changes in the work not involving an adjustment in the Contract Sum or an extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by written order and shall be binding on the Owner and Contractor. Contractor shall carry out such written orders promptly.

ARTICLE 13

UNCOVERING AND CORRECTION OF WORK

13.1 UNCOVERING OF WORK

- 13.1.1 If any portion of the work should be covered contrary to the request of the Engineer or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Engineer, be uncovered for its observation and shall be replaced at Contractor's expense.
- 13.1.2 If any portion of the work has been covered which the Engineer has not specifically requested to observe prior to begin covered, the Engineer may request to see such work and it shall be uncovered by Contractor. If such work is found in accordance with the Contract Documents, the cost of uncovering and replacement shall, by appropriate Change Order, be charged to the Owner. If such work is found not in accordance with the Contract Documents, Contractor shall pay such costs unless it is found that this condition was caused by the Owner or a separate Contractor as provided in Article 6, in which even the Owner shall be responsible for the payment of such costs.

13.2 CORRECTION OF WORK

- 13.2.1 Contractor shall promptly correct all work rejected by the Engineer as defective or as failing to conform to the Contract Documents whether observed before or after Substantial completion and whether or not fabricated, installed or completed. Contractor shall bear all costs of correcting such rejected work, including compensation for the Engineer's additional services made necessary thereby.
- 13.2.2 If, within one year after the Date of Substantial Completion of the work or designated portion thereof or within one year after acceptance by the Owner of designated equipment or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the Contract Documents, any of the work is found to be defective or not in accordance with the Contract Documents, Contractor shall correct it promptly after receipt of a written notice from the Owner to do so unless the Owner has previously given Contractor a specific written acceptance of such condition. This obligation shall survive termination of the Contract. The Owner shall give such notice promptly after discovery of the condition.
- 13.2.3 Contractor shall remove from the site all portions of the work which are defective or non-conforming and which have not been corrected under Subparagraphs 4.5, 13.2.1 and 13.2.2, unless removal is specifically waived in writing by the Owner.
- 13.2.4 If Contractor fails to correct defective or non-conforming work as provided in Subparagraph 4.5.1, 13.2.1 and 13.2.2, the Owner may correct it in accordance with Paragraph 3.4.
- 13.2.5 If Contractor does not proceed with the correction of such defective or non-conforming work within a reasonable time fixed by written notice from the Engineer, the Owner may remove it and may store the materials or equipment at the expense of Contractor. If Contractor does not pay the cost of such removal and storage within ten (10) days thereafter, the Owner may upon ten (10) additional days' written notice sell such work at auction or at private sale and shall account for the net proceeds thereof, after deducting all the costs that should have been borne by Contractor including compensation for the Engineer's additional services made necessary thereby. If such proceeds of sale do not cover all costs which Contractor should have borne, the difference shall be charged to Contractor and an appropriate Change Order shall be issued. If the payments then or thereafter due Contractor are not sufficient to cover such amount, Contractor shall pay the difference to the Owner.

- 13.2.6 Contractor shall bear the cost of making good all work of the Owner or separate Contractors destroyed or damaged by such correction or removal.
- 13.2.7 Nothing contained in this Paragraph 13.2 shall be construed to establish a period of limitation with respect to any other obligation which Contractor might have under the Contract Documents, including Paragraph 4.5 hereof. The establishment of the time period of one year after the Date of Substantial Completion or such longer period of time as may be prescribed by law or by the terms of any warranty required by the Contract Documents relates only to Contractor to correct the work and has no relationship to the time within which its obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish Contractor's liability with respect to its obligations other than specifically to correct the work.

13.3 ACCEPTANCE OF DEFECTIVE OR NON-CONFORMING WORK

- 13.3.1 If the Owner prefers to accept defective or non-conforming work, it may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect a reduction in the Contract Sum where appropriate and equitable. Such adjustment shall be effective whether or not final payment has been made.

ARTICLE 14

TERMINATION OF THE CONTRACT

14.1 TERMINATION BY CONTRACTOR

- 14.1.1 If the work is stopped for a period of thirty (30) days under an order of court or other public authority having jurisdiction, or as a result of an act of government, such as a declaration of a national emergency making materials unavailable, through no act or fault of Contractor or a Subcontractor or their agents or employees or any other persons performing any of the work under a contract with Contractor because the Engineer has not issued a Certificate for payment as provided in Paragraph 9.7 or because the Owner has not made payment thereon as provided in paragraph 9.7, then Contractor may, upon seven (7) additional days' written notice to the Owner and the Engineer, terminate the Contract and recover from the Owner payment for all work executed and for any proven loss sustained upon any materials, equipment, tools, construction equipment and machinery, including reasonable profit and damages.

14.2 TERMINATION BY THE OWNER

- 14.2.1 If Contractor is adjudged bankrupt, or if Contractor makes a general assignment for the benefit of its creditors, or if a receiver is appointed on account of its insolvency, or if Contractor persistently or repeatedly refuses or fails, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials, or if Contractor fails to make prompt payment to Subcontractors for material of labor, or persistently disregards laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction, or otherwise is guilty of a substantial violation of a provision of the Contract Documents, then the Owner, upon certification by the Engineer that sufficient cause exists to justify such action, may without prejudice to any right or remedy and after giving Contractor and its surety, if any, seven (7) days written notice, terminate the employment of Contractor and take possession of the site and of all material, tools, construction equipment and machinery thereon owned by Contractor and may finish the work by whatever method Contractor may deem expedient. In such case, Contractor shall not be entitled to receive any further payment until the work is finished.
- 14.2.2 If the unpaid balance of the Contract Sum exceeds the costs of finishing the work, including compensation for the Engineer's additional services made necessary thereby, and any damages sustained by the Owner as a result of Contractor's breach, such excess shall be paid to Contractor.

If such costs exceed the unpaid balance, Contractor shall pay the difference to the Owner. The amount to be paid to Contractor or to the Owner, as the case may be, shall be certified by the Engineer upon application, in the manner provided in paragraph 9.4 and this obligation or to the Owner, as the case may be, shall be certified by the Engineer upon application, in the manner provided in Paragraph 9.4 and this obligation for payment shall survive the termination of the Contract.

- 14.2.3 In the event that the Project is abandoned by the Owner, the Owner may terminate this contract at any time by giving at least five (5) working days' notice to Contractor. In the event of termination, all work completed shall become the property of the Owner. Contractor shall be entitled to receive compensation for actual work satisfactorily completed hereunder, including reimbursable expense authorized by the Owner, which is then due.
- 14.2.4 In the event Contractor fails to perform the work in accordance with the Contract Documents, the Owner may terminate the Contract after giving Contractor five (5) working days notice.

ARTICLE 15

EQUAL OPPORTUNITY

15.1 Contractor shall maintain policies of employment as follows:

- 15.1.1 Contractor, all Subcontractors, and all Sub-subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex or national origin. Contractor shall take affirmative action to ensure that applicants are employed and that employees are treated during employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor agrees to post notices setting forth the policies of non-discrimination in conspicuous place(s) available to employees and applicants for employment.
- 15.1.2 The Contract, all Subcontractors, and all Sub-subcontractors shall, in all solicitation or advertisements for employees placed by them or on their behalf, state that all qualified applicant will receive consideration for employment without regard to race, religion, color, sex, or national origin.

ARTICLE 16

MINIMUM WAGE RATES / REGISTRATION

- 16.1 Contractor warrants and agrees that Contractor and all Subcontractors and Sub-subcontractors shall comply with all applicable provisions of the New Mexico Public Works Minimum Wage Act as outlined in the Contract Documents. Wage rates are not applicable to projects costing less than \$60,000.00.
- 16.2 A General Contractor or subcontractor that submits a bid valued at more than fifty thousand dollars (\$50,000) is subject to the Public Works Minimum Wage Act (13-4-10 NMSA 1978) and shall be required to be registered with the Labor and Industrial Division of the NM Labor Department. The Registration Number shall be provided in the spaces provided in the Bid Form and on the Subcontractor's Listing for subcontracts valued at \$50,000 or more. After the Bid Opening, the registration numbers will be verified and the bid will be considered unresponsive and disqualified if the registration numbers are not valid and if Contractor or subcontractor cannot provide proof of the required registration. It is the responsibility of Contractor and subcontractors to ensure that the registration is completed prior to the Bid Opening.

Section 11 Supplementary Conditions

**SUPPLEMENTARY CONDITIONS
(Section 00800)**

Document is intended to be used in conjunction with the General Conditions of the Contract.

ADDITIONAL CONDITIONS

1.0 DEFINITIONS - The following definitions shall apply through the Bidding Documents or Contract Documents unless otherwise specified.

- 1.1 **ADDENDUM:** Written or graphic instrument issued prior to the execution of the Contract which modifies or interprets the Bidding Documents, including Construction Plans and Specifications, by additions, deletions, clarifications, or corrections. Addenda will become part of the Contract Documents when the Construction Contract is executed. Plural: ADDENDA
- 1.2 **ADDITIVE OR DEDUCTIVE ALTERNATE BID:** Amount stated in the Bid to be added or deducted from the amount of the Base Bid if the corresponding change in project scope or alternate materials and/or methods of construction is accepted.
- 1.3 **BASE BID:** Amount of money stated in the Bid as the sum for which the Bidder offers to perform the work, not including that work for which Alternate Bids are also submitted.
- 1.4 **BID:** A complete and properly signed proposal to do the work or designated portion thereof for the sums stipulated therein, supported by data called for by the Bidding Documents.
- 1.5 **BID LOT:** A major item of work for which a separate quotation or proposal is requested.
- 1.6 **BIDDER:** One who submits a bid for a Prime contract with the Owner, as distinct from a Subcontractor, who submits a bid to a Bidder. Technically, a Bidder is not a Contractor on a specific project until a contract exists between Contractor and the Owner.
- 1.7 **BIDDING DOCUMENT:** Documents that include the Invitation for Bid, Instructions to Bidders, the Bid Form, other sample bidding and contract forms, and the proposed Contract Documents, including any Addenda issued prior to receipt of bids. The Contract Documents proposed for the work consist of the Owner-Contractor Agreement, the Conditions of the Construction Contract (General, Supplementary, and Other Conditions), the Construction Plans, the Specifications, and all Addenda issued prior to and all Modifications issued after execution of the Contract.

- 1.8 DAY: Calendar day, which is every day shown on the calendar, beginning and ending at midnight. However, due to the Work being performed at an active transfer station, Contractor will not be limited to performing work during facility hours of operation. Contractor shall submit a request for approval of workday hours to Owner.
- 1.9 CENTRAL PURCHASING OFFICE: The Central Purchasing Office is the City of Santa Fe Purchasing Department.
- 1.10 GOVERNING AUTHORITY: The Joint Powers Board of the execution of construction contracts is the Chairperson or Executive Director.
- 1.11 INVITATION FOR BID: The Bidding Documents utilized for soliciting sealed bids. "Invitation to Bid" shall have the same meaning as "Advertisement for Bid".
- 1.12 OWNER: Santa Fe Solid Waste Management Authority, Santa Fe, New Mexico.
- 1.13 PROCUREMENT OFFICER: The Director of the Purchasing Division, or a designee authorized to enter into or administer contracts and make a written determination with respect thereto.
- 1.14 RESPONSIBLE BIDDER: A Bidder who submits a responsive bid and who has furnished, when required, information and data to prove that its financial resources, production or service facilities, personnel, service reputation, and experience are adequate to make satisfactory delivery of the services, construction, or items of tangible personal property described in the Bidding Documents (13-1-82, NMSA 1978).
- 1.15 SFSWMA: Santa Fe Solid Waste Management Agency.
- 1.16 SUCCESSFUL BIDDER: The lowest qualified and responsible Bidder to whom the Owner, on the basis of the Owner's evaluation, makes an award.
- 1.17 UNIT PRICES: Amounts stated in the Contract as prices per unit of measurement for materials or services as described in the Contract Documents.
- 1.18 USER: The Santa Fe Solid Waste Management Authority, agencies, or designated entity for whose use the Project is being constructed.

2.0 CONTRACT AUDIT

The Owner shall be entitled to audit the books and records of a Contractor or any Subcontractor under any negotiated contract or subcontract other than a firm fixed-price contract to the extent that such books and records relating to the performance of such contract or subcontract. Such books and records shall be maintained by Contractor for a period of three (3) years from the date of final payment under the prime contract and by the Subcontractor for a period of three (3) years

from the date of final payment under the subcontract unless a shorter period is otherwise authorized in writing.

3.0 DEBARRED OR SUSPENDED CONTRACTORS

A business (Contractor, Subcontractor, or Supplier) that has either been debarred or suspended pursuant to the requirements of the City of Santa Fe Purchasing Manual shall not be permitted to do business with the Owner and shall not be considered for the award of contract during the period for which it is debarred or suspended.

4.0 BRIBES, GRATUITIES, AND KICK-BACKS

- 4.1 It is illegal in the State of New Mexico for any public employee to solicit or accept anything of value in connection with the award of this bid and for any person to offer or pay anything of value to any such public employee (30-24-1 through 30-24-2, NMSA 1978).
- 4.2 Pursuant to Section 13-1-191, NMSA 1978, reference is hereby made to the Criminal Laws of New Mexico (including 30-24-1, 30-23-2, and 30-41-1 through 3-41-3, NMSA 1978), which prohibit bribes, kick-backs, and gratuities and violation of which constitutes a felon. Further, the Procurement Code (13-1-28 through 13-1-199, NMSA 1978), imposes civil and criminal penalties for its violation

5.0 PROTESTS (CITY OF SANTA FE PURCHASING MANUAL)

- 5.1 Any Contractor who is aggrieved in connection with a procurement may protest to the City of Santa Fe Purchasing Agent and the Owner. The protest should be made in writing within twenty-four (24) hours after the facts or occurrences; giving rise thereto, but in no case, less than within fifteen (15) calendar days after the facts or occurrences giving rise thereto.
- 5.2 In the event of a timely protest under Section 5.1 the City of Santa Fe Purchasing Agent and the Owner shall not proceed further with the procurement unless the Owner makes a determination that the award of contract is necessary to protect substantial interests of the Owner.
- 5.3 The City of Santa Fe Purchasing Agent or its designee shall have the authority to take any action reasonably necessary to resolve a protest of an aggrieved Contractor concerning a procurement.
- 5.4 This authority shall be exercised in accordance with adopted regulations, but shall not include the authority to award money damages or attorneys' fees.
- 5.4 The City of Santa Fe Purchasing Agent or its designee shall promptly issue a determination relating to the protest. The determination shall:

- A. State the reasons for the action taken; and,
- B. Inform the protestant of the right to judicial review of the determination.

5.6 A copy of the determination issued shall be mailed immediately to the protestant.

6.0 CONTRACT BOND REQUIREMENTS

6.1 The Successful Bidder, where the Contract Price exceeds five hundred dollars (\$500), shall post a one hundred percent (100%) Performance Bond and a one hundred percent (100%) Labor and Material Payment Bond. Bonds shall be executed on Performance Bond and Labor and Material Payment Bond forms attached hereto, with amount payable conforming to the terms of the contract. Surety shall be a company licensed to do business in the State of New Mexico and acceptable to the Owner.

6.2 Personal sureties may be accepted if the Owner so determines in advance, but in such case the amount of the Bond shall be the full Contract Price, and the sureties shall justify under oath in amounts above liabilities and exemptions aggregating double the amount of the Bond.

6.3 Special attention of Bidders is called to the requirements of Section 13-4-18 through 13-4-20, NMSA 1978 regarding a Contractor who does not have its principal place of business in the State of New Mexico for all taxes due arising out of construction services rendered under the Contract.

6.3.1 The right to sue on this Bond accrues only to the Owner and the parties to whom Sections 13-4-18 through 13-4-20, NMSA 1978 grant such right; and any such right shall be exercised only in accordance with the provisions and limitations of said statutes.

7.0 NON-RESIDENT CONTRACTOR'S REQUIREMENTS REGARDING GROSS RECEIPTS TAX SURETY BOND

7.1 Section 7-1-55A, NMSA 1978 provides that any person (as defined in Section 7-1-3, NMSA 1978) engaged in the construction business who does not have its principal place of business in New Mexico and enters into a prime construction contract to be performed in this State shall, at the time such contract is entered into, furnish the Director of the Revenue Division, Taxation and Revenue Department, or its delegate with a surety bond or other acceptable security in a sum equivalent to the gross receipts to be paid under the contract multiplied by the applicable rate of the gross receipts tax imposed by Section 7-9-4, NMSA 1978 to secure payment of the tax imposed on the gross receipts from the contract, and shall obtain a certificate from the Director of the Revenue Division, Taxation and Revenue Department, or its delegate that the requirements of this

paragraph have been met.

- 7.2 If the total sum to be paid under the contract is changed by ten percent or more after the date the surety bond or other acceptable security is furnished, to the Director or its delegate, such person shall increase or decrease, as the case may be, the amount of the bond or security within fourteen (14) days after the change (7-1-55B, NMSA 1978).
- 7.3 In addition to the above requirements, Contractor will be subject to all the requirements of the City Procurement Code.

8.0 CONTRACTOR'S GROSS RECEIPTS TAX REGISTRATION

- 8.1 Section 7-10-4, NMSA 1978 provides that any person (as defined in Section 7-10-3, NMSA 1978) performing services for the Owner, as those terms are used in the Gross Receipts and Compensating Tax Act (Section 7-10-1 to 7-10-5, NMSA 1978), must be registered and be issued a CRS identification number with the Revenue Division of the Taxation and Revenue Department to pay the gross receipts tax.
- 8.2 The CRS identification number is needed to properly complete the approval process of the contract; therefore, to cause no delay in the processing, Contractor must register with the State of New Mexico, Taxation and Revenue Department. For information contact:

Revenue Division
Taxation and Revenue Department
Manual Lujan Building
1200 St. Francis Drive
Santa Fe, NM 87503
(505) 988-2290

- 8.3 If any person who performs services for the Owner is not registered to pay the gross receipts tax, the Owner shall withhold payment of the amount due until the person has presented evidence of registration with the Revenue Department to pay the gross receipts tax.

9.0 CONTRACT WITH NONRESIDENT PERSON OR PARTNERSHIPS OR UNADMITTED FOREIGN CORPORATIONS; AGENT FOR SERVICE OF PROCESS

- 9.1 Special attention of Bidders is called to requirements of Sections 13-4-21 through 13-4-24, NMSA 1978, whereby a public works contract with a nonresident person or partnership or foreign corporation not authorized to do business in the State shall contain a specific provision designating an agent resident within the State, and its address, upon whom process and writs in any action or proceeding against

such business may be served in any action arising out of such contract.

10.0 STATE ALLOWANCES

- 10.1 Contractor shall purchase the “Allowed Materials” as directed by the Owner through the Engineer on the basis of the lowest and the best bid of at least three competitive bids. If the actual price for purchasing the “Allowed materials” is more or less than the “Cash Allowance,” the Contract Price shall be adjusted accordingly. The adjustment in Contract Price made on the basis of the purchase price without additional charges for overhead, profit, insurance, or any other incidental expenses. The cost of installation of the “Allowed Materials” shall be included in the applicable section of the Specifications covering the work.

11.0 MINIMUM WAGE RATES

- 11.1 This project is subject to the Minimum Wage Rates as determined by the New Mexico State Labor & Industrial Commission pursuant to Chapter 13, Section 13-14-11, NMSA 1978. The Minimum Wage Rates to be paid by Contractor and any Subcontractors to their employees on this project as listed in the New Mexico State Labor and Industrial Commission Minimum Wage Rate Decision. A copy of this decision is bound in these documents immediately following this page.
- 11.2 All Contractors and Subcontractors shall submit one (1) certified copy of the project weekly payroll to the Santa Fe Solid Waste Management Agency, 149 Wildlife Way, Santa Fe, NM 87506, c/o Mr. Randall Kippenbrock, Executive Director and one (1) copy also certified directly to the New Mexico State Labor Commission – Public Works Division, Aspen Building, 1596 Pacheco Street, Santa Fe, New Mexico 87501, not later than five (5) working days after the close of each payroll period. The prime Contractor shall be responsible for the submission of copies of payrolls of all subcontractors.
- 11.3 Before using apprentices on this project, Contractor shall present to the Contracting Officer written evidence of registration of such employees with the U.S. Department of Labor, Bureau of Apprenticeship and Training, Western Bank Building (Room 1414), 505 Marquette Avenue, N.W., Albuquerque, New Mexico 87102, Telephone 766-2398. If the apprenticeship is not registered in a bona fide apprenticeship program as mentioned above, the journeyman’s wage rate for that particular classification in which Contractor is working is applicable.

12.0 FORM OF CHANGE ORDER AND CHANGE ORDER NOTICE TO PROCEED

- 12.1 The following forms issued by the Owner are to be utilized by Contractor, Engineer, and the Owner pursuant to the requirements of the General Conditions.

13.0 STATE OF NEW MEXICO STATE CONSTRUCTION INDUSTRIES DIVISION

13.1 Contractor, at its own expense, shall secure any required construction permits from the State CID for this Project. Contractor shall adhere to the requirements established for inspections.

14.0 DISPOSAL REQUIREMENTS

14.1 Contractor shall be responsible for the disposal of all rubble, excess materials, etc. at an approved disposal facility.

15.0 TESTS

15.1 Article 7.6 of Section 10 – General Conditions shall be replaced by the following: If the Contract Document, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any portion of the work to be inspected, tested or approved, Contractor shall give the Engineer timely notice of its readiness so the Engineer or Owner’s Construction Quality Assurance (CQA) Consultant’s representative may observe such inspection, testing or approval. Owner shall bear the costs of such inspections, tests or approvals in accordance with the Construction Plans and Contract Document, with the exception of pneumatic pressure testing. Tests specifically called for by specifications shall be conducted in accordance with the Construction Plans and Contract Document. Records of tests shall be delivered to the Engineer.

16.0 UNCOVERING OF WORK

16.1 Article 13.1.1 of Section 10 – General Conditions shall be replaced by the following: The Contractor shall provide adequate notice to the Owner’s CQA Consultant prior to any Work requiring the Owner’s CQA observation, testing, or surveying to prevent delays in Construction. If any portion of the work has been covered or tested without the Owner’s CQA Consultant present, the Owner’s CQA Consultant may request to see such work and it shall be uncovered by Contractor. The Contractor shall be responsible for the cost of uncovering and replacement, if required.

Section 12

State of New Mexico Wage Rates Determination

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LABOR RELATIONS DIVISION

401 Broadway NE
 Albuquerque, NM 87102
 Phone: 505-841-4400
 Fax: 505-841-4424

226 South Alameda Blvd
 Las Cruces, NM 88005
 Phone: 575-524-6195
 Fax: 575-524-6194

WWW.DWS.STATE.NM.US

1596 Pacheco St, Suite 103
 Santa Fe, NM 87505
 Phone: 505-827-6817
 Fax: 505-827-9676

Wage Decision Approval Summary

1) Project Title: Phase 3 Landfill Gas Collection System Expansion
 Requested Date: 02/18/2020
 Approved Date: 02/21/2020
 Approved Wage Decision Number: SF-20-0361-H

Wage Decision Expiration Date for Bids: 06/20/2020

2) Physical Location of Jobsite for Project:
 Job Site Address: 149 Wildlife Way
 Job Site City: Santa Fe
 Job Site County: Santa Fe

3) Contracting Agency Name (Department or Bureau): CITY OF SANTA FE
 Contracting Agency Contact's Name: Randall Kippenbrock
 Contracting Agency Contact's Phone: (505) 424-1850 Ext. 100

4) Estimated Contract Award Date: 04/16/2020

5) Estimated total project cost: \$281,154.00
 a. Are any federal funds involved?: No
 b. Does this project involve a building?: No
 c. Is this part of a larger plan for construction on or appurtenant to the property that is subject to this project?: No
 d. Are there any other Public Works Wage Decisions related to this project?: No
 e. What is the ultimate purpose or functional use of the construction once it is completed?: Expansion of an existing landfill gas collection system by installing new gas wells in Cell 5B.

6) Classifications of Construction:

Classification Type and Cost Total	Description
Heavy Engineering (H) Cost: \$281,154.00	General: The Work included in the contract consists of expansion of an existing landfill gas collection system, including but not limited to the following: <input type="checkbox"/> Drilling and completion of vertical LFG extraction wells and installation of 2-inch wellheads; <input type="checkbox"/> Installation of below-grade LFG header and lateral piping, including connection to vertical LFG extraction wells and existing lateral/ header piping; and <input type="checkbox"/> Installation of a condensate management system, including installation of condensate forcemain and air supply line and connection to existing condensate management piping.



Cable Splicer	35.97	11.28	0.60
Electricians-Inside Classifications: Zone 2			
Wireman/low voltage technician	35.64	11.27	0.60
Cable Splicer	38.91	11.37	0.60
Electricians-Inside Classifications: Zone 3			
Wireman/low voltage technician	37.61	11.33	0.60
Cable Splicer	40.88	11.43	0.60
Electricians-Inside Classifications: Zone 4			
Wireman/low voltage technician	41.20	11.44	0.60
Cable Splicer	44.47	11.53	0.60
Electricians-Inside Classifications: Los Alamos			
Wireman/low voltage technician	37.61	13.21	0.60
Cable Splicer	40.88	13.47	0.60
Glazier			
Glazier/Fabricator	20.25	5.35	0.60
Delivery Driver	9.00	5.35	0.60
Ironworker	27.00	15.75	0.60
Painter- Industrial	21.25	9.17	0.60
Paperhanger	18.75	9.17	0.60
Drywall-Industrial			
Ames tool Operator	25.93	7.10	0.60
Hand finisher/machine texture	24.93	7.10	0.60
Plumber/Pipefitter	30.76	11.62	0.60
Roofer	25.23	7.97	0.60
Sheet metal Worker	31.03	17.26	0.60
Operators			
Group I	20.55	6.34	0.60
Group II	20.75	6.34	0.60
Group III	20.94	6.34	0.60
Group IV	21.08	6.34	0.60
Group V	21.19	6.34	0.60
Group VI	21.37	6.34	0.60
Group VII	21.39	6.34	0.60



Group VIII	23.29	6.34	0.60
Group IX	28.96	6.34	0.60
Group X	32.19	6.34	0.60
Laborers			
Group I-Unskilled	17.06	6.22	0.60
Group II-Semi-Skilled	17.81	6.22	0.60
Group III-Skilled	19.32	6.22	0.60
Group IV-Specialty	19.72	6.22	0.60
Laborers-Underground			
Group I	18.97	6.22	0.60
Group II	19.34	6.22	0.60
Group III	19.69	6.22	0.60
Truck Drivers			
Group I-VII	16.45	7.87	0.60
Group VIII	16.51	7.87	0.60
Group IX	18.45	7.87	0.60

NOTE: All contractors are required to pay SUBSISTENCE, ZONE AND INCENTIVE PAY according to the particular trade. Details are located in a PDF attachment at WWW.DWS.STATE.NM.US. Search Labor Relations/Labor Information/Public Works/Prevailing Wage Rates.

For more information about the Subsistence, Zone, and Incentive Pay rates, or to file a wage claim, contact the Labor Relations Division at (505) 841-4400 or visit us online at www.dws.state.nm.us.



PUBLIC WORKS PROJECT REQUIREMENTS

As a participant in a Public Works project valued at more than \$60,000 in the state of New Mexico, the following list addresses many of the responsibilities that are defined by statute or regulation to each project stakeholder.

Contracting Agency

- Ensure that all contractors wishing to bid on a Public Works project when the project is \$60,000 or more are actively registered with the Public Works and Apprenticeship Application (PWAA) website: <http://www.dws.state.nm.us/pwaa> (Contractor Registration) prior to bidding.
- Please submit Notice of Award (NOA) and Subcontractor List(s) to the PWAA website promptly after the project is awarded.
- Please update the Subcontractor List(s) on the PWAA website whenever changes occur.
- All sub-contractors and tiers (excluding professional services) regardless of contract amount must be listed on the Subcontractor List and must adhere to the Public Works Minimum Wage Act.
- Ninety days after project completion please go into the PWAA system and close the project. Only contracting agencies are allowed to close the project. Agents or contractors are not allowed to close projects.

General Contractor

- Provide a complete Subcontractor List and Statements of Intent (SOI) to Pay Prevailing Wages for all contractors, regardless of amount of work, to the contracting agency within 3 (three) days of award.
- Ensure that all subcontractors wishing to bid on a Public Works project have an active Contractor Registration with the Public Works and Apprenticeship Application (PWAA) website: <http://www.dws.state.nm.us/pwaa> prior to bidding when their bid will exceed \$60,000.
- Make certain the Public Works Apprentice and Training Act contributions are paid either to an approved Apprenticeship Program or to the Public Works Apprentice and Training Fund.
- Confirm the Wage Rate poster, provided in PWAA, is displayed at the job site in an easily accessible place.
- When the project has been completed, make sure the Affidavits of Wages Paid (AWP) are sent to the contracting agency.
- All subcontractors and tiers (excluding professional services) regardless of contract amount must pay prevailing wages, be listed on the Subcontractor List, and adhere to the Public Works Minimum Wage Act.



LABOR RELATIONS DIVISION
121 Tijeras Ave NE, Suite 3000
Albuquerque, NM 87102
Phone: 505-841-4400
Fax: 505-841-4424

WWW.DWS.STATE.NM.US

Subcontractor

- Ensure that all subcontractors wishing to bid on a Public Works project have an active Contractor Registration with the Public Works and Apprenticeship Application (PWAA) website: <http://www.dws.state.nm.us/pwaa> prior to bidding when their bid will exceed \$60,000.
- Make certain the Public Works Apprentice and Training Act contributions are paid either to an approved Apprenticeship Program or to the Public Works Apprentice and Training Fund.
- All subcontractors and tiers (excluding professional services) regardless of contract amount must pay prevailing wages, be listed on the Subcontractor List, and adhere to the Public Works Minimum Wage Act.

Additional Information

Reference material and forms may be found in the New Mexico Department of Workforce Solutions Public Works web pages at: <https://www.dws.state.nm.us/Labor-Relations/Labor-Information/Public-Works>.

CONTACT INFORMATION

Contact the Labor Relations Division for any questions relating to Public Works projects by email at public.works@state.nm.us or call (505) 841-4400.



Type "H - Heavy Engineering

Effective January 1, 2020

Trade Classification	Base Rate	Fringe Rate	Apprenticeship
Asbestos workers/Heat & Frost Insulators	32.26	12.06	0.60
Asbestos workers/Heat & Frost Insulators- Los Alamos County	34.69	12.06	0.60
Boilermaker	34.97	27.35	0.60
Bricklayer/Block layer/Stonemason	25.54	8.81	0.60
Carpenter/Lather	24.63	11.24	0.60
Carpenter- Los Alamos County	27.80	13.19	0.60
Millwright/Pile driver	33.16	25.24	0.60
Cement Mason	21.00	9.38	0.60
Electricians-Outside Classifications: Zone 1			
Ground man	23.27	12.67	0.60
Equipment Operator	33.39	15.35	0.60
Lineman/Tech	39.28	16.91	0.60
Cable Splicer	42.21	17.95	0.60
Electricians-Outside Classifications: Zone 2			
Ground man	23.27	12.67	0.60
Equipment Operator	33.39	15.35	0.60
Lineman/Tech	39.28	16.91	0.60
Cable Splicer	42.21	17.95	0.60
Electricians-Outside Classifications: Los Alamos			
Ground man	23.94	12.85	0.60
Equipment Operator	34.35	15.60	0.60
Lineman/Tech	40.41	17.21	0.60
Cable Splicer	44.45	18.28	0.60
Electricians-Inside Classifications: Zone 1			



Wireman/low voltage technician	32.70	11.18	0.60
Cable Splicer	35.97	11.28	0.60
Electricians-Inside Classifications: Zone 2			
Wireman/low voltage technician	35.64	11.27	0.60
Cable Splicer	38.91	11.37	0.60
Electricians-Inside Classifications: Zone 3			
Wireman/low voltage technician	37.61	11.33	0.60
Cable Splicer	40.88	11.43	0.60
Electricians-Inside Classifications: Zone 4			
Wireman/low voltage technician	41.20	11.44	0.60
Cable Splicer	44.47	11.53	0.60
Electricians-Inside Classifications: Los Alamos			
Wireman/low voltage technician	37.61	13.21	0.60
Cable Splicer	40.88	13.47	0.60
Glazier			
Glazier/Fabricator	20.25	5.35	0.60
Delivery Driver	9.00	5.35	0.60
Ironworker	27.00	15.75	0.60
Painter- Industrial	21.25	9.17	0.60
Paperhanger	18.75	9.17	0.60
Drywall-Industrial			
Ames tool Operator	25.93	7.10	0.60
Hand finisher/machine texture	24.93	7.10	0.60
Plumber/Pipefitter	30.76	11.62	0.60
Roofer	25.23	7.97	0.60
Sheet metal Worker	31.03	17.26	0.60
Operators			
Group I	20.55	6.34	0.60
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Group VI	21.37	6.34	0.60



Group VII	21.39	6.34	0.60
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Laborers-Underground			
Group I	18.97	6.22	0.60
Group II	19.34	6.22	0.60
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Group I-VII	16.45	7.87	0.60
Group VIII	16.51	7.87	0.60
Group IX	18.45	7.87	0.60

NOTE: All contractors are required to pay SUBSISTENCE, ZONE AND INCENTIVE PAY according to the particular trade. Details are located in a PDF attachment at WWW.DWS.STATE.NM.US. Search Labor Relations/Labor Information/Public Works/Prevailing Wage Rates.

For more information about the Subsistence, Zone, and Incentive Pay rates, or to file a wage claim, contact the Labor Relations Division at (505) 841-4400 or visit us online at www.dws.state.nm.us.

Section 13 Technical Specifications

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SECTION 01010

SUMMARY OF WORK

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. This section includes the following information:
 - 1. Project location, access, and hours of construction.
 - 2. Scope of work.
 - 3. Construction sequence.
 - 4. Existing site conditions.
 - 5. Access to Work.
- B. The individual technical specifications provided herein supplement the requirements specified in the General Conditions of the Contract. If the requirements of these individual technical specifications and the General Conditions conflict, the Contractor shall adhere to the more stringent requirement as determined by the Owner and Engineer.
- C. The definitions, authorities, duties, and responsibilities below apply to the technical specifications provided herein:
 - 1. Owner – Caja del Rio Solid Waste Facility or Santa Fe Solid Waste Management Agency.
 - 2. Contractor – A person, firm or corporation with whom the contract is made by the Owner.
 - a. The Contractor shall become familiar with the project conditions. The Contractor is responsible for controlling all aspects of Work, including construction, the quality of materials, and construction on the jobsite according to the technical specifications.
 - b. Quality Assurance inspections by the Engineer or CQA Consultant and visits by other representatives of the Owner shall not relieve the Contractor from complying with the requirements of the Contract.
 - 3. Engineer – The term Engineer shall apply to consultants hired by the Owner (i.e. Stearns, Conrad and Schmidt Consulting Engineers, Inc. d/b/a SCS Engineers), who will perform inspections or provide guidance, information, or direction concerning the project.
 - a. All work shall be done to the satisfaction of the Engineer. Engineer shall make decisions on all questions which arise as to quality and acceptability of materials furnished and work performed, rate of progress of the Work, interpretation of the construction plans and technical specifications, acceptable fulfillment of the contract, compensation, mutual rights between contractors under these specifications, and the suspension of Work. Engineer shall determine the amount and quality of the Work performed and materials furnished and Engineer's decisions and estimates shall be final.

4. CQA Consultant – References to CQA Consultant throughout the technical specifications shall be defined as either the SCS Engineers or on-site CQA Technician who is a representative of the Engineer.
 - a. The CQA Technician, designated by and acting under the direction of the Owner and/or Engineer, shall have the authority to inspect all work done and all materials furnished. Such inspection may extend to all or any part of the Work and to the preparation, fabrication or manufacture of the materials to be used. The CQA Technician is authorized to call to the attention of the Contractor any failure of the Work or materials to conform to the Construction Plans, Technical Specifications, and Contract Documents, and shall have the authority to reject materials until any situation at issue can be referred to and decided by the Engineer. These inspections are for assurance on behalf of the Owner and do not relieve the Contractor from the responsibility of controlling the quality of Work or materials furnished under this contract.
 - b. The CQA Technician is not authorized to revoke, alter or waive any requirements of the construction plans and technical specifications. The CQA Technician shall not act as foreman, perform other duties for the Contractor, or interfere with the management of the Contractor's Work. Any advice that the CQA Technician may give the Contractor shall not be construed as binding the Owner/Engineer in any way nor waiving any of the terms of the Contract.

1.2 PROJECT LOCATION, ACCESS, AND HOURS OF CONSTRUCTION

- A. Project Location: The Site (may also referred to in the Contract Documents as Project Site) is the Caja del Rio Solid Waste Facility (referred herein as Site), owned and operated by the Santa Fe Solid Waste Management Authority. This Site is located at 149 Wildlife Way, Santa Fe, New Mexico, 87502.
- B. Access: Access to the Work areas for equipment and materials is via the Site's existing site entrance, which is accessed from Wildlife Way.
 1. The Contractor and their subcontractors, vendors, and suppliers shall not interfere with Site operations and shall obey traffic safety personnel and signs at all times.
 2. The Contractor and their subcontractors, vendors, and suppliers shall provide a sign-in sheet to the Landfill Manager or designee on a daily basis.
- C. Contractor may perform Work between the hours of 7:00 am and 5:00 pm, Monday through Saturday, or as specified and approved by the Owner. Contractor may not perform Work on Sundays without written authorization from the Owner.

1.3 SCOPE OF WORK

- A. General: The Work included in the contract consists of expansion of an existing landfill gas collection system, including but not limited to the following:
 1. Drilling and completion of vertical LFG extraction wells and installation of 2-inch wellheads;
 2. Installation of below-grade LFG header and lateral piping, including connection to vertical LFG extraction wells and existing lateral/header piping;
 3. Installation of a condensate management system, including installation of condensate forcemain and air supply line and connection to existing condensate management piping; and

4. Add alternates which may be required as a result of existing site conditions at the time of construction or selected at the discretion of the Owner include the following:
 - a. road crossings; and
 - b. trenching in excess of 5-feet in depth.
- B. The Work is more fully detailed in the Technical Specifications and Construction Plans included herein.
 1. The above description of the Work is for general information only, and does not limit the responsibility of the Contractor to accomplish the Work in strict accordance with the General Conditions of the contract, Construction Plans and these Technical Specifications. The Work is more fully detailed in the Technical Specifications and Construction Plans included herein.
 2. Environmental Observations: The Work shall be performed in strict accordance with the applicable requirements of the state and local agencies having jurisdiction, and in accordance with the requirements of the General Conditions of the Contract and these Technical Specifications.
 3. The Contractor shall note that other construction projects or operations may be occurring onsite. As such, Contractor shall use appropriate coordination concerning daily activities during construction to avoid interference with other Contractors or landfill operations.

1.4 CONSTRUCTION SEQUENCE, MEETINGS, AND SCHEDULE

- A. The Contractor shall provide a detailed construction schedule describing the construction sequence for the project, as described in Section 01200. The construction sequence detailed in the construction schedule shall be prepared to limit the interference with landfill operations, as approved by the Owner and Engineer.
- B. Meetings will be conducted between the Owner, Engineer and Contractor prior to commencement of construction and periodically throughout construction, as requested by the Owner or Engineer, as specified in Section 01200. The intent of these meetings is to review and discuss specification requirements for that particular sequence of construction.
- C. At least monthly or more often as requested by Owner or Engineer, the Contractor shall present an updated construction schedule outlining and detailing the equipment, personnel, and materials required, including source, transportation, handling, and placement of proposed materials. The Contractor shall cooperate fully and coordinate his activities with other activities and Owner's staff to ensure adequate notification and suitable access for the Work.

1.5 EXISTING SITE CONDITIONS

- A. The Contractor is advised that the construction of this project at the Site will entail working in, on and adjacent to buried solid wastes and refuse. As buried organic materials decompose anaerobically, they generate landfill gas (LFG). This LFG (or biogas) normally consists of about 50 percent carbon dioxide (CO₂), 50 percent methane (CH₄) and other gases, depending on the composition of the buried materials. Occasionally hydrogen sulfide (H₂S) or other toxic gases have been encountered at some landfills even though the Site was not classified as a hazardous waste disposal site.
- B. The Site is permitted for the disposal of "nonhazardous solid waste", including but not limited to, municipal solid waste resulting from or incidental to municipal, community, institutional, recreational, and construction and demolition activities; certain industrial solid wastes; and special wastes, in

accordance with the landfill permit and municipal solid waste regulations. Notwithstanding the above, the Owner cannot guarantee that toxic or hazardous materials or vapors will not be encountered by the Contractor during the performance of the Work.

1.6 ACCESS TO WORK

- A. The authorized representatives of the following agencies will also have the right of access to inspect the Work covered by these Contract Documents during the performance of this Contract:
 - 1. Owner.
 - 2. New Mexico Environment Department (NMED).
 - 3. Other Local, State, and Federal Agencies.
- B. These inspections will be performed in the presence of the Owner, Engineer, and/or CQA Consultant.

PART 2 – PRODUCTS

2.1 CONSTRUCTION SIGNAGE, BARRICADES, AND TRAFFIC CONTROL

- A. As necessary or as requested by Owner/Engineer, the Contractor shall be responsible for furnishing all labor, material, equipment and incidental items needed to provide adequate construction signage, barricades, traffic control devices and other related items for the project area during the construction period.
- B. The work for construction signage, barricades, and traffic control shall be considered an incidental item and the cost of this item is to be included in other pay items.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.1 DESCRIPTION

- A. The Contractor shall receive and accept the compensation provided in the Contract as full payment for furnishing all labor, equipment, materials, and incidentals for performing all construction necessary to complete the Work, as described in the Contract and shown on the Construction Plans.
- B. The prices included in the Bid Schedule shall include all costs for labor, equipment, materials, all applicable taxes, freight, permits, handling and tests required to perform the Work as shown on the Construction Plans. The Bid Schedule shall contain a separate entry for New Mexico Gross Receipts Tax immediately preceding the Total Base Bid, and all Add Alternates shall contain a separate entry for New Mexico Gross Receipts Tax immediately preceding the Subtotal for Add Alternate Amount. Taxes shall be determined in a manner consistent with Section 2 of the Contract Special Provisions.
- C. Pay items in the Bid Schedule are the only pay items for the project. Any other items necessary for a complete project, but not shown in the Bid Schedules or specified herein shall be considered an incidental item and its cost shall be included in one of the respective items specified herein.
- D. All Work shall be performed consistent with the respective Technical Specifications, Construction Plans, and the General Conditions and Supplemental General Conditions of the Contract Documents.
- E. The Contractor shall field-verify all quantities, dimensions, and elevations shown on the Construction Plans or contained in the Bid Schedule prior to commencement of Work, and immediately notify the Owner of discrepancies.
- F. The Contractor shall note, Add Alternates may be may be required due to site conditions at the time of construction. Add Alternates related to road crossings and deep trench may be selected at the discretion of the Owner. Measurement and payment for the add alternates is described in Part 3.2 of this Section.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

3.1 MEASUREMENT AND PAYMENT – BASE BID

- A. Item No. 1 – Mobilization/Demobilization
 - 1. Measurement. This item will be measured on a lump sum basis.
 - 2. Payment. Payment for this item will be at the contract lump sum price, and shall constitute full compensation for movement of personnel, equipment, supplies and incidentals thereto to the Site. No price adjustments will be made for this item due to changes in the Work. Demobilization includes removal from the Site of all materials, resources, equipment, temporary support facilities, utilities, and all remaining construction debris at the completion of the project. A partial payment of 50 percent of the contract lump sum price may be made once mobilization is completed. However, the remainder of the contract lump sum price shall not be paid until demobilization is completed at project closeout.

- B. Item No. 2 – Vertical LFG Extraction Wells (6-inch HDPE SDR 11 Pipe)
1. Measurement. Drilling and installation of vertical LFG extraction wells shall be measured on an installed vertical foot basis measured from existing ground surface to the bottom of the wellbore as measured in the field and approved by Owner’s CQA Consultant.
 2. Payment. Payment for this item will be at the contract unit price per vertical foot installed. Payment includes all drilling, boring, and transport of waste materials; and supply and installation of washed non-calcareous stone, well plugs, perforated and solid piping, pipe connections, wellbore reinforcement grate, health and safety, and caps; and transport and installation of clean soil backfill. Payment shall constitute full compensation for all material, labor, equipment, and work incidental thereto, necessary to complete this item in accordance with the Technical Specifications and Construction Plans.
- C. Item No. 3 – Drilling Past Obstructions / Drilling less than 5-foot per hour
1. Measurement. Measurement for this item shall be on an hourly basis for drilling past obstructions in excess of one (1) hour and drilling advancement that falls below 5-foot/hour as approved by Owner’s CQA Consultant.
 2. Payment. Payment for this item will be at the contract unit price per hour for drilling past obstructions and drilling less than 5-foot/hour. Payment will be based on each hour that Engineer requests Contractor to continue drilling to attempt to pass hard obstructions, perched liquids, or slow drilling environments in excess of one (1) hour. Payment shall constitute full compensation for all material, labor, equipment, and work incidental thereto, necessary to complete this item in accordance with the Technical Specifications and Construction Plans.
- D. Item No. 4 – Wellbore Abandonment
1. Measurement. Measurement for this item shall be on a vertical foot basis of abandoned wellbore, as approved by Owner’s CQA Consultant.
 2. Payment. Payment for this item will be at the contract unit price per vertical foot of wellbore abandoned. Payment for this item will include drilling, boring, transport of waste materials, installation of clean soil backfill, and health and safety requirements. Payment for abandoned wellbores shall not exceed 1/3 unit price for drilling and completing vertical extraction wells. Payment shall constitute full compensation for all material, labor, equipment, and work incidental thereto, necessary to complete this item in accordance with the Technical Specifications and Construction Plans.
- E. Item No. 5 – Standard Wellhead Installation
1. Measurement. Measurement for this item shall be on an installed per each unit basis.
 2. Payment. Payment for this item will be at the contract unit price per each supplied and installed 2-inch diameter QED Quick-Change Orifice Plate wellhead (QED Model ORP215). Payment includes supply and installation of valving, fittings, piping, Solarguard™ flex hose, orifice plate kit (QED Model 40640), power clamps, reducers, wellbore grates, above grade connections to laterals and extraction wells, and other incidentals. Payment shall constitute full compensation for all material, labor, equipment, and work incidental thereto, necessary to complete this item in accordance with the Technical Specifications and Construction Plans.
- F. Item No. 6 – Remote Wellhead Installation
1. Measurement. Measurement for this item shall be on an installed per each unit basis.

2. Payment. Payment for this item will be at the contract unit price per each supplied and installed 2-inch QED Quick-Change Orifice Plate Wellhead (QED Model ORP215) for a remote wellhead. Payment includes **salvaging the existing remote wellhead and pipe abandonment (existing above-grade pipe)**, supply and installation of valving, fittings, piping, Solarguard™ flex hose, orifice plate kit (QED Model 40640), power clamps, reducers, above grade connections to laterals, and other incidentals. Payment shall constitute full compensation for all material, labor, equipment, and work incidental thereto, necessary to complete this item in accordance with the Technical Specifications and Construction Plans.
- G. Item No. 7 – Extraction Well Soil and Aggregate Mound
1. Measurement. Measurement for this item shall be on an installed per each unit basis.
 2. Payment. Payment for this item will be at the contract unit price per each installed soil and aggregate mound installed at each new extraction well or remote wellhead. Payment includes supply and installation of aggregate and soil, compaction, and incidentals. Payment shall constitute full compensation for all material, labor, equipment, and work incidental thereto, necessary to complete this item in accordance with the Technical Specifications and Construction Plans.
- H. Item No. 8 – 2-inch HDPE SDR 9 Air Supply Line (Common Pipe Trench)
1. Measurement. Measurement for this item shall be on an installed linear foot basis of 2-inch diameter HDPE SDR 9 air supply line installed in a **common pipe trench**, as measured during the conformance survey conducted by Owner’s CQA Consultant.
 2. Payment. Payment for this item will be at the contract unit price per linear foot. Payment includes supply and installation of piping, fittings, joining materials, and accessories required for the installation of piping, including connections to proposed piping, performance testing, and incidentals. Payment shall constitute full compensation for all material, labor, equipment and Work incidental thereto, necessary to complete this item in accordance with the Technical Specifications and Construction Plans.
- I. Item No. 9 – 2-inch HDPE SDR 11 Condensate Forcemain (Common Pipe Trench)
1. Measurement. Measurement for this item shall be on an installed linear foot basis of 2-inch diameter HDPE SDR 11 condensate forcemain (single-contained) piping installed in a **common pipe trench**, as measured during the conformance survey conducted by Owner’s CQA Consultant.
 2. Payment. Payment for this item will be at the contract unit price per linear foot. Payment includes supply and installation of piping, fittings, joining materials, and accessories required for the installation of piping, including connections to proposed piping, performance testing, and incidentals. Payment shall constitute full compensation for all material, labor, equipment and Work incidental thereto, necessary to complete this item in accordance with the Technical Specifications and Construction Plans.
- J. Item No. 10 – 6-inch HDPE SDR 17 Lateral
1. Measurement. Measurement for this item shall be on an installed linear foot basis of 6-inch diameter HDPE SDR 17 piping for laterals, **including salvaging (existing above-grade pipe) and reusing approximately 500-linear feet of piping**, as measured during the conformance survey conducted by Owner’s CQA Consultant.
 2. Payment. Payment for this item will be at the contract unit price per linear foot. Payment includes **salvaging (existing above-grade pipe) and reusing approximately 500-linear feet of piping**, excavation, trenching, transport of waste materials, clean soil backfill, and soil compaction; and supply and installation of piping, fittings, joining materials, and accessories required for the

installation of piping, including connections to proposed piping, performance testing, and incidentals. Payment shall constitute full compensation for all material, labor, equipment and Work incidental thereto, necessary to complete this item in accordance with the Technical Specifications and Construction Plans.

K. Item No. 11 – 8-inch HDPE SDR 17 Header

1. Measurement. Measurement for this item shall be on an installed linear foot basis of 8-inch diameter HDPE SDR 17 piping for headers, as measured during the conformance survey conducted by Owner's CQA Consultant.
2. Payment. Payment for this item will be at the contract unit price per linear foot. Payment includes excavation, trenching, transport of waste materials, clean soil backfill, and soil compaction; and supply and installation of piping, fittings, joining materials, and accessories required for the installation of piping, including connections to proposed piping, performance testing, and incidentals. Payment shall constitute full compensation for all material, labor, equipment and Work incidental thereto, necessary to complete this item in accordance with the Technical Specifications and Construction Plans.

L. Item No. 12 – Tie-in to Existing 6-inch Lateral/Lateral Riser (Below-Grade)

1. Measurement. Measurement for this item shall be on an each unit basis
2. Payment. Payment for this item will be at the contract unit price per each **below-grade** tie-in to existing 6-inch lateral/lateral riser. Payment includes excavation, trenching, transport of excavated materials, clean soil backfill, soil compaction, and fittings, joining materials, and accessories required for butt-fusion connections. Payment shall constitute full compensation for all material, labor, equipment, and work incidental thereto, necessary to complete this item in accordance with the Technical Specifications and Construction Plans.

M. Item No. 13 – Tie-in to Existing 12-inch Blind Flange, 2-inch Air Supply Line, and 2-inch Condensate Forcemain (Below-Grade)

1. Measurement. Measurement for this item shall be on an each unit basis.
2. Payment. Payment for this item will be at the contract unit price per each **below-grade** tie-in to existing 12-inch blind flange, 2-inch air supply line, and 2-inch condensate forcemain. Payment includes excavation, trenching, transport of excavated materials, clean soil backfill, soil compaction, and fittings, joining materials, and accessories required for flange connection (header) and butt-fusion (air supply line/condensate forcemain). Payment shall constitute full compensation for all material, labor, equipment, and work incidental thereto, necessary to complete this item in accordance with the Technical Specifications and Construction Plans.

3.2 MEASUREMENT AND PAYMENT – ADD ALTERNATES

A. Item No. AA-1 – 12-inch CMP Road Crossing:

1. Measurement. Measuring for payment will be on an installed linear foot basis of 12-inch CMP, as measured during the conformance survey conducted by the Owner's CQA Consultant.
2. Payment. Payment for this item will be at the contract unit price per linear foot. Payment includes CMP, excavation, road base, clean soil and aggregate backfilling, compaction, HDPE pipe placement inside the casing, repair of the road to its original condition after construction and other incidentals. Payment shall constitute full compensation for all material, labor, equipment, and work incidental thereto, necessary to complete this item in accordance with the Technical Specifications and Construction Plans.

B. Item No. AA-2 – 18-inch CMP Road Crossing:

1. Measurement. Measuring for payment will be on an installed linear foot basis of 18-inch CMP, as measured during the conformance survey conducted by the Owner's CQA Consultant.
2. Payment. Payment for this item will be at the contract unit price per linear foot. Payment includes CMP, excavation, road base, clean soil and aggregate backfilling, compaction, HDPE pipe placement inside the casing, repair of the road to its original condition after construction and other incidentals. Payment shall constitute full compensation for all material, labor, equipment, and work incidental thereto, necessary to complete this item in accordance with the Technical Specifications and Construction Plans.

C. Item No. AA-3 – Trench Depth Between 5-feet and 7-feet:

1. Measurement. Measuring for payment will be on an installed linear foot basis of trench depths between 5-feet and 7-feet, as measured during the conformance survey conducted by the Owner's CQA Consultant.
2. Payment. Payment for this item will be at the contract unit price per linear foot. Payment includes excavation, trenching, transport of waste materials, clean soil backfill, and soil compaction for trench depths between 5-feet and 7-feet. Payment shall constitute full compensation for all material, labor, equipment, and work incidental thereto, necessary to complete this item in accordance with the Technical Specifications and Construction Plans.

D. Item No. AA-4 – Trench Depth Between 7-feet and 10-feet:

1. Measurement. Measuring for payment will be on an installed linear foot basis of trench depths between 7-feet and 10-feet, as measured during the conformance survey conducted by the Owner's CQA Consultant.
2. Payment. Payment for this item will be at the contract unit price per linear foot. Payment includes excavation, trenching, transport of waste materials, clean soil backfill, and soil compaction for trench depths between 7-feet and 10-feet. Payment shall constitute full compensation for all material, labor, equipment, and work incidental thereto, necessary to complete this item in accordance with the Technical Specifications and Construction Plans.

END OF SECTION

SECTION 01052

LAYOUT OF WORK AND SURVEYS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Section includes requirements for layout of work and surveys to be provided by CQA Consultant for the following:
 - 1. Layout of Work for the following will be performed by the CQA Consultant:
 - a. Horizontal and vertical control stakes for vertical landfill gas (LFG) extraction wells performed by a performed by a Registered Professional Land Surveyor (RPLS), registered in the State of New Mexico.
 - b. Setting offset stakes and alignment stakes for field layout of LFG header and lateral piping and all other features for performance of the Work.
 - 2. Conformance surveys for pipe slope of all header and lateral piping provided by the CQA Consultant.
 - 3. Record (as-built) drawings, including measurement of quantities for payment provided by the CQA Consultant.
- B. Although, CQA Consultant will perform surveys for the project, this does not relieve the Contractor of the responsibility to install all components in accordance with the Construction Plans and Technical Specifications, including header/lateral pipe slope and depth of soil cover. Any surveying performed by the Contractor will be performed at no additional cost to Owner.

1.2 DESCRIPTION OF WORK

- A. Owner will provide reference points, including monument(s) and elevation benchmark(s) in the vicinity of the Work for the Contractor and Owner's CQA Consultant to perform their own survey, as specified herein. If displaced, replacement of these reference points will be replaced at the expense of the Contractor.
- B. Contractor shall provide access for CQA Consultant surveyor to perform necessary conformance surveys during construction.

1.3 LAYOUT OF WORK

- A. The CQA Consultant will perform the following pre-construction surveys:
 - 1. Pre-construction topographical survey of gas system expansion area to confirm landfill gas (LFG) extraction well and piping locations.
 - 2. Pre-construction staking of vertical extraction wells to confirm surface elevation and drilling depth prior to construction. This pre-construction survey will be used to finalize the well schedule, as described in the construction plans.

3. Horizontal control staking (alignment pre-construction layout) for all header and lateral piping. However, it is Contractor's responsibility to obtain slope and soil cover on installed header and lateral piping as specified in Section 15050 – HDPE Pipe, Fittings, and Valves and shown on Construction Plans. **All below-grade piping must have a minimum of 2-foot of cover, unless otherwise specified or approved by Engineer, and be installed with a minimum 3 percent slope.**
- B. Contractor must perform all additional slope staking, off-setting and other control staking to perform the Work at no additional cost to Owner.

1.4 CONFORMANCE (RECORD) SURVEYS

- A. The Owner's CQA Consultant shall prepare conformance surveys, as follows, for verification of header and lateral slope and soil cover, and for use in preparation of record drawings by the Engineer:
 1. Verify that the trench slope and soil cover for header and lateral piping meets the requirements specified in Section 02222 and on the Construction Plans at 50-foot intervals or less, including grade breaks or points-of-inflection along all piping and record such information in the project notes.
 2. Measure each length of installed pipe and mark the survey stations.
 3. Indicate the location of all fittings, valves, and other installed materials along the pipe alignment, as described in Part 1.4.A.
 4. Survey equipment shall be used to measure the change in relative elevation between each station, and verify piping meets slope requirements as specified in Section 02222 and on the Construction Plans.
 5. The change in elevation, slope, and soil cover for each section shall be clearly indicated in the record survey drawings prepared by Engineer.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01190
HEALTH AND SAFETY

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. This section describes the site conditions, potential for hazards, and general requirements for health and safety of personnel involved in the execution of the Work.
- B. This section describes the general requirements for trench safety systems, and requires the inclusion of trench safety within the Health and Safety Plan required by the Contractor.
- C. General requirements for furnishing services of a Safety Monitor.
- D. This section requires that the Contractor submit a Health and Safety Plan prior to the commencement of Work.

1.2 RELATED SECTIONS

- A. General and Supplemental Conditions
- B. Section 01010 – Summary of Work
- C. Section 01300 – Submittals
- D. Section 02222 – Excavating, Trenching, Backfilling, and Grading
- E. Section 02670 – LFG Extraction Wells and Wellheads

1.3 SUBMITTALS

- A. Contractor shall prepare a Health and Safety Plan (Plan) addressing worker safety during drilling and completion of LFG extraction wells; excavation, trenching, and backfill; and relocation of waste (if required). Contractor shall submit a copy of the Plan to the Owner and Engineer. However, the Owner or Engineer will not be responsible for the adequacy of the Plan in providing worker protection, or execution of the measures set forth in the Plan. This Plan will also include trench safety, as specified herein.
- B. No measurement and payment will be made for work required in this Section.

1.4 DESCRIPTION OF WORK

- A. This section supplements the requirements specified in the General Conditions. If the requirements of this Section and General Conditions conflict, the Contractor shall adhere to the more stringent requirement as determined by the Owner and Engineer.
- B. The provisions of this Section are supplementary to other provisions specified elsewhere in the Contract Documents.

- C. The Contractor should be familiar with the Safety Guidelines as prepared by the Solid Waste Association of North America (SWANA) National Landfill Gas Committee. Copies may be obtained by writing to SWANA, 8750 Georgia Avenue, Suite 140, Silver Spring, Maryland 20910, telephone number (800) 467-9262. Neither Owner nor Engineer make representation regarding the adequacy or completeness of these guidelines in addressing the issues associated with working in or near waste or landfills.
- D. Nothing in this Section shall preclude the Contractor from complying with the more stringent requirements of applicable Federal, State, County, or Owner rules and regulations.

1.5 HAZARDOUS SITE CONDITIONS

- A. The Contractor is advised that the construction of this project is being performed in and near buried wastes and refuse. As these buried materials decompose anaerobically, they will generate landfill gas (LFG), which normally consists of carbon dioxide (CO₂), methane (CH₄), and occasionally hydrogen sulfide (H₂S) and other gases, depending on the composition of the buried materials. These gases usually vent to the atmosphere through the cover soil, but may migrate laterally over 1,000 feet to adjacent areas depending on site and weather conditions.
- B. The Site is a municipal solid waste landfill. Waste streams may include incidental hazardous substances, medical wastes, and other hazards. Care shall be taken in protecting workers from exposure to hazards, and executing the work using procedures that provide worker protection.

1.6 POTENTIAL FOR HAZARDS

- A. The following landfill and LFG related information is included to assist the Contractor in developing its Health and Safety Plan and is not intended to encompass all steps that may be necessary to protect the workers or to comply with applicable regulations.
 - 1. Landfill gases usually vent to the atmosphere through the cover soils, but may migrate laterally to adjacent areas depending on site and weather conditions.
 - 2. Landfill gases have the potential to create hazardous conditions if not controlled or recognized. Some of the hazards are:
 - a. Fires may start spontaneously from exposed and/or decomposing refuse.
 - b. Fires and explosions may occur from the presence of methane gas. Methane is explosive in approximate concentrations of 5 to 15 percent by volume in air.
 - c. Landfill gases may cause an oxygen deficiency in underground trenches, vaults, conduits, and structures.
 - d. Hydrogen sulfide, a highly toxic and flammable gas, or other toxic gas may be present.
 - e. Possible caving of trenches and excavations when working over or in refuse fills.
 - 3. Landfill materials (solids and liquids) have the potential to contain pathogens, fungus, viruses, infectious materials; sharp, puncturing, and cutting objects; and other hazards. Dust control during waste excavation is important to controlling dust-borne transmission of harmful elements. Preventing dermal contact with waste by workers, including preventing walking over or in exposed waste, also will reduce the risks of worker exposure. Dust control and worker exposure during excavation shall be addressed in the Health and Safety Plan.

1.7 SAFETY PROGRAM AND PRECAUTIONS

- A. Supplemental to the Contractor's regular safety program, the Contractor shall develop and institute procedures to inform all workers and site visitors of the potential for the presence of methane and other landfill gases emanating from the natural decomposition of refuse buried at or near the job site and the importance of safety precautions to ensure the safety of workers and the public. The Contractor shall also instruct all workers and maintain strict control of construction activities to protect and maintain the integrity of the Work features as they are installed.
- B. In addition to conforming to the safety rules and regulations of governmental authorities having jurisdiction, the Contractor shall take the following precautionary measures:
 1. Personnel, when in an open excavation or in the presence of landfill gas, shall be fully clothed with non-sparking cloth, wear shoes with non-metallic soles, and wear a hard hat and safety goggles or glasses.
 2. Excavations and the workspace shall be monitored continuously in a manner satisfactory to the Safety Monitor for the presence of methane, hydrogen sulfide, and oxygen for the duration that personnel are in an excavation.
 - a. **All personnel shall have appropriate instruments (detector[s]) to test for oxygen deficiency and for the presence of methane gas and hydrogen sulfide gas during the performance of work.** A personal gas monitor (such as Lumidor Safety Products PGM13, GasTech GX-82, GasTech Model 1641, or similar unit[s]) should be available for this purpose.
 - b. Workers should immediately vacate an excavation if methane, hydrogen sulfide, or oxygen deficiency is detected therein, and shall not be permitted to re-enter the excavation unless satisfactory precautionary measures for a safe work environment are implemented.
 - c. Workers shall not be permitted to enter a workspace where there is an oxygen deficiency or a combustible mixture of gases without appropriate protection.
 - d. Positive fan-forced ventilation to dilute gas mixtures and avoid oxygen deficiency should be provided when work is necessary in any confined workspace.
 3. Contractor shall supply and wear safety harnesses tethered to a fixed object or support at all times when approaching the wellbore during well drilling and completion.
 4. Smoking shall be prohibited at all times on the landfill property.
 5. In the event toxic gases are present at concentrations hazardous to the workers and the general public, the Contractor shall immediately evacuate all persons from the area until the area is determined safe by the Safety Monitor.
 6. Soil shall be stockpiled adjacent to workspace in areas of exposed refuse for firefighting purposes.
 7. The use of explosives or firearms shall not be permitted on the site.
 8. It is the Contractor's responsibility to dispose of refuse generated during drilling extraction wells or uncovered during the trenching or excavation process and dispose of refuse at the working face of the active landfill, as directed by the Owner. Refuse shall be disposed of each day.

9. Care shall be taken not to track waste outside of the Work area on construction equipment.
10. No welding shall be permitted in trenches, enclosed areas, or over refuse unless performed in areas of the site tested and approved by the Safety Monitor.
11. Combustion engine-powered construction equipment shall be equipped with vertical exhaust and spark arrestors.
12. Electric motors and controls utilized in excavation areas and in below ground workspaces shall be explosion-proof.
13. Workers shall not be allowed to work alone at any time in an excavation. Work parties of at least three workers shall be mandatory with one worker outside of the hazard area and another worker within hailing distance to assist in an emergency.
14. Inhalation of landfill gases shall be avoided. Such gases or oxygen-deficient air may cause nausea and dizziness, which could lead to accidents. Work upwind of the excavation where possible, unless the excavation is constantly monitored and declared safe by the Safety Monitor.
15. Workers shall avoid contact with exposed refuse, condensate, or leachate.
16. Fire extinguishers with a rating of at least A, B, and C shall be available at all times on the site.
17. Startup and shutdown of equipment shall be avoided in areas of exposed refuse.
18. Assembly of construction work shall be performed outside of trenches or excavations. Prefabricated items shall be lowered into excavations. Only final connections may be made within trenches with the necessary precautions stated.

1.8 TRENCH SAFETY

- A. Contractor's Health and Safety Plan shall include trench safety systems required for the construction of all trench excavation for completion of Work, and including all additional excavation and backfill necessitated by the Work. A trench shall be defined as a narrow excavation (in relation to its length) made below the surface of the ground.
 1. Trench safety systems shall include but are not limited to sloping, benching, sheeting, trench boxes or trench shields, sheet piling, cribbing, bracing, shoring, dewatering or diversion of water to provide adequate drainage.
 2. The Contractor is responsible for obtaining borings and soil analyses as required for trench safety.
 3. Any property damage, bodily injury or death that arises from use of the trench safety or from the Owner's failure to note exceptions to trench safety shall remain the sole responsibility of the Contractor.
 4. No trenching in excess of 5 feet below existing grade will be allowed without the implementation of trench safety procedures. Any changes in the trench safety system after the initiation of construction will not be cause for extension of time or change order and will require the same review process.
 5. Trench safety shall be performed in accordance with Excavations, Trenching and Shoring, Federal Occupational Safety and Health Administration (OSHA) Standards, 29 CFR, Part 1926, Subpart P,

as amended, including Proposed Rules published in the Federal Register (Vol. 52, No. 72) on Wednesday April 15, 1987 and any subsequent amendments or changes.

1.9 SAFETY MONITOR

- A. The Contractor shall designate a person who will be designated as the Safety Monitor. The Safety Monitor shall be thoroughly trained in rescue procedures, trench safety, and in the use of safety equipment and gas detectors, as deemed appropriate for the Work. The Safety Monitor shall have a minimum of 3 years of experience in landfill gas collection system construction and safety procedures. The Safety Monitor shall be present at all times during working hours whenever open trenches or excavations are greater than 3 feet in depth, when the Contractor is working on or near exposed refuse, or when LFG is likely to be present.
- B. The Safety Monitor should periodically calibrate employees personnel gas meters (see Part 1.7.B.2.a of this Section) and regularly test the excavation areas and other workspace for safe working conditions and ensure that appropriate safety equipment is available at the site.
- C. The Safety Monitor shall have the delegated authority to order workers on the project site to comply with the safety requirements. Failure to observe safety requirements shall be cause for removal of the worker from the project.

1.10 WORK IN VICINITY OF EXISTING LFG COLLECTION SYSTEM

- A. Contractor shall note that the Site has an existing LFG collection system, as shown on the construction plans.
- B. Contractor shall locate the LFG collection system components in the area of Work, if such features exist within the vicinity of the Work, prior to start of construction in an area with LFG collection system components.
- C. Contractor is responsible for protecting the LFG collection system from damage during execution of Work, and repair or replace any damaged components at the Contractor's expense.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01200

CONSTRUCTION MEETINGS AND SCHEDULES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Requirements for pre-construction, construction progress meeting, and daily tailgate meetings.
- B. Requirements for Contractor's construction schedule

1.2 PRE-CONSTRUCTION MEETING

- A. A pre-construction meeting will be held at a location selected by the Owner.
- B. Attendance:
 - 1. Contractor's Office Representative.
 - 2. Contractor's On-Site Field Superintendent.
 - 3. Contractor's Safety Monitor.
 - 4. Any Subcontractor's or Supplier's representatives whom Contractor may desire to invite, or Owner or Engineer may request.
 - 5. Owner's Representatives, including Engineer and CQA Consultant.
- C. The Contractor shall present a detailed construction schedule and initial submittals as required by the contract documents and these technical specifications.
- D. A suggested format would include, but not be limited to, the following subjects:
 - 1. Discussion of sequence of Work, and specific topics of interest to the Contractor, Owner, and Engineer.
 - 2. Required bonds and insurance certifications prior to notice-to-proceed.
 - 3. Time for completion and liquidated damages.
 - 4. Procedures for handling submittals.
 - 5. Direction of correspondence, and coordinating responsibility between Contractor, Subcontractor(s), Engineer, and Owner.
 - 6. Requirement for construction progress meetings for all involved.
 - 7. Quality control, quality assurance, and laboratory testing of construction materials.
 - 8. Applications for payment, and progress payment procedures.

9. Change Order procedures.
 10. Landfill regulations and requirements.
- E. The meeting will be documented by the Owner's representative. Copies of the minutes and relevant documents will be provided to all parties.

1.3 CONSTRUCTION PROGRESS MEETINGS

- A. The Owner will schedule and administer construction progress meetings and such additional meetings as required, or as requested by Owner. Meetings will be held at a frequency and location designated by Owner/Engineer.
- B. Attendance at progress meetings is the same as specified in Part 1.2.B of this Section.
- C. Meeting requirements:
1. The Owner or the Engineer, at the Owner's discretion, will administer the following general requirements for progress meetings:
 - a. Prepare agenda for meetings.
 - b. Make physical arrangements for meetings.
 - c. Preside at meetings.
 - d. Record significant proceedings and decisions made at the meetings.
 - e. Reproduce and distribute copies of meeting record within seven days after each meeting to participants in meeting and to parties affected by decisions made at meetings.
- D. During these meetings, the Contractor shall present an updated construction schedule outlining and detailing specific milestones completed and milestones remaining to be completed, including the equipment, personnel, and materials required to complete such milestones.
- E. Suggested Agenda:
1. Review and approval of record of previous meeting.
 2. Review of work progress since previous meeting.
 3. Field observations, problems, and conflicts.
 4. Problems which impede work schedule.
 5. Corrective measures and procedures to regain projected schedule.
 6. Revisions to Construction Progress Schedule.
 7. Coordination of schedules between subcontractors.
 8. Review outstanding submittals and responses to submittals.

9. Pending changes and substitutions.
 10. Review proposed changes for effect on construction schedule and completion date, and on other contracts of projects.
 11. Review of drawings and specifications that govern the next week of Work.
 12. Review of bid item quantities relative to original estimates.
- F. The Contractor shall submit pay requests at a frequency not to exceed once per month.

1.4 DAILY TAILGATE MEETINGS

- A. An informal tailgate meeting will be held daily before the start of work. At a minimum, this meeting will be attended by the CQA Consultant's representative, Subcontractor(s), and Contractor. The purpose of this meeting is to:
1. Review Health and Safety Plan requirements and issues.
 2. Review scheduled Work activities.
 3. Discuss problems and resolutions.
 4. Review test data.
 5. Discuss the Contractor's personnel and equipment assignments for the day.
 6. Review the previous day's activities and accomplishments.
- B. The Landfill Superintendent and/or other Owner Representative may attend this meeting at their discretion.

1.5 CONSTRUCTION SCHEDULE

- A. The Contractor shall submit a construction schedule prior to or at the pre-construction meeting and shall not begin work until written approval from the Owner has been received.
- B. The construction schedule shall be in Gantt Chart format and shall be formatted to be printed on 11"x17" size paper. Construction schedules may be provided electronically to Owner and Engineer.
- C. No payments will be made without an approved construction schedule.
- D. This construction schedule shall be prepared in accordance with the General Conditions, as incorporated into these Contract Documents, but at a minimum shall include, but not limited to, the following:
1. Start and end dates for various sequences or milestones to be completed during construction (e.g. including similar milestones as described in Section 01010 – Summary of Work).
 2. Detailing the type of equipment, personnel and subcontractors, and materials required to complete such milestones.

3. Start and end dates for processing submittals, including plans, materials, testing, shop drawings, surveys, etc.
 4. All other Work necessary to complete the project within the contract time.
- E. If, at any time during the project, Contractor fails to complete an activity or milestone by its latest scheduled completion date, Contractor must revise the construction schedule and submit a written statement as to how and when Contractor will reorganize work force or construction sequencing to maintain the currently scheduled contract completion date. Additionally, the Contractor shall submit updated construction schedules monthly, indicating the date each milestone was completed and any impacts or uncompleted milestones, and the anticipated dates for completion of these milestones. The revised construction schedule and written statement shall be submitted to the Owner at the next scheduled progress meeting.
- F. Whenever it becomes apparent from progress evaluation and updated schedule data that milestone completion dates and/or contract completion dates will not be met, some or all of the following actions must be taken:
1. Increase construction staffing in such quantities and crafts to substantially eliminate backlog of Work.
 2. Increase number of working hours per shift, shifts per work day, work days per week, or amount of construction equipment, or combination of foregoing to substantially eliminate backlog of Work.
 3. Reschedule Work items to achieve concurrence of accomplishment.
- G. Under no circumstances will addition of equipment or construction forces, increasing working hours or any other method, manner or procedure to return to current Construction Progress Schedule be considered justification for contract modification or treated as an acceleration.
- H. Liquidated damages will be assessed as set forth in Contract Documents.
- I. Contractor shall update and submit to the Owner, Engineer, and CQA Consultant the construction schedule at least monthly or more often as requested by Owner or Engineer.
- J. Provide details for scheduled activities over the month following the current day of the schedule.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1 GENERAL

1.1 SUBMITTAL REQUIREMENTS

- A. The word "submittals" shall be interpreted to include Construction Plans, product data, manuals, certifications, test reports, materials, samples, charts, brochures, warranties, record drawings, and other items furnished by Contractor for approval, information, and/or other purposes, as specified in the individual Technical Specifications.
- B. Electronically transmit each submittal to City and Engineer, unless otherwise noted in the individual technical specifications. Indicate on each submittal whether it is an original submittal or a re-submittal. Once the submittal is deemed satisfactory by the Engineer, the submittal will be electronically returned to the Contractor stamped as "Approved," "Approved as Noted," or "Rejected." Approval of the submittal by the Engineer does not relieve the Contractor of the responsibility of supplying materials that comply with the Technical Specifications and/or Construction Plans.
- C. Identify Work, Subcontractor or supplier, pertinent drawing sheet and detail number(s), and Technical Specification section number, as appropriate. Apply Contractor's stamp, signature or initials certifying the review, verification of products, field dimensions, and coordination of information in accordance with the Technical Specification and/or Construction Plans.
- D. Deliver submittals to City and Engineer according to submittal schedule described herein and individual Technical Specification sections. Schedule submittals to expedite review by the City and Engineer and delivery in the timeframe specified.
- E. Allow seven (7) days of review time for each submittal or re-submittal.
- F. Identify variations from Contract Documents, Technical Specifications, Construction Plans, and product or system limitations, which may be detrimental to successful performance of the completed Work.
- G. Contractor shall distribute copies of reviewed submittals, as appropriate, to subcontractors, vendors, and suppliers, and shall instruct said parties to promptly report any inability to comply with provisions.
- H. Submittals containing errors or omissions or deemed unsatisfactory will be returned to Contractor stamped "Revise and Resubmit." The Engineer will provide one (1) copy to the Contractor with the necessary corrections and changes indicated. If revisions and resubmittals are required, identify all changes made since previous submission. The Contractor shall review and resubmit as required by the Engineer until acceptance is obtained.

1.2 MANUFACTURER'S INSTRUCTIONS AND PRODUCT DATA

- A. When specified in individual Technical Specification sections, submit manufacturer's printed instructions for delivery, storage, assembly, installation, adjusting, and finishing.
- B. When specified submit manufacturer's product data describing material properties specified in the individual Technical Specifications.
- C. Identify conflicts between manufacturer's instructions and material properties and Technical Specifications or Construction Plans.

1.3 MANUFACTURER’S / SUPPLIER’S CERTIFICATES

- A. Where specified in individual Technical Specification sections, submit manufacturer’s certificates for Engineer review.
- B. Demonstrate that material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications, as appropriate.
- C. Certificates may be recent or previous tests results on material or product, but must be acceptable to Engineer.

1.4 MATERIAL TESTING

- A. Where specified in individual Technical Specification sections, submit testing results to Engineer for review.
- B. Demonstrate that material conforms to or exceeds specified tests. Submit supporting reference data, affidavits, and certifications, as appropriate. Submittal shall include date of test, test method, result of test, mitigation of failing test, etc.

1.5 LIST OF REQUIRED SUBMITTALS

- A. The tables below list the submittals required by the Technical Specifications. Any submittal required to be submitted by the Contractor, but which is not listed in tables, shall be submitted in accordance with the applicable requirements of this Technical Specification. Any submittal required by the individual technical specifications or construction plans that is not listed below does not relieve the Contractor of the requirement to provide said submittal or the responsibility to comply with the technical specifications of the project.
- B. All Division 1 submittals shall be submitted at the time timeframes indicated below. All Division 2 through 15 material submittals shall be submitted for review and/or approval within 14 days following award of the contract or 14 days prior to commencement of construction, whichever occurs first, unless otherwise specified below or approved in writing by Owner/Engineer.
- C. Division 2 quality control or quality assurance testing shall be provided to CQA Consultant and Engineer within 24 hours of receipt of results and prior to placement or final acceptance of the Work.
- D. Division 1 – General Requirements

Specification Reference Section	Submittal Requirement	Submittal Due Time
01190	Health and Safety Plan	See Note 1
01200	Initial Construction Schedule	See Note 1
01200	Construction Schedule Updates	Monthly or As Requested by Owner/Engineer
01700	Record Documents	Prior to final payment

Note:

- 1. The Contractor shall provide these submittals for review and/or approval within 14 days following award of the contract or prior to commencement of construction, whichever occurs first.

E. Division 2 – Site Work

Specification Reference Section	Submittal Requirement
02670	Wellhead Product Data
02670	Bentonite Product Data
02670	Foam Plug Product Data
02670	Well Aggregate Source and Sample
02670	Wellbore Reinforcement Grate Shop Drawing
Construction Plans	Aggregate Source and Gradation (Related to Wellhead Aggregate Mound/Road Crossing)

G. Division 15 – Mechanical

Specification Reference Section	Submittal Requirement
Construction Plans	Corrugated Metal Pipe Product Data
15050	HDPE Pipe Pressure Test (See Note 1)
15050	HDPE Pipe and Fittings Product Data and Certifications
15050	Ductile Iron Back-up Ring Product Data
15050	Gasket Product Data
15050	Bolts, Nuts, and Washers Product Data

Note:

1. HDPE pipe pressure tests shall be performed within 14 days of header/lateral completion, and results shall be submitted immediately following completion of the test.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

END OF SECTION

SECTION 01400

QUALITY CONTROL AND QUALITY ASSURANCE

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Owner will contract a third party to perform construction quality assurance (CQA) monitoring and testing. This section describes the CQA Consultant's responsibilities for during the project.
- B. Contractor's responsibilities for coordination of quality assurance (QA) and quality control (QC) testing.

1.2 RELATED SECTIONS

- A. General Conditions
- B. Section 01010 – Summary of Work
- C. Section 01052 – Layout of Work and Surveys
- D. Section 02222 – Excavating, Backfilling, Filling, and Grading
- E. Section 02670 – LFG Extraction Wells and Wellheads
- F. Section 15050 – HDPE Pipe, Fittings, and Valves

1.3 DEFINITIONS

- A. **Construction Quality Assurance (CQA)** - CQA includes observations, evaluations, and testing of materials and workmanship necessary to assess and document that construction has been performed consistent with the Contract Documents. Specifically, CQA testing is the testing of materials for acceptance of the completed Work.
- B. **Construction Quality Control (CQC)** – CQC includes testing to provide a means to measure the characteristics of an item or service to comply with the requirements of the Contract Documents. Typically, CQC actions will be performed by the manufacturers, vendors, or suppliers, unless otherwise specified in the individual Technical Specifications. All quality control testing shall be performed during construction, but prior to installation or placement of the materials. In no instance shall CQC field or laboratory testing be undertaken after completion of the Work.

1.4 CQA CONSULTANT'S RESPONSIBILITIES

- A. The Owner's CQA Consultant or CQA Consultant's third-party laboratory shall perform all material testing from samples provided by the Contractor.
- B. The CQA Consultant will be on-site daily to monitor the Contractor's execution of the Work. This monitoring will include observation of the construction process to ensure that the Contract Documents, including Construction Plans and Technical Specifications are followed. The CQA Consultant's responsibilities will include the following:
 - 1. Document and observe the layout of extraction wells and pipe trench construction for conformance to the approved Construction Plans, well schedule, and specifications;

2. Document and observe that wells are constructed to proper depths and that pipe types, pipe lengths (including solid pipe and perforated pipe), backfill, and backfilling procedures conform to the Construction Plans and Technical Specifications;
 3. The CQA Consultant will prepare extraction well installation records and well boring logs;
 4. The CQA Consultant will perform aggregate quality control test, including ASTM C136 for particle size and JLT-S-105-89 for Calcium Carbonate content, as specified in Section 02670 – LFG Extraction Wells and Wellheads. As indicated in this specification, aggregate will be used as backfill during installation of landfill gas extraction wells.
 5. Perform record surveys of the installed LFG collection system components, as described in Section 01052 – Layout of Work and Surveys.
 6. The CQA Consultant will communicate with the Owner and Engineer to resolve issues or questions that may arise during construction;
 7. Prepare daily activity reports documenting conformance with the Technical Specifications and Construction Plans; and
 8. The CQA Consultant will review, observe, and document pipe and valve pressure testing.
- C. Construction monitoring by the CQA Consultant or acceptance of the Work by the CQA Consultant does not relieve the Contractor of the responsibility to perform all Work and QA/QC testing consistent with the Technical Specifications and Construction Plans.

1.5 CONTRACTOR'S RESPONSIBILITIES

A. QA/QC at the Expense of the Contractor

1. All other CQC/CQA testing required in the Contract Documents will be performed by the CQA Consultant, unless otherwise specified as the Contractor's responsibility in the individual specifications.
2. Contractor shall assume full responsibility for all quality control and all quality assurance testing, specifically delegated as the Contractor's responsibility in the individual technical specifications. CQC testing shall be performed by either the manufacturer, vendor, or supplier or third-party firm and/or laboratory at the expense of the Contractor. CQA testing shall be performed by third-party firm and/or laboratory at the expense of the Contractor.
3. Contractor shall submit the name, address, and qualifications, together with the scope of proposed services, of the proposed testing firm(s) and personnel conducting quality assurance and quality control testing for the project. Information shall be submitted to Engineer for approval at least 7 days prior to the scheduled commencement of any Work requiring such testing.

B. QA/QC Supervised by the Owner's CQA Consultant

1. The Contractor shall provide adequate notice to the Owner's CQA Consultant prior to any Work requiring CQA testing or surveying to prevent delays in Construction.
2. The Contractor shall coordinate and assist the Owner's CQA Consultant in the collection of necessary samples, including shipment of samples, providing the equipment, labor, and material necessary for collection of said samples, under the direction and supervision of the Owner's CQA Consultant or Engineer.

3. QA/QC performed by the Owner's CQA Consultant does not relieve the Contractor of the responsibility to install, construct, or achieve the desired quality of work as specified for the Work in the Contract Documents.
 - a. The Owner will bare the cost of the initial CQA test. If the initial CQA test fails, the Owner will bare the cost of one additional CQA test.
 - b. If a third CQA test is necessary the Contractor will be responsible for incurring the cost of the additional test by the Owner's CQA Consultant.
- C. It is the Contractor's responsibility to coordinate QA/QC in a timely manner to prevent delays in the project. Results of QA/QC testing or surveying shall be provided to Engineer for approval. Under no circumstances shall materials be installed that have not been approved by Engineer.
- D. Within 24 hours, unless otherwise specified, after completion of testing performed by or for Contractor, submit test results to the Engineer for approval. Identify test reports with the information specified for samples in Section 01300 – Submittals, and additionally, the name and address of the organization performing the test(s), and the date of the tests. Tests results shall be provided to Owner and Engineer by email.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01500

CONSTRUCTION FACILITIES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Construction facilities required for the construction of the Work specified under the Section 01010 - Summary of Work and as specified in the Contract Documents. All construction facilities will be in coordination with and approved by the Owner to provide minimal disruption to landfill operations.

1.2 RELATED SECTIONS

- A. General and Supplemental Conditions
- B. Section 01010 – Summary of Work
- C. Section 01300 – Submittals
- D. Section 01560 – Environmental Protection and Special Controls
- E. Section 01600 – Material and Equipment

1.3 DEFINITION

- A. Construction facilities include furnishing of all equipment, materials, tools, accessories, incidentals, labor, and performing all Work for the installation of equipment and for construction of facilities, including their maintenance, operation, and removal, if required, at the completion of the Work.
- B. Construction facilities include, but are not be limited to, the following temporary offices, utilities, equipment, materials, facilities, areas, and services:
 - 1. Field Office
 - 2. Parking Areas
 - 3. Temporary Roads
 - 4. Storage of Materials and Equipment
 - 5. Construction Equipment
 - 6. Temporary Sanitary Facilities
 - 7. Temporary Electric Power
 - 8. Temporary Water
 - 9. First Aid Facilities
 - 10. Security

1.4 CONSTRUCTION FACILITIES

A. GENERAL REQUIREMENTS

1. Contractor is responsible for furnishing, installing, constructing, operating, maintaining, removing and disposing of the construction-related facilities, as specified in this Specification, and as required by Owner for the completion of Work.
2. Locate and maintain construction facilities in a clean, safe and sanitary condition at all times until completion of Work.
3. The requirements specified herein are in addition to any requirements specified elsewhere in the Contract Documents. Construction facilities must meet the requirements for all-weather service.
4. Minimize land disturbances related to the construction facilities to the greatest extent possible and restore land to the extent reasonable and practical, to its original contours by grading to provide positive drainage.
5. Design and construct utilities to provide uninterrupted service.
6. Construct/install, maintain and operate construction facilities in accordance with the applicable Federal, State, and Local laws, rules, and regulations.

B. FIELD OFFICE

1. Contractor is not required to have a field office. However, Contractor shall note, the Owner will not provide office space for Contractor's staff.
2. At the Contractor's discretion, a field office may be established on the property, provided the location of the office has been approved by Owner.
3. If the Contractor elects to establish a field office, the proposed location of the Contractor's office will be submitted to the Owner for approval within 7 calendar days of Contract execution.

C. PARKING AREAS

1. Owner will provide parking area for maintenance and delivery vehicles, Contractor's Representatives, Subcontractors, and other authorized visitors. Contractor shall coordinate with Owner regarding areas acceptable for temporary parking. Contractor shall not allow vehicles, equipment, or materials to be stored at a location or in a manner that interferes with ongoing site activities.

D. TEMPORARY ROADS AND BENCHES

1. Temporary roads are existing roads that are improved, or new roads constructed by Contractor for convenience of Contractor in the performance of the Work.
2. Coordinate temporary road construction with Owner prior to construction.
3. If applicable, coordinate all road construction activities with local utilities, fire and police departments.
4. Construction of temporary benches required for drilling LFG extraction wells, trenching, and/or other construction activities are the responsibility of the Contractor, at no additional cost to the Owner.

5. Provide erosion and sedimentation control consistent with 01560 – Environmental Protection and Special Controls.
6. Maintain suitable grades and radii of curves to facilitate ease of movement of vehicles and equipment.
7. Furnish and install longitudinal and cross-drainage facilities including, but not limited to, the ditches, structures, pipes and the like.
8. Clean equipment so mud or dirt is not carried onto public roads. Clean any mud or dirt transported by equipment onto paved roads both on-site and offsite.
9. Maintain roads, stockpiles, and staging areas by watering during all operating hours and when directed by Owner.

E. STORAGE OF MATERIALS AND EQUIPMENT

1. Make arrangements for storage areas for materials and equipment, as specified in Section 01600 – Material and Equipment. Locations and configurations of such facilities are subject to the acceptance of Owner. Security of all stored materials (paid and unpaid) and equipment is the sole responsibility of the Contractor.
2. Confine all operations, including storage of materials, to approved area. Contractor is liable for any and all damage caused during such use of property of the Owner or others.
3. Store materials in accordance with manufacturer's instructions when applicable.
4. Store construction materials and equipment within boundaries of designated areas. Storage of gasoline or similar fuels must conform to state and local regulations and be limited to the areas approved for this purpose by the Owner.

F. CONSTRUCTION EQUIPMENT

1. Erect, equip, and maintain all construction equipment in accordance with all applicable statutes, laws, ordinances, rules, and regulations of the authority having jurisdiction.
2. Construction equipment and temporary work must conform to all the requirements of State, County, and Local authorities, OSHA, and underwriters which pertain to operation, safety, and fire hazard. Furnish and install all items necessary for conformity with such requirements, whether or not called for under separate sections of these Technical Specifications.

G. TEMPORARY SANITARY FACILITIES

1. Provide temporary sanitary facilities for use by all employees and persons engaged in the Work, including Subcontractors, their employees, and authorized visitors from the commencement of the Project through Project completion. Maintain these facilities in a clean and sanitary condition at all times.
2. Sanitary facilities include enclosed chemical toilets and washing facilities. These facilities must meet the requirements of local public health standards. Open pit or trench latrines are not permitted.
3. Locate sanitary facilities as approved by Owner, and maintain in a sanitary condition during the entire course of the Work. At a minimum, all sanitary facilities shall be emptied at least once per week.

4. Do not use restrooms within existing or Owner occupied buildings.

H. TEMPORARY ELECTRIC POWER

1. Provide and maintain during the course and progress of the Work all electrical power and wiring requirements to facilitate the Work of all trades and services associated with the Work. Make arrangements with the applicable serving utility company or provide generators and pay all charges for providing and maintaining electrical service including usage costs at the site unless otherwise approved by the Owner. Furnish all temporary wiring, feeders, and connections.
2. Routing of temporary conductors, including welding leads, must not create a safety hazard nor interfere with operation and maintenance of existing facilities.
3. Install all temporary wiring in accordance with the applicable requirements of the local electrical code.
4. Provide power and lighting to field office, and for Work as required, at no extra cost to Owner.

I. TEMPORARY WATER

1. The Contractor shall make all provisions for supply of power and water for construction purposes.
2. A water supply source is available from the onsite detention pond located south of the blower/flare facility.

J. FIRST AID FACILITIES

1. Provide first aid equipment and supplies to serve all Contractor's personnel and CQA Consultant at the Site.

K. SECURITY

1. Make all necessary provisions and be responsible for the security of the Work and the site until final inspection and acceptance of the Work unless otherwise approved by the Owner.

L. SHUT-DOWN TIME OF SERVICES

1. Do not disconnect or shut down any part of existing utilities and services, except as approved by the Owner.

M. MAINTENANCE

1. Maintain all construction facilities, utilities, temporary roads, services to office, and the like in good working condition as required by Owner during the term of the Contract.

1.5 REMOVAL OF CONSTRUCTION FACILITIES

A. Upon completion of the Work, or prior thereto, when so required by Engineer:

1. Repair damage to roads to their original condition caused by or resulting from the Contractor's Work.
2. Remove and dispose of all construction facilities including office trailers and other facilities; utilities; roads and benches; construction equipment; informational and identification signs, framing, supports, and foundations; and sanitation facilities. Similarly, return all areas utilized for temporary facilities to their near original, natural state, or as otherwise indicated or directed.

- B. Restore temporary roads built for Contractor's convenience to near original conditions to the extent practicable unless otherwise approved by the Engineer.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01560

ENVIRONMENTAL PROTECTION AND SPECIAL CONTROLS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Specifications for controlling the pollution of land, air, and water, as described herein.
- B. Disposal of solid waste materials.
- C. Special controls, include the protection of existing groundwater wells, existing LFG collection system components, onsite structures and easements, and other landfill appurtenances in the vicinity of the Work.

1.2 RELATED SECTIONS

- A. General and Supplemental Conditions
- B. Section 01300 – Submittals
- C. Section 01500 – Construction Facilities
- D. Section 02222 – Excavating, Trenching, Backfill, and Grading
- E. Section 02670 – LFG Extraction Wells and Wellheads

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.1 ENVIRONMENTAL PROTECTION

- A. Employ and utilize environmental protection methods, obtain all necessary permits, and fully observe all local, state, and federal regulations. No hazardous materials are allowed to be stored at the construction site. Environmental protection measures shall include, but are not limited to, the requirements for land, air, and water, as described in Part 3.1.B. through Part 3.1.G.
- B. Land Protection:
 - 1. Except for any Work, storage areas, or access routes specifically assigned for the use of the Contractor, the land areas outside the limits of construction shall be preserved in their present condition. Contractor shall confine his construction activities to areas defined for Work within the Contract Documents.
 - 2. Manage and control all Work, storage areas, access routes, open trenches and excavations, and embankments to prevent sediment from entering nearby water or land adjacent to the Work.
 - 3. Restore all disturbed areas including borrow and haul areas and re-establish permanent type of locally adaptable vegetation.

4. Unless earthwork is immediately vegetated, protect all slopes immediately upon completion of final grading.
 5. Plan and execute earthwork in a manner to minimize duration of exposure of unprotected soils.
 6. Except for areas designated by the Contract Documents to be cleared and grubbed, the Contractor shall not deface, injure or destroy trees and vegetation, nor remove, cut, or disturb them without approval of the Owner/Engineer.
 7. Any damage or change to existing grades or onsite features caused by the Contractor's equipment or operations shall be restored as nearly as possible to its original condition at the Contractor's expense.
- C. Drainage and Erosion Protection:
1. Utilize methods necessary to effectively prevent erosion and control of sedimentation.
 2. The Contractor shall provide adequate drainage or protection of the Work from surface water run-on or ponding, at the expense of the Contractor.
 - a. No separate measurement or compensation will be paid for subdrains, pumps, or other methods of draining.
 - b. The Contractor shall be entirely responsible for adequately draining and pumping surface water from the Work. In the event the Contractor fails to provide adequate surface water protection (i.e., erosion, ponding, etc.), which results in damage to the Work, the Contractor shall repair the Work at the expense of the Contractor.
- D. Control of Chemical Waste:
1. Store and dispose of chemical wastes in a manner approved by regulatory agencies.
 2. Take special measures to prevent chemicals, fuels, oils, greases, herbicides, and insecticides from entering drainage ways.
 3. Do not allow water used in onsite material processing, cleanup, and other waste waters to enter a drainage way(s) or stream.
- E. Control of Dust:
1. The control of dust shall mean that no construction activity shall take place without applying all such reasonable measures as may be required to prevent particulate matter from becoming airborne so that it remains visible beyond the limits of construction. Reasonable measures may include paving, frequent road cleaning, and application of water.
 2. Utilize methods and practices of construction to eliminate dust in full observance of agency regulations.
 3. The Owner or Engineer will determine the effectiveness of the dust control program and may request the Contractor to provide additional measures, at no additional cost to Owner.
- F. Burning:
1. Do not burn material on the site.

G. Control of Noise

1. Control noise by fitting equipment with appropriate mufflers.

3.2 SOLID WASTE DISPOSAL

- A. Collect solid waste generated from construction activities on a daily basis, including degradable solid waste and non-degradable solid waste and dispose of said waste as described below, at no additional cost to the Owner.
- B. Dispose of degradable solid waste at the working face of the landfill. Contractor shall coordinate with the Landfill Manager regarding acceptable time of day for disposal of waste at the working face. Additionally, prior to disposal of material at the landfill, the Contractor shall notify the Landfill Manager.
- C. Dispose of non-degradable, non-hazardous solid waste at the landfill working face or to an alternate site approved by Owner and regulatory agencies.
- D. Contractor will not be charged a tipping fee for solid waste generated during construction activities at the Owner's landfill.

3.3 SPECIAL CONTROLS

- A. Protect existing features including, groundwater wells, LFG collection system components, utilities, and other landfill appurtenances in the vicinity of the Work from damage.
 1. The Contractor is cautioned of the potential hazards of landfill gas, as specified under Section 01190, Part 1.6.
 2. Prior to beginning construction, locate and mark all existing features, such as groundwater wells, LFG collection system components, utilities, and other landfill appurtenances in the vicinity of the Work.
 3. Notify the Owner and Engineer immediately of any features that interfere with the completion of the Work.
 4. Inform employees of existing features and other landfill appurtenances, and the importance of protecting these from damage.
 5. Contractor shall protect all existing features located in the vicinity of the Work from damage, and repair any damage caused by Work performed under this contract at no cost to the Owner. Owner reserves the right to select replacement of these features as a result of damage, and selection of Contractor or Subcontractor to perform such replacement work.
- B. Protection of existing easements, rights-of-way, utilities, and other structures.
 1. Prior to beginning Work, locate easements, right-of-ways, utilities and other structures (i.e. overhead electrical, leachate sewer/forcemain, manholes, culverts, and/or discharge structures, etc.) that are adjacent to or cross the Work area, and provide temporary markers designating these facilities. **All utility locations shown on the Construction Plans are approximate unless otherwise indicated. For underground utility locations, contact NM 811 prior to excavations.**
 2. Protect permanent and temporary markers, and replace if moved or lost during construction.

3. Coordinate with Owner regarding access to easements or right-of-ways, including routing construction traffic over easements or right-of-ways.
 4. Owner of easements or rights-of-way reserve the right to prohibit accessing the construction area across or thru any easement or rights-of way, to limit access to select routes, or require temporary improvement to easement or right-of-way to facilitate access. The contractor shall be responsible for notifying all utility companies prior to commencing work in the project area. Likewise, the contractor is responsible for coordinating work with the utility companies known to be within the project area.
- C. Owner shall not be liable for any costs, injury, damage or loss associated with disturbance, impact, or damage to facilities or structures, regardless of whether the locations of said facilities or structures were properly or completely identified, or whether markers identifying such facilities were installed or maintained by Contractor.
1. Provide all necessary measures to protect structures, facilities, utilities and/or service lines from disturbance, impact, or damage.
- D. Any Contractor-caused damage to facilities, structures, utilities and/or service lines, shown or not shown on the Construction Plans, shall be repaired or replaced at no cost to the Owner and shall be accomplished by the Contractor or Subcontractor approved by the Owner.
- E. Contractor shall acquire all necessary construction permits for completion of Work, including any permits required by local, state, and federal agencies. Contractor shall submit these permits to the Owner and Engineer following receipt of such permits. The Owner is not responsible for any delays in Work associated with the Contractor not obtaining such permits in a timely fashion for execution of Work.

3.4 CONSTRUCTION SIGNAGE, BARRICADES, AND TRAFFIC CONTROL

- A. The Contractor shall be responsible for furnishing all labor, material, equipment and incidental items needed to provide adequate construction signage, barricades, traffic control devices and other related items for the project area during the construction period.
- B. The Contractor shall provide a flagman at high traffic intersections on the property to direct traffic when execution of Work is being performed in such areas or when performing road crossings. When using a flagman, the Contractor shall coordinate with the landfill supervisors at least 48 hours prior to initiating any traffic control changes or road crossings.**
- C. The work for construction signage, barricades, and traffic control shall be considered an incidental item and the cost of this item is to be included in other pay items.

END OF SECTION

SECTION 01600
MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Products
- B. Product Delivery
- C. Product Storage, Handling, and Protection
- D. Product Options and Substitutions

1.2 RELATED SECTIONS

- A. General and Supplementary Conditions
- B. Section 01010 – Summary of Work
- C. Section 01300 - Submittals

1.3 PRODUCTS

- A. Products: Means newly manufactured material, machinery, components, equipment, fixtures, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components required for reuse.

1.4 PRODUCT DELIVERY

- A. Schedule delivery of products or equipment between the hours of operations indicated in Section 01010 – Summary of Work and as required to allow timely installation and to avoid prolonged storage.
- B. Deliver products or equipment in manufacturer's original unbroken cartons or other containers designed and constructed to protect the contents from physical or environmental damage.
- C. Clearly and fully mark and identify as to manufacturer, item, and installation location.
- D. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged. Reject all products or equipment that are damaged, used, or in any other way unsatisfactory for use on Project.
- E. Provide manufacturer's instructions for storage and handling.

1.5 STORAGE, PROTECTION, AND HANDLING

- A. Store and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible.

- B. Store sensitive products in a weather-resistant and climate controlled enclosure. For exterior storage of fabricated products, place on sloped supports above ground.
- C. Protect equipment from exposure to elements and keep thoroughly dry. Store pumps, motors, electrical equipment, and other equipment having anti-friction or sleeve bearings in weather-tight storage building, which are maintained at a temperature of at least 50 degrees Fahrenheit. When space heaters are provided in equipment, connect and operate heaters during storage until equipment is placed in service.
- D. Provide off-site storage and protection when site does not permit on-site storage or protection.
- E. Cover products subject to deterioration with impervious sheet covering. Anchor or ballast sheeting to prevent removal or displacement by wind. Provide ventilation to avoid condensation.
- F. Store loose granular materials on solid flat surfaces in a well-drained area, as practical.
- G. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- H. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions. Repair or replace protective cover as required.
- I. Handle products or equipment in accordance with manufacturer's recommendations and instructions.
- J. Store materials and equipment within boundaries of designated areas. Storage of gasoline or similar fuels must conform to state and local regulations and be limited to the areas approved for this purpose by the Owner.

1.6 PRODUCT OPTIONS AND SUBSTITUTIONS

- A. The Contract is based on standards of quality established in the Contract Documents.
 - 1. In agreeing to the terms and conditions of the Contract, the Contractor has accepted a responsibility to verify that the specified products will be available and to place orders for all required materials in such a timely manner as is needed to meet the agreed construction schedule.
 - 2. Neither the Owner nor the Engineer has agreed to the substitution of materials or methods called for in the Contract Documents, except as they may specifically otherwise state in writing.
- B. Materials and/or methods specified by name:
 - 1. Where materials and/or methods are specified by naming one single manufacturer and/or model number, without stating that equal products will be considered, only the material and/or method named is approved for incorporation into the Work.
 - 2. Should the Contractor demonstrate to the approval of the Owner that a specified material or method was ordered in a timely manner and will not be available in time for incorporation into this Work, the Contractor shall submit to the Owner such data on proposed substitute materials and/or methods as are needed to help the Owner determine suitability of the proposed substitution.
- C. Where materials and/or methods are specified by name and/or model number, followed by the phrase "or equal," or approved equal," or "or equal as approved by the Engineer," or similar wording

in the Contract Documents, the Contractor shall adhere to the following procedures when requesting a product substitution:

1. The material and/or method specified by name establishes the required standard of quality.
 2. Materials and/or methods proposed by the Contractor to be used in lieu of materials and/or methods so specified by name must in all ways be equal or exceed the qualities of the named materials and/or methods.
 3. The Contractor shall demonstrate through submittal of product data sheet(s), certification(s), calculations, conformance testing, etc. that the material being proposed meets or exceed the qualities or properties of the named materials or methods.
 4. Do not assume that the materials, equipment, or methods will be approved as equal unless the item has been specifically so approved in writing for this Work by the Engineer.
 5. The Owner shall not be responsible for any incremental costs associated with rejection of a requested "or equal" product or service, regardless of reason for rejection. The decision of the Owner shall be final.
- D. The following products do not require further approval except for interface within the Work:
1. Products specified by reference to standard specifications such as ASTM and similar standards.
 2. Products specified by manufacturer's name and catalog model number.
- E. Delays in construction arising by virtue of the non-availability of a specified material and/or method will not be considered by the Owner as justifying of the agreed Time of Completion.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Preparation, maintenance, completion, and submission of all project record drawings, specifications, and related documents.
- B. Where conflicts exist between this specification and the General Conditions, the more stringent requirements shall prevail.

1.2 RELATED SECTIONS

- A. General and Supplemental Conditions
- B. Section 01300 – Submittals

1.3 MAINTENANCE OF RECORD DOCUMENTS

- A. Maintain at the job site one copy of the following Project or Contract Documents for record purposes:
 - 1. Construction Plans.
 - 2. Technical Specifications.
 - 3. Addenda.
 - 4. Change Orders and Work Change Directives.
 - 5. Field Orders.
 - 6. Reviewed Shop Drawings and Submittals.
 - 7. Construction Schedules.
 - 8. Clarifications or Explanatory Drawings and Specifications.
 - 9. Inspection Reports.
 - 10. Field Test Records.
- B. Store documents used for record purposes in the field office or other approved location, apart from documents used for construction.
- C. File documents in accordance with the Technical Specification sections.
- D. Maintain documents in clean, dry, legible condition.
- E. Do not use record documents for construction purposes.
- F. Make documents available at all times for inspection by the Owner and Engineer and their authorized representatives.

1.4 RECORD DRAWINGS

A. Project Drawings:

1. Maintain record drawings of all Work as the job progresses. Keep a separate set of prints, for this purpose only, and at the job site at all times.
2. Keep these drawings up-to-date.
3. During the course of construction identify on the drawings the actual locations for all Work, including all site utilities and services installed underground or otherwise concealed. Show deviations from the Construction Plans in detail. Locate all main runs, whether piping or drain lines, by dimension and elevation.
4. During the course of construction, record as-built information.

B. Addenda and Change Orders:

1. Incorporate changes to the Construction Plans affected by Addenda, Change Orders, or Field Orders. Identify change by Addendum, Change Order, or Field Order number and effective date.
2. When revised Construction Plans are issued as the basis of or along with addenda or change order, incorporate these revised Construction Plans into the record set with appropriate annotation.

C. Shop Drawings:

1. Collect and maintain one complete set of reviewed shop drawings, including manufacturer's printed catalog cuts and data, for record purposes.
2. Shop drawings must be filed and maintained separate from project drawings.

1.5 RECORD TECHNICAL SPECIFICATIONS

A. Project Technical Specifications:

1. Information, changes, and notes must be recorded in the specifications in blank areas, such as page margins or the backs of opposite pages, or on separate sheets inserted in the binder. All such information, changes, and notes must be recorded with red pen.
2. In each section, in an appropriate location, record the manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
3. The record specifications book must be complete and include all documents and forms listed under Bidding Requirements, Contract Documents, and Specifications.

B. Addenda, Change Orders, Work Change Directives, and Field Orders

1. All Addenda, Change Orders, Work Change Directives, and Field Orders must be incorporated into the front of the Technical Specifications book in reverse chronological order. Use appropriate page dividers to identify addenda and change orders and to separate addenda from the specifications.
2. In addition, the changes to the technical specifications affected by Addenda, Change Orders, Work Change Directives, or Field Orders must be annotated on the affected page or pages of the specifications, or adjacent thereto.

1.6 SUBMISSION OF DOCUMENTS

- A. At completion of the project, and before submitting an invoice for final payment, deliver record documents to the Owner. Additionally, Contractor shall submit all other necessary documentation indicated in the General Conditions, or any other necessary documents requested by Owner in order to close out the project and make final payment.
- B. Record documents must be delivered neatly and efficiently packaged.
- C. Submission of record documents must be accompanied with a transmittal letter containing the following information, as applicable:
 - 1. Date of submission.
 - 2. Project title and number.
 - 3. Contractor's name and address.
 - 4. Title and number of each record document (i.e., submittals, shop drawings, as-built drawings or sketches, test data, etc. which may be grouped in basic categories or divisions of work). Record documents shall include:
 - a. Reference to applicable section of technical specifications, construction drawings, and applicable standards.
 - b. Types of materials and finishes.
 - c. Working and erection dimensions and clearances.
 - d. All arrangement and section views, as well as connections between functional parts.
 - e. For resubmittals, identification of the revisions made.
 - 5. Certification that each document as submitted is complete and accurate.
 - 6. Signature of Contractor or its authorized representative.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 02222

EXCAVATING, TRENCHING, BACKFILLING, AND GRADING

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. The Work specified in this Section includes the trenching and trench backfilling activities associated with installation of below-grade landfill gas (LFG) header and lateral piping, air supply line pipe, condensate forcemain pipe, and road crossings (if applicable); and any other Work requiring excavation, trenching and trench backfill.
- B. Contractor shall note that installation of road crossings and trenching in excess of 5 feet in depth are included under the Add Alternates in the Contract Documents. Add Alternates related to road crossings and deep trench may be selected for inclusion into the Contract at the discretion of the Owner.
- C. Work under this Section includes excavation and trenching activities in municipal solid waste (MSW).
- D. No classification of type of excavated materials will be made. Excavation includes all soil, and waste materials if encountered, regardless of type, character, composition, moisture, or condition thereof.
- E. Contractor shall provide all labor, materials, soils, equipment and incidentals to excavate and trench designated areas, install piping and appurtenances, placement and compaction of backfill or fill materials, and regrade disturbed areas as shown on the Construction Plans, and described in this Section.

1.2 RELATED SECTIONS

- A. The following Sections of the technical specifications described related Work provided herein:
 - 1. General and Supplemental Conditions
 - 2. Section 01052 – Layout and Survey
 - 3. Section 01190 – Health and Safety
 - 4. Section 01400 – Quality Assurance and Quality Control
 - 5. Section 01560 – Environmental Protection and Special Controls
 - 6. Section 15050 – HDPE Pipe, Fittings, and Valves

1.3 PROJECT CONDITIONS

- A. Existing Structures within the project limits may include, but are not limited to above and below ground structures such as:
 - 1. stormwater drainage structures and culverts;
 - 2. groundwater monitoring wells;
 - 3. leachate riser pipes; and

4. existing LFG collection system components;
 5. overhead and underground electric; and
 6. roadways.
- B. This information has been obtained from existing records. It is not guaranteed to be correct or complete and is shown for the convenience of the Contractor. The Contractor shall perform an evaluation of the Site prior to excavation or trenching to determine the exact location of all structures and utilities.
- C. Structures shall be supported and protected from damage by the Contractor. If structures are broken or damaged, Contractor shall restore structures to their original condition at no additional cost to the Owner. Owner reserves the right to select replacement of these structures and features as a result of damage, and selection of Contractor or Subcontractor to perform such work. Contractor shall call NM 811 prior to performance of excavation, trenching, or fill outside the limits of waste.

1.4 SITE ACCESS

- A. Work shall be performed so as to not block or hinder site access, except as authorized by the Owner. Contractor shall be aware of ongoing landfill operations to avoid disruption of landfill operations, vehicle and equipment traffic, etc.
- B. Where execution of Work may interfere or hinder landfill operations, it is the Contractor's responsibility to communicate and coordinate with the Landfill Manager on such Work activities. In such situations, the Contractor shall coordinate with the Owner at least 48-hours in advance, and obtain authorization from the Owner for the day and time of day such work will be performed.

1.5 SAFETY

- A. All Work shall be performed in strict accordance with the Health and Safety requirements set forth in Section 01190 – Health and Safety and the General and Supplemental General Conditions of the Contract Documents.
- B. All work shall be performed in strict accordance with all local, State, U.S. Occupational Safety and Health Administration (OSHA) and other applicable Federal regulations regarding trenching operations and trench safety.
- C. Excavation may be made without sheeting and bracing within the limitations and requirements of the governmental agencies having jurisdiction. It is the Contractor's responsibility to perform all excavations and trenching in strict accordance with regulatory standards. The Contractor shall be responsible for the condition of all excavations and trenching. All slides and caves shall be removed without extra compensation, at whatever time and under whatever circumstances that they may occur.
- D. Contractor shall develop and implement a trench safety system in accordance with Section 01190 – Health and Safety.
- E. All excavation shall comply with the applicable requirements as stated in the following:
1. OSHA excavation safety standards 29 CFR, 1926-650, subpart P.
 2. Trench safety guidelines as specified by the Landfill Gas Division of the Solid Waste Association of North America (SWANA).

1.6 SUBMITTALS

- A. Health and Safety Plan, including trench safety systems, as described in Section 01190 – Health and Safety.

PART 2 - PRODUCTS

2.1 HIGH DENSITY POLYETHYLENE PIPE AND FITTINGS

- A. Header, lateral, air supply, and condensate forcemain piping, and valves installed in excavated trenches shall conform to Section 15050, of these specifications.
- B. Backfilling operations shall be performed to prevent damage, crushing, or collapse of installed piping, fittings, valves, and sumps.

2.2 TRENCH BACKFILL AND SOIL FILL

- A. For excavations within the limits of the landfill or waste, to the maximum extent practical, Contractor shall separate excavated cover soils overlying refuse (if refuse is encountered) and reuse the clean soils for trench backfill.
- B. If refuse cannot be separated from the overlying soils, then the Contractor shall use clean soils for trench backfill from an on-site borrow source, as directed by Owner. Under no circumstances shall waste be used for trench backfill.
- C. Trench backfill or fill shall be clean soil, generally be free of sticks, roots, organic matter, angular rock, and stones larger than 3-inches in any dimension.

2.3 AGGREGATE

- A. Aggregate used for well completion shall be a 1-inch by 3-inch permeable aggregate material, clean, washed, rounded to sub-rounded, and free of organic matter consistent with Section 02670 – LFG Extraction Wells and Wellheads. **Limestone will not be acceptable.**
- B. Aggregate quality control testing, which will be performed by the Owner's CQA Consultant, includes ASTM D2487 for classification, ASTM D448 for aggregate size classification, and JLT-S-105-89 or ASTM D3042 Modified for Calcium Carbonate content.
- C. Owner and Engineer reserve the right to require additional quality control tests of aggregate if material delivered to site is materially different in gradation or composition from the specified material at no additional cost to the Owner.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Identify required lines, levels, contours and datum locations.
- B. Locate, identify, and protect existing utilities and structures from damage, as specified in Part 1.3 of this Section.
- C. Prior to commencement of construction, confirm environmental protection and special controls are in-place consistent with Section 01560 – Environmental Protection and Special Controls.

3.2 PRE-CONSTRUCTION LAYOUT

- A. Prior to trenching and pipe installation, Owner's CQA Consultant shall perform a pre-construction survey and stake out the entire proposed trench alignment. The proposed alignment should be reviewed by the Contractor and Owner's CQA Consultant prior to the Contractor commencing Work and shall identify conflicts between the proposed Work and existing features.
- B. Layout of work and surveying shall be performed in accordance with the Section 01052 – Layout and Survey of these specifications.
- C. Although, the Owner's CQA Consultant will perform conformance and record surveys for the project, this does not relieve the Contractor of the responsibility to achieve the specified slopes, grades, and pipe soil cover.

3.3 EXCAVATION

- A. Excavated cover material shall be separated from excavated refuse (when refuse is encountered) and any cover material free of refuse may be reused as backfill material, pursuant to the requirements of Part 2.2 of this Section.
- B. Waste materials, if encountered, shall be disposed by the Contractor at the working face of the landfill during normal operating hours (7 AM to 5 PM, Monday through Sunday), or as directed by the Owner. The Owner will not charge Contractor a tipping fee, but Contractor shall be responsible for all other costs, associated with waste disposal. At no time shall excavated waste be stockpiled adjacent to the excavations.
- C. Excavate to lines, grades and dimensions necessary to complete the Work.
- D. Trenching Tolerances:
 - 1. Excavate to install pipes in straight runs at a uniform grade, without sags or humps, between vertical and horizontal control points in accordance with the Construction Plans and this Section.
 - 2. Minimum trench width shall be as shown on the Construction Plans.
 - 3. Maintain a minimum of 2-foot of soil cover over the top of the pipe, except when approved by Engineer.
- E. Excavations shall not be left open overnight, with the exception of 20 feet at end of trench needed for continuation of pipe placement the following day. For instances where pipe placement will continue the following day, barricades will be erected around open 20 feet of trench. If in waste, this open 20 feet shall be covered with a tarp or other approved cover and secured at the edges with soil. .
- F. Contractor shall use appropriate survey/level instrumentation during excavation to ensure proper trench slope. Verification of installed pipe slope shall be as specified in Part 3.5.
- G. Minimum trench slopes shall be as shown on the Construction Plans or approved by the Engineer. All header and lateral piping shall be installed with at least 3 percent slope, unless otherwise indicated on the construction plans or approved by Engineer.

3.4 DEWATERING

- A. Water that enters excavations that contains refuse shall be considered landfill leachate and shall not be allowed to discharge onto the ground, into stormwater drainage features, or other water bodies.

Contaminated water shall be discharged or pumped to existing leachate collection or management features, as directed in advance by the Owner or Engineer.

1. The Contractor shall provide and maintain pumps, sumps, suction and discharge lines, and other dewatering system components necessary to convey contaminated water to approved disposal locations at no additional cost to the Owner.
 2. Contractor shall be aware that trapped condensate or leachate may exist in trench excavations or existing LFG collection system piping. The Contractor shall be prepared to manage condensate or leachate during the execution of the Work, and shall manage such liquids at no additional cost to the Owner.
- B. The Contractor shall, at all times during construction, provide and maintain proper equipment and facilities to remove surface water or stormwater from entering excavations. Contractor shall provide and maintain pumps, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations or dewater excavations. Contractor shall keep such excavations dry so as to obtain a satisfactory foundation condition for all Work.
- C. If pipe trenches or excavations become watered-in after placement of materials, but before backfilling, Contractor shall dewater the trench or excavation, demonstrate that the pipe bedding and/or pipe slope remains satisfactory, and upon approval by the Engineer, backfill the trench or excavation with clean, dry soil in accordance with Part 2.2 of this Section.

3.5 PIPE CONFORMANCE SURVEY

- A. Owner's CQA Consultant shall perform layout of work in accordance with Section 01052 – Layout of Work and Surveys for all below-grade header and lateral piping, as described in Part 3.2 of this section.
- B. The Owner's CQA Consultant shall perform conformance surveys in accordance with Section 01052 – Layout of work and Surveys for verification of pipe slope and soil cover for installed components, and record surveys for documentation of installed materials. Although, the Owner's CQA Consultant will perform conformance and record surveys for the project, this does not relieve the Contractor of the responsibility to achieve the specified slopes, grades, and pipe soil cover.
- C. Prior to placement of soil backfill, Owner's CQA Consultant will confirm slope and soil cover requirements, as specified in the Technical Specifications and Construction Plans. As such, Contractor shall provide access to Owner's CQA Consultant to perform record surveys during performance of the Work.
- D. If soil backfill has been placed prior to performance of conformance surveys, Contractor will be required to expose pipe, lines, etc. for such surveys, at no additional cost to the Owner.
- E. At a minimum, conformance and record surveys for below-grade facilities will be performed as follows:
1. For pipe runs 100 feet or more in length, survey shots shall be recorded every 50 feet;
 2. For pipe runs 100 feet or less in length, survey shots shall be recorded every 20 feet;
 3. For pipe runs 50 feet or less in length, survey shots shall be recorded every 10 feet; and
 4. At all pipe bends, fittings, and valves.
- F. Record surveys must be completed and approved by Engineer and Owner's CQA Consultant prior to Contractor demobilizing from the site.

3.6 TRENCH BACKFILL

- A. Trench backfill materials shall be as described in Part 2.2 of this Section.
- B. Contractor shall notify Owner and CQA Consultant prior to beginning backfilling. The Owner or CQA Consultant shall inspect all pipe, fittings and connections prior to approving backfilling. If Contractor backfills pipe without inspection of the pipe while pipe is installed in the open trench, Contractor shall uncover all un-inspected buried pipe so that it may be properly inspected. This shall be done at no additional cost to the Owner.
- C. Trench backfilling procedures shall be modified as necessary, as approved by Engineer, in order to not displace (either horizontally or vertically) piping or connections installed in trench during backfill placement
- D. Place soil backfill in maximum 6-inch lifts above pipe, fitting, and/or valve to the existing grade. Contractor shall compact trench backfill in 6-inch lifts with a mechanical compaction device. Trench backfill shall be compacted by a minimum of three passes of the mechanical compaction device. The resulting degree of compaction or density of the backfill shall be that the surface elevation of the backfill material is not reduced by more than three-quarters of an inch. The Contractor shall perform additional passes of the compaction equipment to achieve the desired compaction results, as directed by the Owner's CQA Consultant.

3.7 REGRADING DISTURBED AREAS

- A. Contractor shall regrade and return to their original condition, as determined by the Owner and Owner's CQA Consultant, all areas disturbed by Contractor's Work. This includes, but is not limited to ruts caused by construction equipment, soil stockpile areas, and landfill benches and terraces used for access.
- B. Contractor shall remove all temporary roads and benches (i.e., used for drilling activities) at no additional cost to Owner.

END OF SECTION

SECTION 02670

LFG EXTRACTION WELLS AND WELLHEADS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. The Contractor shall provide all equipment, materials, and labor needed to install vertical landfill gas (LFG) extraction wells as specified herein and as indicated on the Construction Plans.
- B. It is expected that combustible methane gas will be venting from boreholes drilled into waste for the installation of gas extraction wells. The Contractor's bid price shall include provisions for all equipment and procedures necessary to safely install wells under this condition.

1.2 RELATED SECTIONS

- A. Section 01052 – Layout of Work and Surveys
- B. Section 01190 – Health and Safety
- C. Section 01400 – Quality Assurance and Quality Control
- D. Section 15050 - HDPE Pipe, Fittings, and Valves

1.3 SUBMITTALS

- A. The Contractor shall prepare and submit to the Engineer for review and approval product data on wellhead assemblies, orifice plates, and connection materials (flex hose, power clamps, etc.), and manufacturer's brochures containing complete information and instructions pertaining to the storage, handling, installation, and inspection of wellhead assemblies and other appurtenances furnished.
- B. The Contractor shall submit to the Engineer for review and approval product data for bentonite and polyurethane foam plug.
- C. The Contractor shall submit to the Engineer for review and approval the shop drawing for the well bore reinforcement grate.
- D. The Contractor shall identify the source of well aggregate and ship representative sample to Owner's CQA Consultants third-party laboratory. Additionally, the Contractor shall also submit to Engineer, a certification from aggregate supplier that the aggregate complies with the specification provided herein at least 7 days before delivery of aggregate to the site.

1.4 REFERENCES

- A. ASTM C 136 – Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
- B. ASTM D 422 - Standard Test Method for Particle-Size Analysis
- C. ASTM D 3042 – Standard Test Method for Insoluble Residue in Carbonate Aggregates
- D. JLT-S-105-89 - Degradation of Landfill Drainage Materials Due to Carbonate Content.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Backfill Materials:

1. Well aggregate: Consist of permeable aggregate material, clean, washed, rounded to sub-rounded, and free of organic matter. **Limestone will not be acceptable.** The aggregate shall have a calcium carbonate content less than 15 percent (in accordance with the J&L method or ASTM D3042 modified to use a solution of hydrochloric acid having a pH of 5). The material shall meet the following gradation:

<u>U.S. Sieve Size</u>	<u>Range of Percent Passing</u>
3 inch	100
2 inch	50 to 95
1 inch	0 to 20
½ inch	0

2. Soil backfill shall be clean soil, general free of sticks, roots, organic matter, angular rock, and stones larger than 1 inch in any dimension. Soil backfill shall be obtained from excavations performed as part of this project or from onsite soil sources as directed by the Owner.
3. “Bentonite Plug” as shown on the Construction Plans, shall refer to a well seal comprised of hydrated sodium bentonite mesh of a thickness indicated on the Construction Plans.
 - a. Bentonite material shall be Volclay bentonite #8-mesh granules as produced by the American Colloid Company, or Engineer-approved equal.
 - b. The “Bentonite Plug” shall consist of a mixture of bentonite and water. The mixture shall consist of ten (10) gallons of water per 50 pounds of bentonite or as recommended by manufacturer.
 - c. Mixing of bentonite and water shall be performed at the surface prior to placement in the wellbore.
4. The upper 2-foot well plug shall be polyurethane foam plug, product code FC DS 24-005, manufactured by Foam Concepts, LLC or Engineer-approved substitute. The polyurethane foam plug shall be installed consistent with manufacturer's recommendations.

- B. Well casings (solid and perforated pipe) shall be High Density Polyethylene (HDPE) pipe in accordance with Section 15050 – HDPE Pipe, Fittings, and Valves.

- C. Wellhead assemblies shall be vertical orifice-plate style wellhead assemblies, QED Quick-Change Orifice Plate Wellhead (Model No. ORP215) or Engineer-approved equal. Wellhead assemblies shall be equipped with or be capable of the following:

1. Orifice flow measurement. Wellhead assemblies shall be equipped stainless steel orifice plates with at a minimum 0.4, 0.5, 0.75, 1, 1.25, and 1.4-inch orifice plates (QED Part No 40640 or Engineer-approved substitute).
2. Monitoring ports located above and below the orifice plate housing and on the vacuum side of the control valve.
3. Wellheads shall be connected using the appurtenances shown on the construction plans, including but not limited to, Solarguard™ Flex hose or Engineered-approved substitute, Fernco fittings, and power-lock clamps. Adhesives or glues are prohibited.

PART 3 - EXECUTION

3.1 DRILLING

- A. The Contractor shall coordinate the start of drilling with the Owner and Owner's CQA Consultant.
- B. The Contractor shall provide a thoroughly experienced, competent driller during all drilling operations.
- C. The CQA Consultant's Surveyor shall survey and stake the well locations at least one (1) week prior to drilling consistent with Section 01052 – Layout and Work Surveys. Well locations will be approved and may be adjusted by the Engineer prior to beginning drilling. If well locations vary from that indicated on the Construction Plans, the Engineer shall be immediately notified.
- D. Prior to commencement of drilling and during drilling the construction quality assurance procedures shall be followed as specified in Part 3.2 of this Section.
- E. Contractor shall supply and wear safety harnesses tethered to a fixed object or support at all times when approaching the wellbore during well drilling and completion.
- F. The Contractor must use dry drilling equipment. Wet rotary drilling equipment may not be used.
- G. The Contractor is responsible for construction and removal of drilling pads and/or benches, at no additional cost to Owner.
- H. Wells are to be drilled to the depth and diameter as shown on the Construction Plans. Under no circumstances are the drilling depths from the well schedule on the Construction Plans to be exceeded unless approved by the Engineer in advance.
- I. If drilling refusal is encountered by contractor due to any object other than perched water or other common landfill features (gravel, buried haul roads, asphalt, etc.) The contractor shall:
 - 1. Drill for 1-hour in the area of refusal.
 - 2. If obstruction is not passed in the 1-hour timeframe, the Owner's CQA Consultant shall contact the engineer.
 - a. If engineer decides to continue drilling in this area, owner will pay contractor for actual footage drilled to the obstruction, plus the hourly rate for drilling past the obstruction, as indicated in the bid form under drilling past obstructions.
 - b. If the obstruction cannot be passed and the wellbore is abandoned, the owner will pay the contractor the unit rate for wellbore abandonment, plus the hourly rate for drilling past the obstruction, as indicated in the bid form under drilling past obstructions. The unit rate for wellbore abandonment is specified in the bid form under wellbore abandonment.
- J. Contractor shall abandon wells using the following procedure:
 - 1. Contractor shall measure the depth of each abandoned borehole under the observation of the Owner's CQA Consultant.
 - 2. The wellbore shall then be backfilled with a well-graded soil to within three (3) feet of the surface.
 - 3. During backfilling the contractor must use proper procedures to prevent any bridging of materials installed into the borehole.
 - 4. The final three (3) feet of the abandoned borehole must be backfilled with soil placed in lifts not to exceed 12-inch compacted lifts. The backfill shall meet or exceed existing site conditions.

5. Compensation for abandoned wellbores shall be at the unit rate in the bid form, but shall not exceed 1/3 the unit price for drilling and completing vertical extraction wells.
6. If during drilling of a boring, an obstruction is encountered, the driller shall use all reasonable means to advance the drilling. If the drilling rate falls to less than 5 feet per hour, and the well cannot be completed as shown in the well schedule, the engineer shall be consulted as to whether the borehole has advanced to a sufficient depth for completion.

K. Wet Borings:

1. If water is encountered in a boring, the contractor shall immediately contract the Owner's CQA Consultant and Engineer, may be directed to drill beyond the point at which water was first encountered for a period of up to 1-hour at no additional cost to Owner.
 - a. If wet conditions remain following the 1-hour timeframe, the boring may be terminated and the length of perforated pipe adjusted by Engineer.
 - b. If wet conditions cease (e.g., due to a perched water layer), then drilling will continue to the design depth.
 2. If water is encountered in a boring at a shallow depth, the Engineer may decrease the well depth and length of perforated pipe, or relocate the well.
- L. No wellbores shall be left open overnight. If well construction is not completed by the end of the working day, the hole shall be covered with the drilling grate, a metal plate or plywood of sufficient thickness and with a sufficient overlap to prevent access to the hole and to support expected loads. The edges of the plate shall be covered with a sufficient thickness of moistened soil to prevent the escape of gas. Barricades shall be placed around the covered hole or covered with the bucket from the drilling rig.
- M. The borehole for the well shall be straight and the well pipe shall be installed in the center of the borehole. The contractor shall take all necessary precautions to maintain the well pipe vertically plumb during the backfill operation of the borehole.

3.2 CONSTRUCTION QUALITY ASSURANCE (CQA)

- A. The surveyed elevations shall be written on the stakes in the field by the **CQA Consultant's** surveyor along with the well ID. The survey data (northing, easting, and surface elevation) will be used by the Design Engineer for reevaluation of the well schedule provided in the Construction Plans.
- B. The surveyed ground elevations shall be reviewed by the Engineer and the well schedule shall be revised and re-issued to the Contractor.
- C. The Owner's CQA Consultant shall walk the site and verify the well stakes and elevations.
- D. The Owner's CQA Consultant shall "sign off" on the Well Schedule indicating that the actual ground elevations have been incorporated into the Well Schedule, and the drilling depths have been reviewed.
- E. The Owner's CQA Consultant shall verify the calculations required to set the Well Schedule to verify that it is accurate.
- F. The Owner's CQA Consultant shall review the Well Schedule with the Driller and General Contractor. The Driller and General Contractor shall "sign off" on the Well Schedule indicating that the actual ground elevations have been incorporated into the Well Schedule, and the drilling depths have been reviewed. If there is any question or confusion regarding the information on the Well Schedule, sequencing of well construction, or any other construction details, the Engineer and Owner's CQA Consultant should be

contacted immediately for clarification. In no case should drilling proceed until all parties are in concurrence regarding the well drilling details.

- G. Once the drill rig is set up on the well, the Owner's CQA Consultant must again verify that the elevation on the stake is the same as on the Well Schedule.
- H. The Owner's CQA Consultant and Driller must verify the drill depth for each well prior to drilling each well.
- I. The Owner's CQA Consultant will complete a well boring log and prepare a well completion record for each well during drilling and completion of the well, respectively.

3.3 JOINING OF PIPES

- A. Pipes shall be joined as specified in Section 15050 – HDPE Pipe, Fittings, and Valves.

3.4 BACKFILLING

- A. Backfilling of the well shall commence immediately after well drilling is completed and the well piping has been installed. Backfill materials shall be placed carefully within the wells to the dimensions shown on the Construction Plans and as approved by the Engineer. The Engineer or Owner's CQA Consultant, on the basis of a visual examination, may reject gravel and soil backfill containing foreign material. Both well piping and backfill shall be installed with a safety grate installed over the boring as approved by the Engineer.
- B. Place aggregate in the well borehole to the elevations indicated on the Construction Plans, specifically 1-foot above perforated HDPE well casing. Place aggregate following installation of HDPE well casing. Do not cap well casing to allow aggregate fines to escape from piping. Hold or anchor HDPE well casing in center of borehole to allow an even distribution of aggregate around well casing.
- C. The bentonite plug shall be mixed and installed as specified in Part 2.1.A.3 of this Section.
- D. The polyurethane foam plug shall be installed consistent with manufacturer's recommendations.
- E. Contractor shall reduce clod size of soil backfill to prevent bridging of soils in the borehole and damage to well casing. Soil backfill shall be evenly distributed in the borehole to reduce post-construction settlement of soils.
- F. The Owner's CQA Consultant shall inspect the extraction well borings prior to final completion of the project. Excessive settlement (6 inches or more below surrounding grade) in the boring shall be repaired by the Contractor by adding compacted fill around the well casing at no additional cost to the Owner.

3.5 TEMPORARY CAP

- A. Following well completion, the Contractor shall secure a temporary cap to the riser pipe of the vertical extraction well to prevent direct venting of landfill gas through the riser pipe. If necessary due to gas pressures in the wellbore, lag screws shall be installed to secure the cap to the riser pipe. The temporary cap shall be removed during the installation of the wellheads.

3.6 WASTE DISPOSAL

- A. The Contractor shall dispose of construction waste, including well cuttings, at the working face of the landfill.
- B. Contractor shall coordinate with Owner for disposal of waste at the working face, as directed by the Owner.

- C. The Contractor shall remove spoils routinely during well drilling. Waste will not be permitted to be stockpiled adjacent to the borehole.

3.7 RISER PIPE COMPLETION AND WELLHEAD INSTALLATION

- A. Each well shall have riser pipe above existing grade with the minimum dimensions shown on the Construction Plans. The riser pipe above existing grade shall have a yellow adhesive identification label with the extraction well ID in 3-inch black letters placed on the riser pipe.
- B. Wellhead assembly shall be installed on the vertical extraction well in accordance with the manufacturer's recommendations. Care shall be taken not to damage or impact the wellhead during installation. If a wellhead assembly is damaged during installation, Contractor shall replace it at no cost to the Owner.
- C. The wellhead shall be connected to the lateral pipe riser using Solarguard™ Flex hose or Engineer-approved substitute and power clamps, as shown on the Construction Plans.
- D. Each well shall have a soil and aggregate mound installed consistent with the Construction Plans. The soil and aggregate mounds shall be filled consistent with Part 3.6D of Section 02222 – Excavation, Trenching, Backfilling, and Grading.

3.8 RE-GRADING AND CLEANUP

- A. Restore areas disturbed by drilling to original grade conditions, including the removal of any earthen drilling pads.
- B. Uniformly grade and restore areas to original condition or better.
- C. Contractor shall clean-up the area around each well to the satisfaction of the Owner or Owner's CQA Consultant of any waste materials left from drilling activities.

END OF SECTION

SECTION 15050

HDPE PIPE, FITTINGS, AND VALVES

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. The Contractor shall supply all materials, equipment, and labor needed to install complete and make ready for use all HDPE pipe, fittings, and valves as specified herein related to the landfill gas header and lateral piping, condensate management system, and LFG extraction wells; and indicated on the Construction Plans.

1.2 RELATED TECHNICAL SPECIFICATION

- A. Section 01052 – Layout of Work and Surveys
- B. Section 02222 – Excavation, Trenching, Backfilling, and Grading
- C. Section 02670 – LFG Extraction Wells and Wellheads

1.3 SUBMITTALS

- A. The Contractor shall prepare and submit to the Engineer, for review and approval, product data, certificates of compliance on materials furnished and manufacturer's brochures containing complete information and instructions pertaining to the storage, handling, installation, inspection, maintenance, and repair of each type of pipe, fitting, and valve furnished for the project.

1.4 REFERENCE

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only. Use of the most recent version is required.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

1. ASTM D 1248 - Specification for Polyethylene Plastics Molding and Extrusion Materials
2. ASTM F 1417-11A - Standard Practice for Installation Acceptance of Plastic Non-pressure Sewer Lines Using Low-Pressure Air
3. ASTM D 2774 - Standard Practice for Underground Installation of Thermoplastic Pressure Piping
4. ASTM F 2620 - Standard Practice for Heat Fusion of Polyethylene Pipe and Fittings
5. ASTM D 3350 - Specification for Polyethylene Plastics Pipe and Fittings Materials
6. ASTM F 714 - Standard Specification for Polyethylene (PE) Pipe (SDR-PR) Based on Outside Diameter
7. ASTM D 3261 - Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Butt Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing

8. ASTM F 1055 - Standard Specification for Electrofusion Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing
9. ASTM D 3261 - Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Butt Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
10. ASTM F 1055 - Standard Specification for Electrofusion Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing
11. ASTM F 1759 - Standard Practice for Design of High Density Polyethylene (HDPE) Manholes for Subsurface Applications
12. ASTM F 2206 - Standard Specification for Fabricated Fittings of Butt-Fused Polyethylene (PE) Plastic Pipe, Fittings, Sheet Stock, Plate Stock or Block Stock

AMERICAN NATIONAL STANDARD INSTITUTE (ANSI)

13. ANSI B 31.8 - Code for Pressure Piping, Appendix N

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

14. ASME B16.42 - Ductile Iron Pipe Flanges and Flanged Fittings, Class 150 and 300

PLASTICS PIPING INSTITUTE (PPI)

15. PPI TR-31/9-79 - Technical Report

PART 2 - PRODUCTS

2.1 HIGH DENSITY POLYETHYLENE (HDPE) PIPE

- A. As shown on the Construction Plans, HDPE pipe and fittings shall have the following Standard Dimension Ratios (SDR):
 1. 2-inch diameter condensate forcemain pipe shall be SDR 11;
 2. 2-inch diameter air supply line shall be SDR 9;
 3. 6-inch diameter LFG lateral piping shall be SDR 17;
 4. 8-inch diameter LFG header piping shall be SDR 17; and
 5. 6-inch diameter solid and perforated LFG extraction vertical well casing shall be SDR 11; and
 6. All piping and fittings used in fabrication of condensate sumps shall be SDR 17.
- B. All HDPE pipe and fittings shall be extruded from Type III, Clast C Category 5, Grade P34 Resin in accordance with ASTM D3350. Minimum cell classification valves shall be PE345464C, as referenced in ASTM D3350, and have a material designation of PE3608/4710. The pipe shall be manufactured to meet the requirements of ASTM F714. All HDPE pipe and fittings shall contain a minimum of 2 percent carbon black. Manufacturer's literature shall be adhered to when "manufacturer's recommendations" are specified. All pipe and fittings shall be provided by one manufacturer. Acceptable manufacturers/suppliers include ISCO Industries or Engineer approved equal.

2.2 FLANGES FOR HDPE PIPE

- A. Flanges for HDPE pipe shall be convoluted ductile iron back-up rings with a minimum thickness corresponding to the adjoining pipe SDR. Ductile iron back-up rings shall be class 150 and manufactured consistent with ASME B16. Back-up rings shall be finished with red oxide primer.
- B. Flange gaskets shall be full-face neoprene gaskets.
- C. Studs, bolts, nuts, and washers for flanges shall be zinc-plated steel. Stainless steel bolts and nuts are not an acceptable alternative. ANY below-grade studs shall be thoroughly coated with Polyken Technologies 1027 Primer (508-261-6200), rubberized emulsion undercoating spray, or Engineer-approved substitute, with no gaps in coverage. Below-grade flanges shall be wrapped in 5-mil polyethylene sheeting, following installation and prior to backfilling, to prevent corrosion.

2.3 PIPE SUPPORTS AND ANCHORS

- A. All pipe supports and anchors (for above-grade piping installation) shall conform to the details shown on the Construction Plans and shall be located as shown on the Construction Plans.

2.4 GAS PIPE WARNING TAPE

- A. Tape shall be a metallic locator/warning tape imprinted with the words "Caution Gas Line Buried Below," as supplied by Terra Tape (1-800-231-6074) or Engineer-approved equal.

PART 3 - EXECUTION

3.1 GENERAL

- A. HDPE pipe shall be stored on clean level ground, preferably turf or sand, free of sharp objects, which could damage the pipe. Stacking shall be limited to height that will not cause excessive deformation of the bottom layers of pipe under the anticipated temperature ranges. Where necessary the pipe shall be stored on wooden sleepers, spaced suitably and such a width as not to allow deformation of the pipe at the point of contact with the sleepers or between supports.
- B. Pipe and pipe fittings shall be handled carefully in loading and unloading. They shall be lifted by hoists and lowered on skidways in such a manner as to avoid shock. Pipe and pipe fittings shall not be dropped or dumped onto rocky or unprepared ground. Under no circumstance shall pipe or fittings be dropped into trenches, or dragged over sharp or cutting objects.
- C. The maximum allowable depth of cuts, gouges, or scratches on the exterior surface shall be 10 percent of the wall thickness on the pipe or fitting. The interior of the pipe or fitting shall be free of cuts, gouges or scratches. If removal of damage sections of pipe is required, the repairs shall be performed at no cost to Owner.
- D. Whenever pipe laying is not actively in progress, the open end(s) of installed pipe shall be plugged.

3.2 HDPE PIPE HANDLING

- A. HDPE pipe shall not be bent more than the minimum radius recommended by the manufacturer for type, grade, and SDR. Care shall be taken to avoid imposing strains that will overstress or buckle the HDPE piping or impose excessive stress on the joints.

- B. Ropes, fabric, or rubber-protected slings and straps shall be used when handling pipe. Slings, straps, etc. shall not be positioned at butt fused joints. Chains, cables, or hooks shall not be inserted into the pipe ends as a means of moving the pipe.

3.3 JOINING HDPE PIPE

- A. Only two methods shall be utilized to join HDPE pipe unless otherwise approved by the Engineer: butt fusion and mechanical joining.
 - 1. Mechanical Joining shall be accomplished with HDPE flange adapters, neoprene gaskets, and ductile iron back-up flanges, and shall be used only where shown on the Construction Plans or approved by Engineer.
 - 2. Butt Fusion joints shall be made in accordance with manufacturer's step by step procedures and recommendations using approved equipment. Butt fusion shall be performed by a qualified person specifically trained to operate fusion equipment. Pipe fusion equipment shall be of the size and nature to adequately weld all pipe sizes and fittings necessary to complete the project. Butt fusion shall be performed outside of the trench whenever practical. Before butt fusing pipe, each length shall be inspected for the presence of dirt, sand, mud, shavings, and other debris. Any foreign material shall be completely removed. At the end of each day, all open ends of fused pipe shall be capped or otherwise covered to prevent entry by animals or debris.
- B. Branch saddle (heat fusion or electro-fusion) and electro-fusion saddles/couplings shall not be permitted unless approved by Engineer on a case-by-case basis.
- C. As per the manufacturer's instructions, no fusion shall be performed in precipitation unless a shelter is provided.
- D. Extrusion welding shall not be permitted for joining two pipe segments.

3.4 HDPE PIPE INSTALLATION

- A. Pipe installation shall comply with the requirements of ASTM D 2321, PPI TR-31/9-79, and the manufacturer's recommendations.
- B. Lengths of fused pipe to be handled as one segment shall not exceed 400 feet.
- C. Pipe shall be inspected and cleaned of pipe cuttings, dirt, debris, or other deleterious materials prior to installation in the trench.
- D. As noted in Section 02222, below-grade HDPE pipe shall be installed within a minimum 3 percent slope and 2-foot of soil cover, unless otherwise indicated on the Construction Plans or approved in writing by Engineer. Conformance surveys shall be prepared by the Contractor for verification of pipe slope and soil cover, as specified in Section 01052 – Layout of Work and Surveys.
- E. Condensate forcemain and air supply piping shall be installed as shown on the Construction Plans. Condensate forcemain and air supply lines shall be installed on opposite sides of the header from each other when installed in common trench.
- F. The Owner and CQA Consultant shall be notified prior to any pipe being installed in the trench in order for them to have an opportunity to inspect the following items:
 - 1. Pipe joining.

2. Pipe integrity.
 3. Trench excavation for rocks and foreign material.
 4. Proper trench slope and depth.
 5. Trench contour to ensure the pipe will have uniform and continuous support.
- G. Any irregularities found by the Owner or CQA Consultant during this inspection must be corrected before lowering the pipe into the trench. Pipe shall be allowed sufficient time to adjust to trench temperature prior to any testing, segment tie-ins, and/or backfilling.
- H. Tie-ins shall be made out of the trench whenever possible. When tie-ins are to be made only in the trench, a bell hole shall be excavated large enough to ensure an adequate and safe work area.
- I. Below-grade piping shall be marked with metallic warning tape to be buried in the trench above the pipe as specified in Part 2.4 and indicated on the Construction Plans.

3.5 FLANGED CONNECTIONS

- A. Flanged connections for HDPE pipe shall be installed as specified in Part 3.A.1.
- B. The Contractor shall wrap and tape the flanges and bolts in 5 mil polyethylene sheeting prior to backfilling to help protect the assembly from corrosion.

3.6 PIPE SUPPORTS

- A. All piping and valves shall be supported in such a manner as to prevent any stress being transmitted between sections and connected equipment and appurtenances.

3.7 HDPE PIPE AND VALVE TESTING

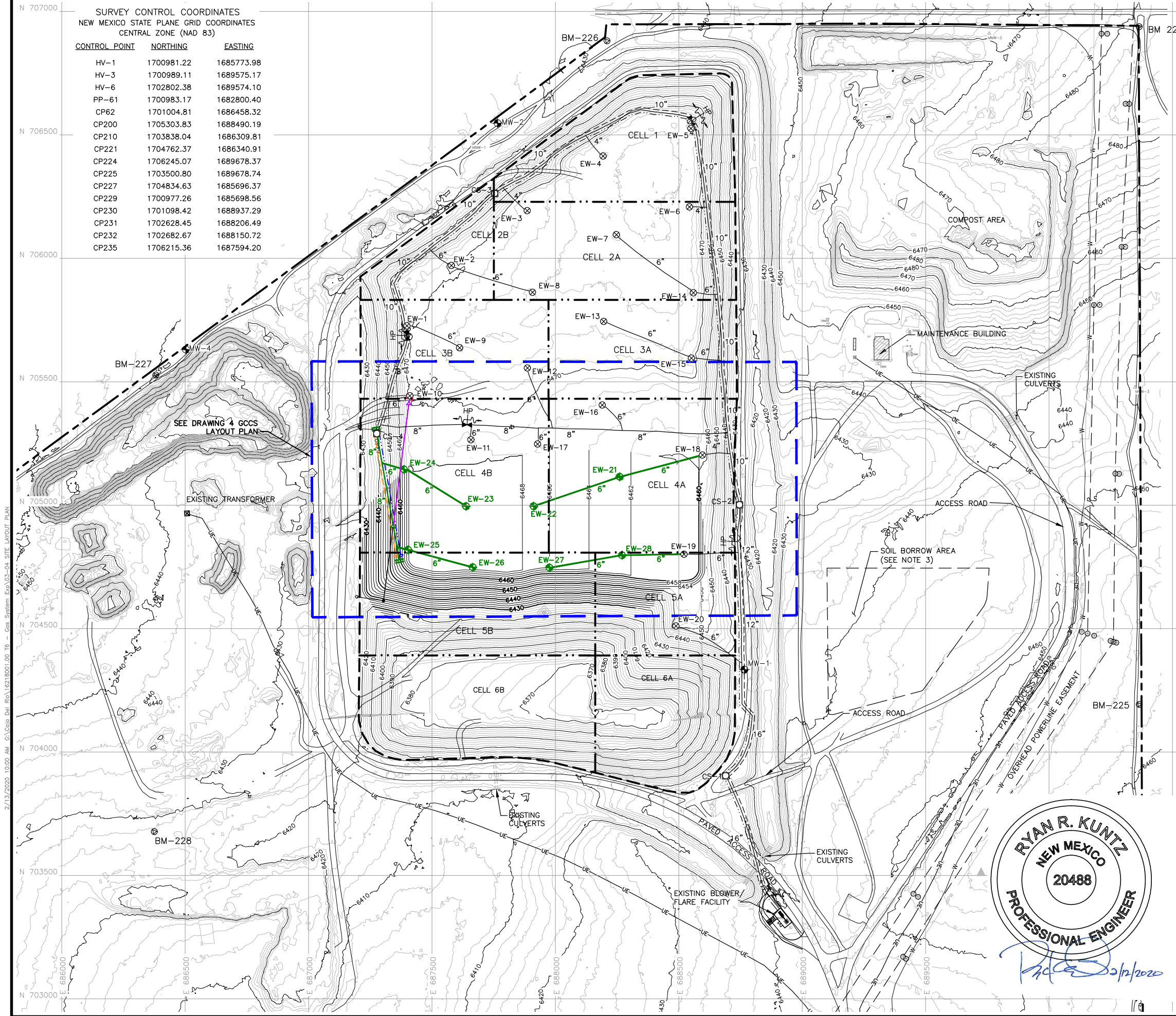
- A. All above and below-grade HDPE piping shall be subjected to a pneumatic pressure test and as described herein to detect any leaks in the piping. Contractor shall furnish all necessary equipment and materials, and make all taps in the pipe, as required, for testing.
- B. The Contractor shall accept the responsibility for locating, uncovering (if previously backfilled), and repairing any leaks detected during testing at no additional cost to the Owner.
- C. The test(s) should be performed during a period when the pipe will be out of direct sunlight when possible; i.e., early morning, late evening, or cloudy days. This will minimize the pressure changes which will occur during temperature fluctuations.
- D. The CQA Consultant shall be notified prior to commencement of the testing procedure and shall be present during all tests.
- E. All installed pipe shall be subject to the following pneumatic pressure tests at pressures and times shown below. The pressure test will begin once the pipe has been pressurized to the required pressure. During the pressure test, no loss of pressure shall be observed for passing test.
 1. LFG header and lateral piping – 10 psig for one hour.
 2. Condensate forcemain piping – 4 psig for 30 minutes then 100 psi for 30 minutes.

3. Air supply line piping – 4 psig for 30 minutes than 100 psi for 30 minutes.
- F. Valves (if applicable) shall be tested at the same time that the adjacent pipe is tested. Valves or joints shall show no detectable leakage under the test. Valves or joints that show sings of leakage shall be repaired prior to final acceptance.
 - G. Any section of pipe which falls to meet the stipulated pressure test shall be checked by the Contractor and corrective measures taken. The test shall then be repeated, at no additional cost to the Owner. Pipe installation will not be accepted unless and until it meets the pressure test requirements.
 - H. The following steps shall be performed for failing pressure test described in this Part.
 1. The pipe and all fusions shall be inspected for cracks, pinholes, or perforations.
 2. All blocked risers and capped ends shall be inspected for leaks.
 3. Leaks shall be located and/or verified by applying a soapy water solution and observing soap bubble formation.
 - I. All pipe and fused joint leaks shall be repaired by cutting out the leaking area and refusing the pipe.
 - J. After all leaks are repaired, a retest shall be performed in accordance with this Section.
 - K. The Owner’s CQA Consultant shall prepare records of each pipe segment pneumatically tests. These records shall include:
 1. Date of test,
 2. Description and identification of pipe tested,
 3. Test pressure,
 4. Remarks regarding leaks or repairs made of leaks, and
 5. Certification by contractor.

END OF SECTION

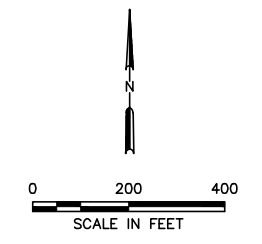
Construction Plans

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SURVEY CONTROL COORDINATES
NEW MEXICO STATE PLANE GRID COORDINATES
CENTRAL ZONE (NAD 83)

CONTROL POINT	NORTHING	EASTING
HV-1	1700981.22	1685773.98
HV-3	1700989.11	1689575.17
HV-6	1702802.38	1689574.10
PP-61	1700983.17	1682800.40
CP62	1701004.81	1686458.32
CP200	1705303.83	1688490.19
CP210	1703838.04	1686309.81
CP221	1704762.37	1686340.91
CP224	1706245.07	1689678.37
CP225	1703500.80	1689678.74
CP227	1704834.63	1685696.37
CP229	1700977.26	1685698.56
CP230	1701098.42	1688937.29
CP231	1702628.45	1688206.49
CP232	1702682.67	1688150.72
CP235	1706215.36	1687594.20



LEGEND

- PERMIT BOUNDARY
- LANDFILL CELL LIMITS
- APPROXIMATE LIMITS OF WASTE
- MW-1 EXISTING MONITORING WELL
- BM 224 EXISTING BENCHMARKS
- EXISTING CONTOURS (SEE NOTE 1)
- 6460 PROJECTED CONTOURS (SEE NOTE 2)
- EXISTING UNDERGROUND ELECTRICAL (APPROX.)
- EXISTING WATER LINE (APPROX.)
- EXISTING LFG COLLECTION PIPING
- EXISTING AIR SUPPLY LINE
- EXISTING CONDENSATE FORCEMAIN
- EXISTING LFG EXTRACTION WELL
- EXISTING CONDENSATE SUMP
- EXISTING LFG ISOLATION VALVE
- EXISTING AIR SUPPLY LINE/CONDENSATE FORCEMAIN ISOLATION VALVES
- EXISTING HIGH POINT
- EXISTING DRIPLEG
- EXISTING LEACHATE CLEANOUT RISER
- PROPOSED LFG COLLECTION PIPING
- PROPOSED AIR SUPPLY LINE
- PROPOSED 2" CONDENSATE FORCEMAIN
- PROPOSED LFG EXTRACTION WELL
- PROPOSED BLIND FLANGE
- PROPOSED HDPE CAP
- PROPOSED PIPE ABANDONMENT
- PROPOSED PIPE SALVAGE
- PROPOSED REMOTE WELLHEAD SALVAGE

NOTES:

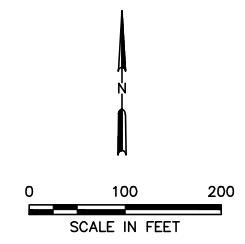
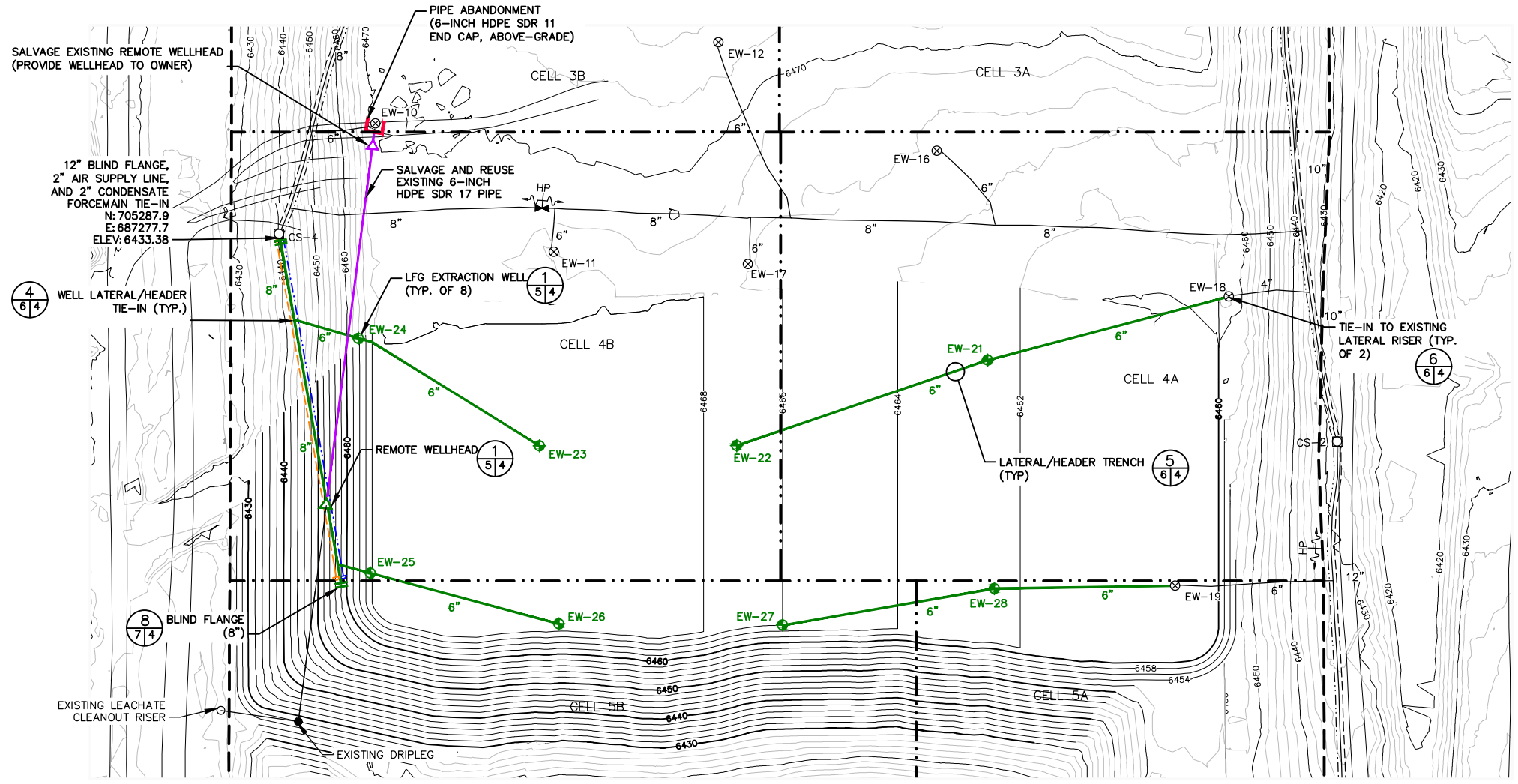
- TOPOGRAPHIC MAPPING WAS COMPILED USING PHOTOGRAMMETRIC METHODS FROM TOPOGRAPHIC MAP INFORMATION PROVIDED BY PRECISION SURVEYS, INC., ALBUQUERQUE, NM, ON DECEMBER 21, 2016, AND VOLOPERVIDI SURVEY ON JULY 2, 2018.
- PROJECTED CONTOURS ARE ANTICIPATED FILL GRADES THAT WILL BE ACHIEVED BY THE LANDFILL PRIOR TO CONSTRUCTION; HOWEVER, MAY DIFFER FROM ACTUAL FIELD CONDITIONS. COA CONSULTANT WILL PERFORM A GROUND SURVEY PRIOR TO CONSTRUCTION TO VERIFY EXISTING GRADES, AND MAKE ADJUSTMENTS AS NECESSARY TO PIPING LAYOUT.
- SOIL BORROW AREA DEPICTED IS APPROXIMATE. CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF SOIL BORROW WITH OWNER PRIOR TO CONSTRUCTION.
- CONSTRUCTION WATER IS AVAILABLE FROM AN ONSITE POND LOCATED SOUTH OF THE BLOWER/FLARE FACILITY.
- ALL LATERAL PIPING SHALL BE INSTALLED WITH A MINIMUM 3% SLOPE. ALL PIPING SHALL BE INSTALLED WITH AT LEAST 2 FEET OF SOIL COVER.
- REFER TO TABLE ON EXTRACTION WELL DETAILS DRAWING (DRAWING 5) FOR WELL SCHEDULE.



Handwritten signature and date: Ryan R. Kuntz 02/12/2020

2/13/2020 10:00 AM G:\Chis Del Rio\16218001.00.TB - Gas System Exp\03-04 SITE LAYOUT PLAN	DRAWING TITLE SITE LAYOUT PLAN	PROJECT TITLE CAJA DEL RIO LANDFILL PHASE 3 - LANDFILL GAS (LFG) COLLECTION SYSTEM EXPANSION	CLIENT SANTA FE SOLID WASTE MANAGEMENT AGENCY 149 WILDLIFE WAY SANTA FE, NM 87506-8942 (505) 421-1850	CADD FILE: 03-04 SITE LAYOUT PLAN	DATE: 02/2020	SCALE: AS SHOWN	DRAWING NO. 3
SCS ENGINEERS STERRIS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 1901 CENTRAL DRIVE, SUITE 550, BEDFORD, TX 76021 PH (817) 571-2288 FAX NO. (817) 571-2188		DWN. BY: NR CHK. BY: RJK APP. BY: RJK		PROJ. NO. 16218001.00 SHEET NO. 03 OF 03		FOR BIDDING PURPOSES ONLY	

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LEGEND

	LANDFILL CELL LIMITS
	APPROXIMATE LIMITS OF WASTE
	EXISTING CONTOURS
	PROJECTED CONTOURS (SEE NOTE 2)
	EXISTING LFG COLLECTION PIPING
	EXISTING AIR SUPPLY LINE
	EXISTING CONDENSATE FORCEMAIN
	EXISTING LFG EXTRACTION WELL
	EXISTING CONDENSATE SUMP
	EXISTING LFG ISOLATION VALVE
	EXISTING HIGH POINT
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	PROPOSED LFG EXTRACTION WELL
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	PROPOSED PIPE ABANDONMENT
	PROPOSED PIPE SALVAGE
	PROPOSED REMOTE WELLHEAD SALVAGE

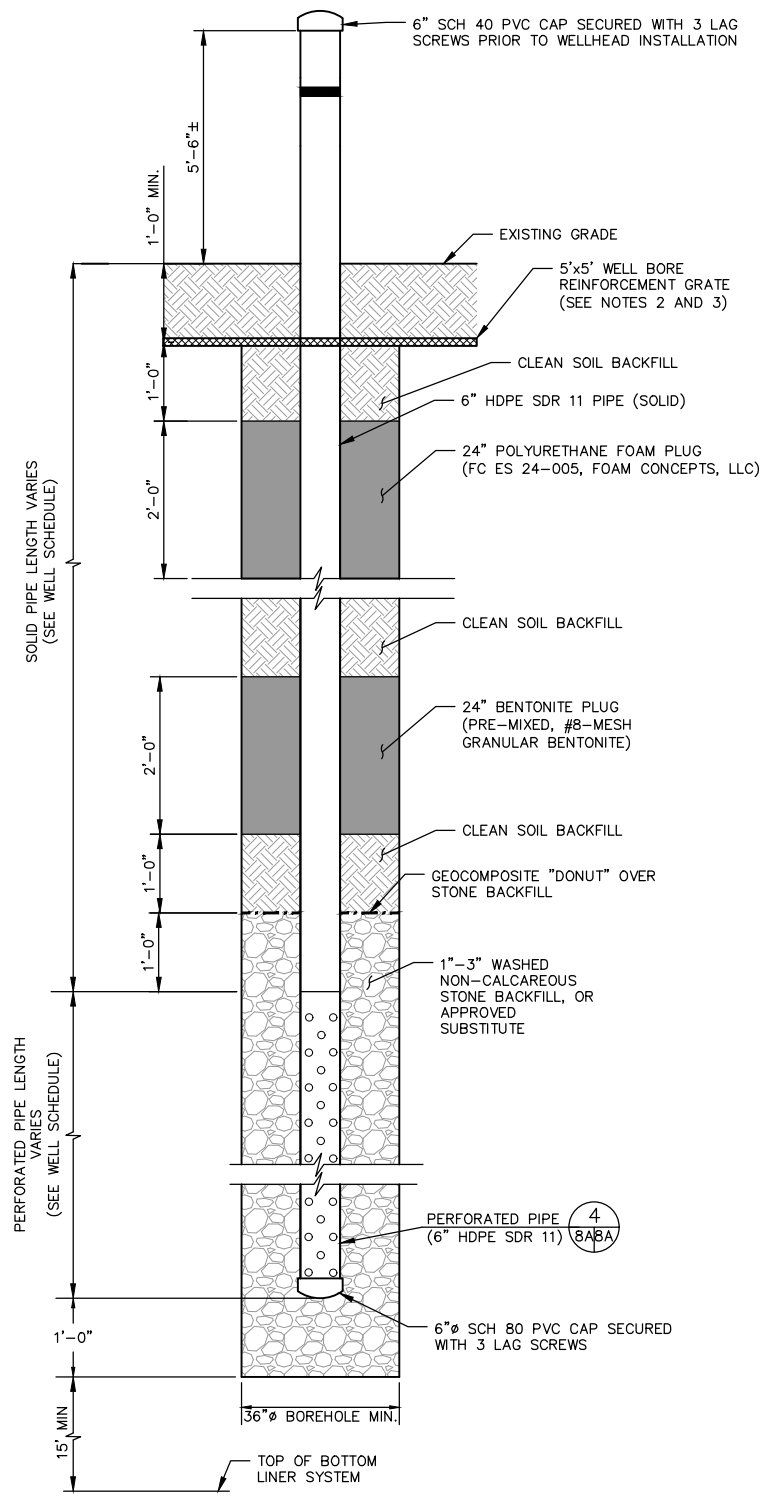
- NOTES:**
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 - ALL LATERAL PIPING SHALL BE INSTALLED WITH A MINIMUM 3% SLOPE. ALL PIPING SHALL BE INSTALLED WITH AT LEAST 2 FEET OF SOIL COVER.
 - REFER TO TABLE ON EXTRACTION WELL DETAILS DRAWING (DRAWING 5) FOR WELL SCHEDULE.



BT REV. DATE DESCRIPTION					
DRAWING TITLE GCCS LAYOUT PLAN	PROJECT TITLE CAJA DEL RIO LANDFILL PHASE 3 - LANDFILL GAS (LFG) COLLECTION SYSTEM EXPANSION	CLIENT SANTA FE SOLID WASTE MANAGEMENT AGENCY 149 WILDLIFE WAY SANTA FE, NM 87506-8942 (505) 421-1850	SCS ENGINEERS STARRS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 1901 CENTRAL DRIVE, SUITE 550, BEDFORD, TX 76021 PH (817) 571-2288 FAX NO. (817) 571-2188	PROJ. NO. 16218001.00 DES. BY: B.J.D. O/A. RW BY: B.J.D. DWN. BY: NR CHK. BY: RRK APP. BY: RRK	CADD FILE: 03-04 SITE LAYOUT PLAN
DATE: 02/2020		SCALE: AS SHOWN		DRAWING NO. 4	

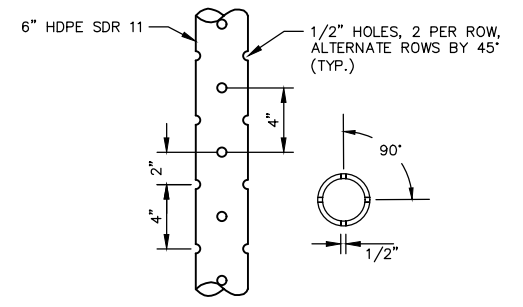
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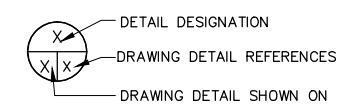


- NOTES:**
- CQA CONSULTANT SHALL SURVEY THE PROPOSED WELL LOCATIONS AND PROVIDE THE EXISTING GROUND SURFACE ELEVATION AT EACH LOCATION TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF WELL DRILLING.
 - WELL BORE REINFORCEMENT GRATE SHALL BE 100% WELDED AND CONFIGURED WITH 3/8" REBAR WITH 6"x6" SPACING. GRATE SHALL HAVE A 12"x12" SQUARE CENTER SPACED CUTOUT FOR WELL CASING. WELL BORE GRATE SHALL BE PURCHASED FROM REPUBLIC'S NATIONAL MATERIAL SUPPLIER ONLY.
 - INSTALL WELL BORE REINFORCEMENT GRATE ON GRADE AROUND WELL IMMEDIATELY AFTER COMPLETING WELL. DURING INSTALLATION OF LATERAL RISER, GRATE SHALL BE BURIED.

LFG EXTRACTION WELL
NTS



PERFORATED PIPE
NTS



WELL SCHEDULE

WELL I.D.	NORTHING	EASTING	PROJECTED ELEVATION (FT MSL)			WELL DEPTH (FT)	PIPE LENGTH (FT)		ABOVE GRADE RISER	THICKNESS OF GRAVEL PACK (FT)
			GROUND SURFACE	BOTTOM OF WASTE	BOTTOM OF BOREHOLE		SOLID	PERFORATED		
EW-21	705114.8	688260.7	6462.5	6366.3	6381.5	81	30	50	5.5	52
EW-22	704995.9	687912.1	6467.2	6371.7	6387.2	80	30	49	5.5	51
EW-23	704995.6	687638.3	6468.0	6377.2	6393.0	75	30	44	5.5	46
EW-24	705145.0	687386.9	6464.1	6384.4	6400.1	64	25	38	5.5	40
EW-25	704818.9	687403.6	6467.4	6386.6	6402.4	65	25	39	5.5	41
EW-26	704748.4	687665.4	6468.0	6379.2	6395.0	73	30	42	5.5	44
EW-27	704746.8	687975.8	6466.0	6373.4	6389.0	77	30	46	5.5	48
EW-28	704797.5	688270.0	6462.4	6369.4	6384.4	78	30	47	5.5	49

NOTES:

- THIS IS A DRAFT WELL SCHEDULE, AND IS NOT INTENDED FOR CONSTRUCTION UNTIL ACTUAL SURVEY DATA IS OBTAINED AND THE WELL SCHEDULE IS REVISED BY THE ENGINEER.**
- WELL DEPTHS BASED ON TOPOGRAPHIC SURVEY BY COOPER AERIAL SURVEYS, DATED NOVEMBER 22, 2017 OR 2018 ABM PACKAGE DATED JULY, 2017.
- CQA CONSULTANT SHALL LOCATE WELLS AND VERIFY SURFACE ELEVATIONS BEFORE CONSTRUCTION. A PRE-CONSTRUCTION SURVEY (NORTHING/EASTING/ELEVATION DATA) SHALL BE PROVIDED TO THE ENGINEER A MINIMUM OF 1 WEEK PRIOR TO CONSTRUCTION. ENGINEER SHALL VERIFY THE WELL SCHEDULE BASED ON THE PRE-CONSTRUCTION SURVEY.
- CQA CONSULTANT AND CONTRACTOR SHALL VERIFY ALL STAKES, AND CHECK WELL NUMBER AND GROUND ELEVATION ON SAID STAKE, PRIOR TO APPROVING WELL SCHEDULE.
- CONTRACTOR AND CQA CONSULTANT SHALL VERIFY ALL FIELD CONDITIONS INCLUDING PRE-CONSTRUCTION WELL SURVEY STAKES AND NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND CONDITIONS DEPICTED IN THESE PLANS PRIOR TO DRILLING.
- BORING DEPTH ACCOMMODATES PIPE DEPTH AND ADDITIONAL FOOT BELOW PIPING SHOWN ON THE LFG EXTRACTION WELL DETAIL.
- SOLID PIPE LENGTHS ABOVE DO NOT ACCOUNT FOR THE RISER PIPE ABOVE EXISTING GRADE, AS SHOWN ON DETAIL 1.
- PRIOR TO COMMENCEMENT OF DRILLING ACTIVITIES, THE FOLLOWING CONSTRUCTION QUALITY ASSURANCE STEPS SHALL COMPLETED BY THE CQA CONSULTANT, OWNER, DRILLER, AND CONTRACTOR:
 - WALK THE SITE AND VERIFY THE WELL STAKES AND ELEVATIONS;
 - "SIGN OFF" ON THE WELL SCHEDULE INDICATING THAT THE ACTUAL GROUND ELEVATIONS HAVE BEEN INCORPORATED INTO THE WELL SCHEDULE, AND THE DRILLING DEPTHS HAVE BEEN REVIEWED;
 - VERIFY THE CALCULATIONS ON THE WELL SCHEDULE ARE ACCURATE;
 - ONCE THE DRILL RIG IS SET UP ON THE WELL, VERIFY THAT THE ELEVATION ON THE STAKE IS THE SAME AS ON THE WELL SCHEDULE; AND
 - VERIFY THE DRILL DEPTH OF EACH WELL PRIOR TO DRILLING EACH WELL.

GENERAL CONTRACTOR ACKNOWLEDGEMENT: _____ DATE _____

CQA INSPECTOR: _____ DATE _____

DRILLER ACKNOWLEDGEMENT: _____ DATE _____

UNDER NO CIRCUMSTANCES SHALL DRILLING ACTIVITIES BEGIN WITHOUT PROVIDING THE ABOVE SIGNATURES. ANY CHANGES TO WELL LOCATIONS OR DEPTHS SHALL REQUIRE THESE SIGNATURES TO BE OBTAINED AGAIN. **CONTRACTOR SHALL GET WRITTEN AUTHORIZATION FROM OWNER AND ENGINEER PRIOR TO DRILLING.**



REV	DATE	DESCRIPTION

DRAWING TITLE
EXTRACTION WELL DETAILS

PROJECT TITLE
CAJA DEL RIO LANDFILL
PHASE 3 - LANDFILL GAS (LFG)
COLLECTION SYSTEM EXPANSION

CLIENT
SANTA FE SOLID WASTE
MANAGEMENT AGENCY
149 WILDLIFE WAY
SANTA FE, NM 87506-8342
(505) 421-1850

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
1901 CENTRAL DRIVE, SUITE 550, BEDFORD, TX 76021
PH (817) 571-2288 FAX NO. (817) 571-2188

PROJ. NO.: 16218001.00
DWN. BY: NR
CHK. BY: BJD
APP. BY: RRK

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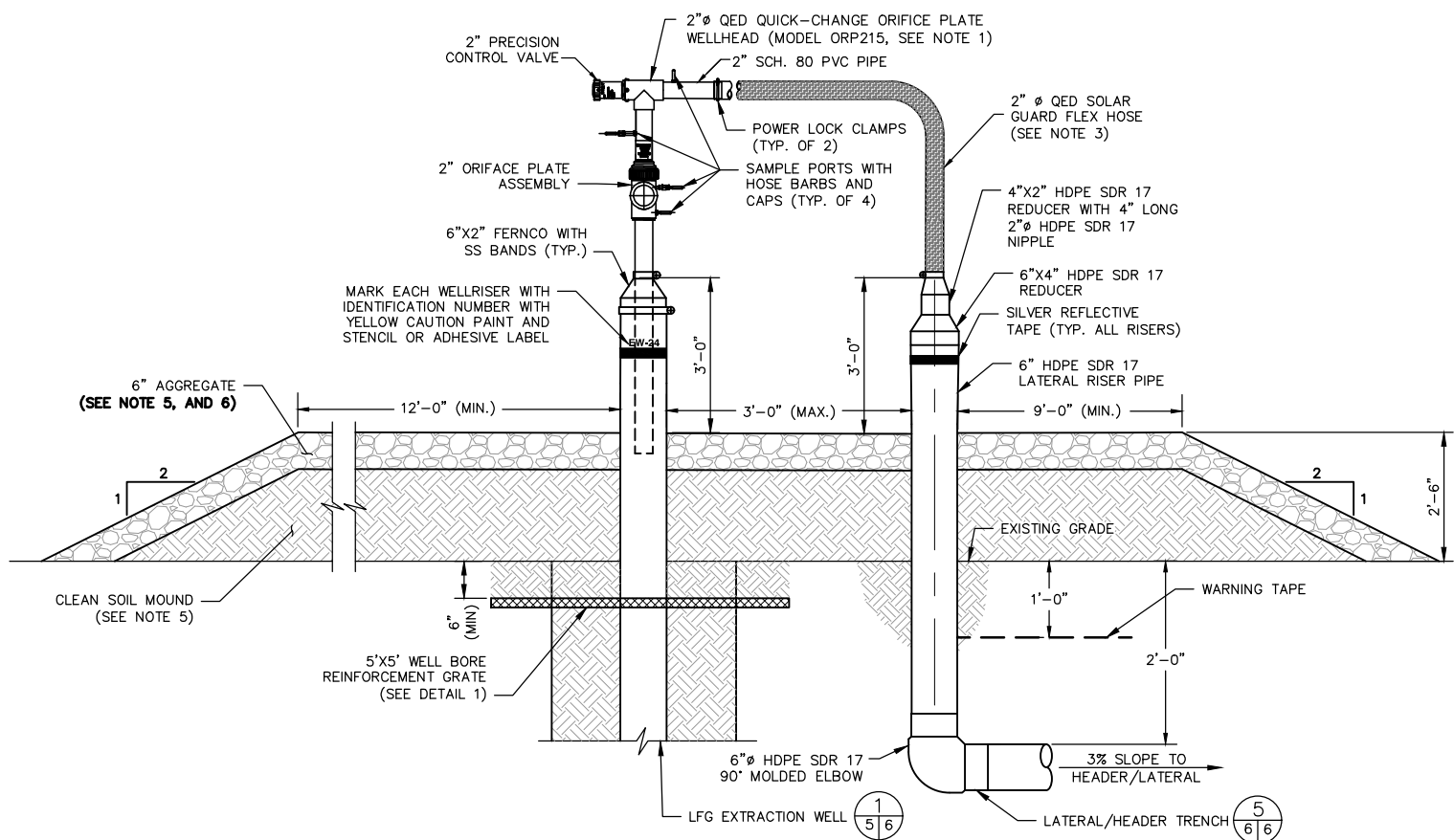
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SCALE: AS SHOWN

DRAWING NO. **5**

FOR BIDDING PURPOSES ONLY

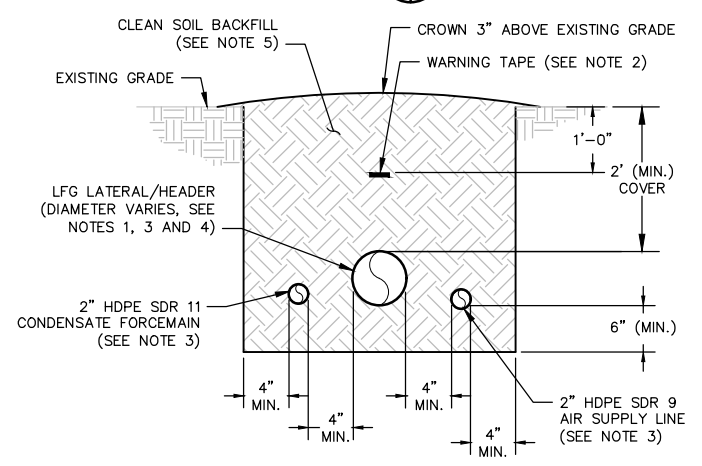
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NOTES:

1. WELLHEAD SHALL BE QED QUICK-CHANGE ORIFICE PLATE WELLHEADS (MODEL ORP215) WITH ORIFICE PLATE KIT (MODEL 40640). CONTRACTOR SHALL INSTALL WELLHEAD CONSISTENT WITH MANUFACTURER'S INSTRUCTIONS.
2. WARNING TAPE SHALL BE MIN. 3" WIDE AND IMPRINTED WITH "GAS LINE BURIED BELOW".
3. WELLHEAD AND LATERAL TO BE INSTALLED TO PREVENT SAG AND PROVIDE SLACK IN FLEX HOSE TO ACCOMMODATE FUTURE SETTLEMENT.
4. IMMEDIATELY AFTER LATERAL INSTALLATION, A TEMPORARY PVC OR HDPE CAP SHALL BE INSTALLED ON THE LATERAL PRIOR TO WELLHEAD INSTALLATION.
5. CONTRACTOR SHALL INSTALL A CLEAN SOIL AND AGGREGATE MOUND WITH A 12'-0" (MIN.) DIAMETER CENTERED AROUND THE LFG EXTRACTION WELL RISER PIPE.
6. AGGREGATE SHALL BE CRUSHED ROCK, FREE OF CONTAMINATED SOIL AND OTHER DELETERIOUS MATERIAL, AND GENERALLY CAN FORM TO THE GRADATION OF NMDOT TYPE 1 BASE COARSE, AS SET-FORTH IN SECTION 303 OF THE NMDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS, AND BRIDGES.

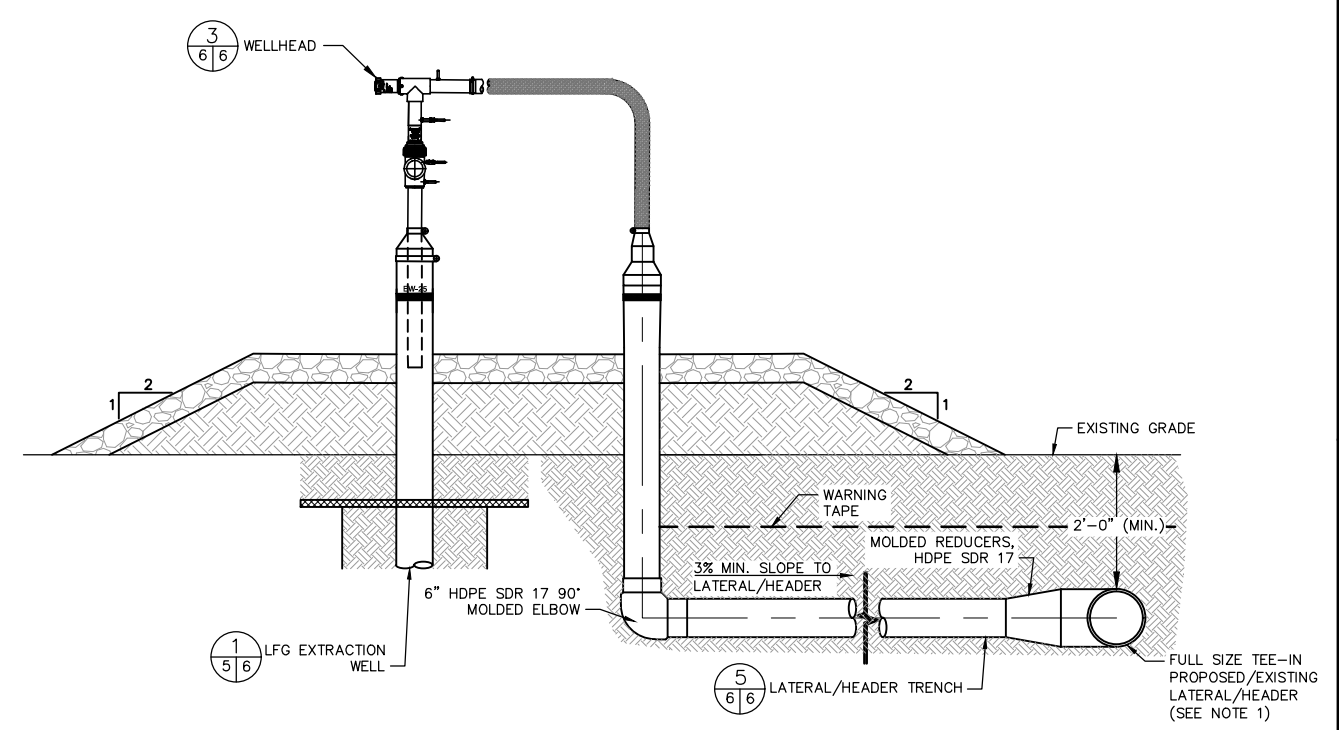
WELLHEAD 3/6
NTS



NOTES:

1. ALL HDPE LFG LATERAL/HEADER PIPE SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 3% SLOPE.
2. WARNING TAPE SHALL BE MIN. 3" WIDE AND IMPRINTED WITH "GAS LINE BURIED BELOW".
3. THE NUMBER AND TYPES OF PIPE INSTALLED IN THE TRENCH MAY VARY. SEE PLAN VIEW DRAWINGS FOR DETAILS.
4. ALL HDPE PIPE INSTALLED SHALL BE HDPE PE3608/4710 OF THE SIZE AND SDR INDICATED ON PLAN VIEW DRAWINGS.
5. CLEAN SOIL BACKFILL SHALL BE FREE OF ROCK OR STONES GREATER THAN 3 INCHES IN DIAMETER AND EXCAVATED REFUSE.

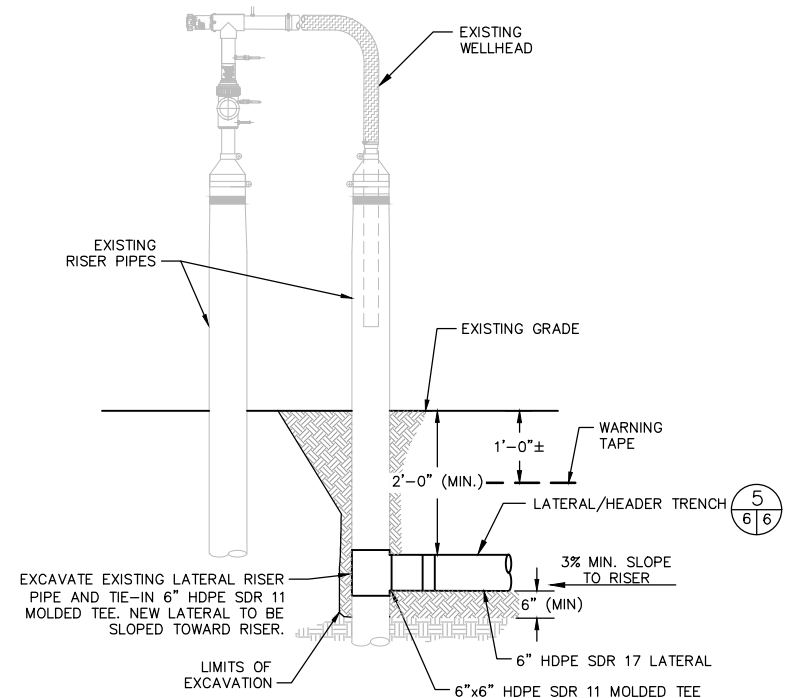
LATERAL/HEADER TRENCH 5/6
NTS



NOTES:

1. FULL SIZE MOLDED TEES SHALL BE USED IN PROPOSED LATERALS/HEADERS. NO BRANCH SADDLE TEES WILL BE ACCEPTED. MOLDED REDUCING TEES ARE AN ACCEPTABLE ALTERNATIVE.
2. AIR SUPPLY LINE AND CONDENSATE FORCEMAIN ALONG HEADER ARE NOT SHOWN FOR CLARITY, AS SHOWN ON PLAN VIEW DRAWINGS.

WELL LATERAL/HEADER TIE-IN 4/6
NTS



NOTE:

1. DEPENDING ON DEPTH OF EXISTING LATERAL RISER, TIE-IN MAY BE PERFORMED ON LATERAL INSTEAD OF RISER (SEE DETAIL 4 FOR LATERAL TIE-IN DETAILS).

TIE-IN TO EXISTING LATERAL RISER 6/4
NTS

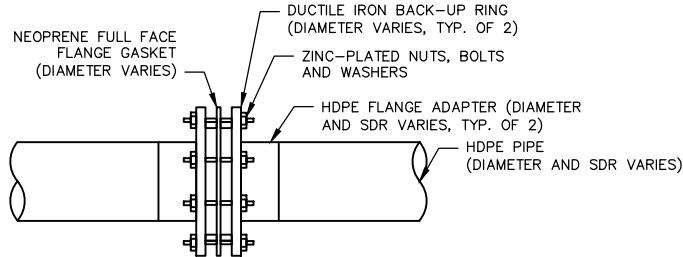


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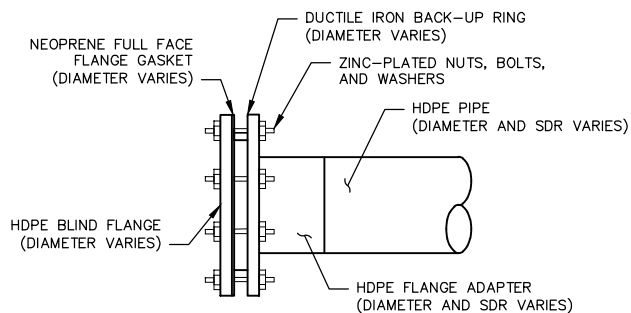
REV	DATE	DESCRIPTION

DRAWING TITLE	LFG PIPING DETAILS - 1
PROJECT TITLE	CAJA DEL RIO LANDFILL PHASE 3 - LANDFILL GAS (LFG) COLLECTION SYSTEM EXPANSION
CLIENT	SANTA FE SOLID WASTE MANAGEMENT AGENCY 149 WILDLIFE WAY SANTA FE, NM 87506-8342 (505) 421-1850
SCS ENGINEERS	STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 1901 CENTRAL DRIVE, SUITE 550, BEDFORD, TX 76021 PH (817) 571-2288 FAX NO. (817) 571-2188
PROJ. NO.	16218001.00
DWN. BY:	NR
CHK. BY:	RRK
APP. BY:	RRK
CADD FILE:	05-09 - GCCS DETAILS
DATE:	02/2020
SCALE:	AS SHOWN
DRAWING NO.	6

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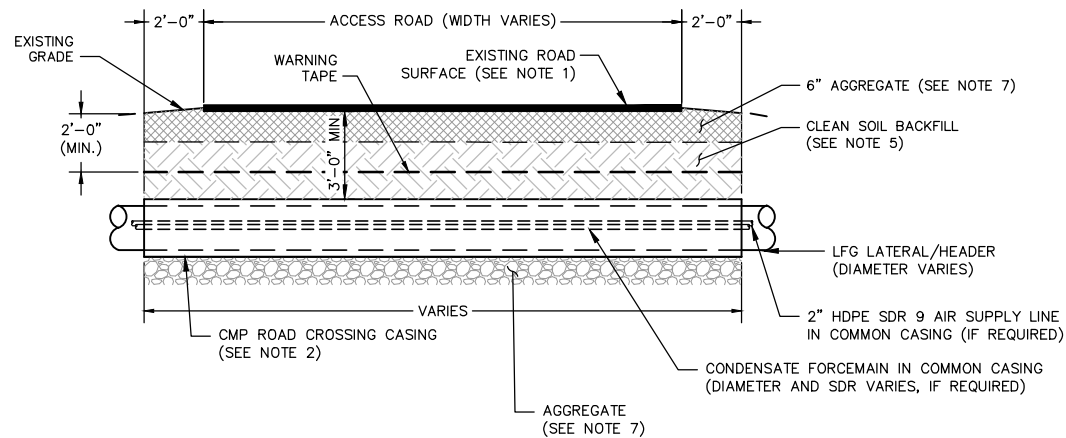
FLANGE CONNECTION 7
NTS



BLIND FLANGE 8
NTS

DETAILS 7 AND 8 NOTES:

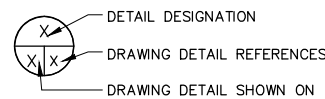
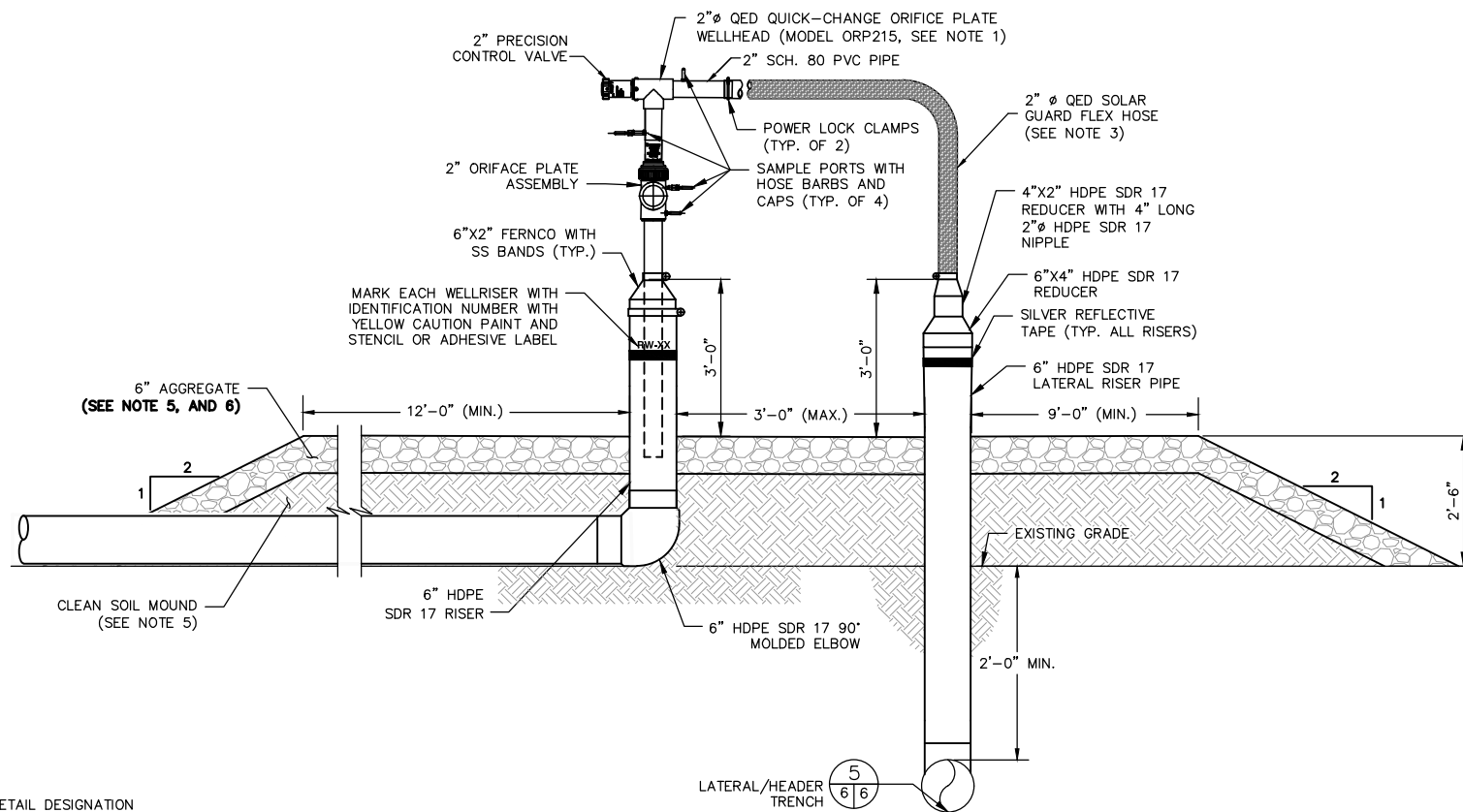
1. NUTS, BOLTS, AND WASHERS SHALL BE ZINC-PLATED. STAINLESS STEEL BOLTS AND NUTS WILL NOT BE PERMITTED.
2. THOROUGHLY COAT ENTIRE SURFACE OF BOLTS, WASHERS, NUTS AND BACKUP RINGS WITH POLYCOAT RUBBERIZED PRIMER, OR EQUAL, AFTER TIGHTENING BOLTS FOR BURIED UNDERGROUND FLANGE CONNECTIONS. COATING SHALL HAVE NO "HOLIDAYS," OR GAPS IN ITS APPLICATION.
3. WRAP FLANGE IN 5-MIL PLASTIC WRAP PRIOR TO BACKFILLING FOR BURIED UNDERGROUND FLANGE CONNECTIONS.



NOTES:

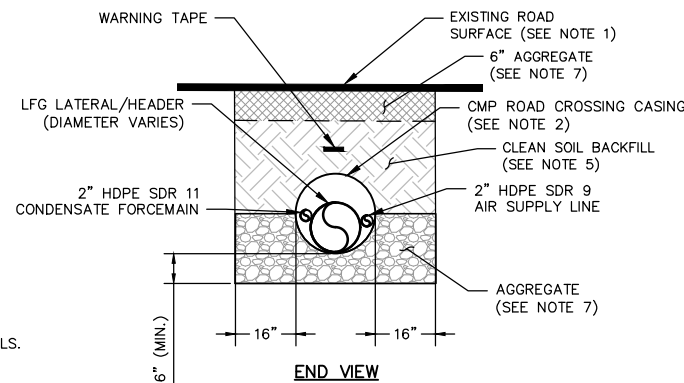
1. ACCESS ROAD SHALL BE RESTORED TO MATCH ORIGINAL CONDITIONS.
2. ALL CASING SHALL BE CMP, GALVANIZED AND COMPLY WITH ASTM A929/A929M (SEE CMP TABLE, THIS DRAWING).
3. CONTRACTOR SHALL NOTE, NUMBER AND LOCATIONS OF CMP ROAD CROSSINGS SHALL BE CONFIRMED WITH OWNER PRIOR TO PROCUREMENT OF MATERIALS.
4. CONTRACTOR SHALL TRANSPORT AND INSTALL OWNER SUPPLIED AGGREGATE FROM ONSITE BORROW SOURCE TO THE ROAD CROSSING.
5. CLEAN SOIL BACKFILL SHALL BE FREE OF ROCK OR STONES GREATER THAN 3 INCHES IN DIAMETER AND EXCAVATED REFUSE.
6. ROAD CROSSINGS SHALL BE COORDINATED WITH SITE PERSONNEL A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION.
7. AGGREGATE SHALL BE CRUSHED ROCK FREE OF CONTAMINATED SOIL AND OTHER DELETERIOUS MATERIAL, AND GENERALLY CAN FORM TO THE GRADATION OF NMDOT TYPE 1 BASE COARSE, AS SET-FORTH IN SECTION 303 OF THE NMDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE HIGHWAYS, STREETS, AND BRIDGES.

ROAD CROSSING (BID ALTERNATE) 9
NTS



NOTES:

1. WELLHEAD SHALL BE QED QUICK-CHANGE ORIFICE PLATE WELLHEADS (MODEL ORP215) WITH ORIFICE PLATE KIT (MODEL 40640). CONTRACTOR SHALL INSTALL WELLHEAD CONSISTENT WITH MANUFACTURER'S INSTRUCTIONS.
2. WARNING TAPE SHALL BE MIN. 3" WIDE AND IMPRINTED WITH "GAS LINE BURIED BELOW".
3. WELLHEAD AND LATERAL TO BE INSTALLED TO PREVENT SAG AND PROVIDE SLACK IN FLEX HOSE TO ACCOMMODATE FUTURE SETTLEMENT.
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CMP TABLE (SEE NOTE 2)

PIPE SIZES	CMP DIA. (INCH)	GAUGE (MAX.)
8" LFG, 2" CFM, 2" AIR	18	16
6" LFG	12	16

REMOTE WELLHEAD 10
NTS



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2/12/2020

REV	DATE	DESCRIPTION

DRAWING TITLE
LFG PIPING DETAILS - 2

PROJECT TITLE
CAJA DEL RIO LANDFILL
PHASE 3 - LANDFILL GAS (LFG)
COLLECTION SYSTEM EXPANSION

CLIENT
SANTA FE SOLID WASTE
MANAGEMENT AGENCY
149 WILDLIFE WAY
SANTA FE, NM 87506-8342
(505) 421-1850

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
1901 CENTRAL DRIVE, SUITE 550, BEDFORD, TX 76021
PH (817) 571-2288 FAX NO. (817) 571-2188

PROJ. NO. LFG215001.GG
DWN. BY: NR
CHK. BY: RRR
APP. BY: BJD
RJK

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DATE: 02/2020

SCALE: AS SHOWN

DRAWING NO. 7

FOR BIDDING PURPOSES ONLY

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