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Project Manual For
Construction of
Mariano Lake Phase 1A and 1B
Water System Improvements Project

The Navajo Nation
On Behalf of
Mariano Lake Chapter

November 2012

Bid Open Date: Thursday, April 4, 2013
Bid Time: 2:00 p.m.

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ENGINEER CERTIFICATION

These Contract Documents and Construction Specifications for the **Mariano Lake Phase 1A and 1B Water System Improvements Project** were prepared by:

Souder, Miller & Associates
3451 Candelaria Rd. NE, Suite D
Albuquerque, NM 87107
(505) 299-0942 or Fax (505) 293-3430

The technical material and data contained in the specifications were prepared under the supervision and direction of George M. Mihalik, P.E., whose seal as a Professional Engineer licensed to practice in the state of New Mexico is affixed below.

11/30/12

George M. Mihalik, P.E.
New Mexico PE License #18134

Date

All questions about the meaning of intent of these documents shall be submitted only to the Engineer of Record stated above, IN WRITING for interpretations.

ADVERTISEMENT FOR BIDS

Navajo Nation on behalf of Mariano Lake Chapter
Owner

Navajo Nation Water Management Branch, P. O. 678, Fort Defiance, AZ 86504
Address

Separate sealed BIDS for the construction of the Mariano Lake Phase 1A and 1B Water System Improvements Project will be received by the OWNER at the office of the ENGINEER, Souder, Miller & Associates, Attention: George Mihalik, P.E until **2:00 p.m.** (MDT), **Thursday, April 4, 2013**, and then at said office publicly opened and read aloud.

Project Description: The project consists of construction of approximately 34,800 LF of 6-inch, 8,700 LF of 4-inch, and 3,800 LF of 2-inch waterlines and 25 water services with associated appurtenances.

Five percent preference will be given in award to Navajo and other Indian-owned firms qualifying for preference in accordance with the Navajo Nation Business Opportunities Act, N.N.C. Title 5, Chapter 2. Bidders claiming preference shall submit evidence of their priority certification with their bid. Suppliers, brokers, agents, subsidiaries, successors and assigns shall be fully subject to the requirements and provisions of the Navajo Nation Business Opportunity Act ("the Act"). Those firms seeking preference priority under this solicitation must document with their bid that any third parties delivering goods and services pursuant to this solicitation were selected according to the procedures described in the Act. Failure to comply with this requirement will result in the bid being declared non-responsive and being rejected. All firms submitting bids under this solicitation must comply with all other qualification requirements referenced in the solicitation documents in order for their bid to be considered responsive.

The CONTRACT DOCUMENTS may be examined at the following locations:

Builders News and Plan Room, 3435 Princeton Dr. NE, Albuquerque, NM 87107	(505) 884-1752
Construction Reporter, 1609 2nd St. NW, Albuquerque, NM 87102	(505) 243-9793
Souder, Miller & Associates, 3451 Candelaria Rd. NE, Ste D, Albuquerque, NM 87107	(505) 299-0942
Navajo Nation Water Management Branch, Fort Defiance, AZ 86504	(928) 729-4004

Copies of the CONTRACT DOCUMENTS may be obtained at the office of the ENGINEER, Souder, Miller & Associates, 3451 Candelaria Rd. NE, Ste. D, Albuquerque, NM 87107, upon payment of $150.00 by check only, for each set. Any BIDDER, upon returning the CONTRACT DOCUMENTS in good and complete condition within 10 days of bid opening, will be refunded $150.00.

A MANDATORY PRE-BID MEETING will be held at the Mariano Lake Chapter House, BIA Route 49, Mariano Lake, New Mexico, on **Tuesday, March 19, 2013** at **11:00 a.m.** (MDT).

The PROJECT is located in Mariano Lake, McKinley County, New Mexico.

INSTRUCTIONS TO BIDDERS

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ARTICLE 1 - DEFINED TERMS

1.01 Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

A. Issuing Office--The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

B. Appendices to Project Manual--Documentation included at the back of the Project Manual that form part of the Contract Documents.

C. Attachments to Project Manual--Documentation included at the back of the Project Manual that is provided for informational purposes only and is <u>not</u> part of the Contract Documents. 'Technical Data' included in the Attachments, upon which the Contractor may rely, is specified in the Supplementary Conditions, if applicable.

ARTICLE 2 - COPIES OF BIDDING DOCUMENTS

2.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Advertisement for Bids may be obtained from the Issuing Office. The deposit will be refunded to each document holder of record who returns a complete set of Bidding Documents in good condition within 10 days after opening of Bids.

2.02 Complete sets of Bidding Documents must be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.03 Owner and Engineer in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

ARTICLE 3 - QUALIFICATIONS OF BIDDERS

3.01 To demonstrate Bidder's qualifications to perform the Work, the Bidder shall complete and submit the Bidder's Qualifications Statement included in these Contract Documents together with the Bid, which will be used in the evaluation of the Bid prior to Award, as stipulated in Article 15 and Article 19 of these Instructions to Bidders.

3.02 Bidders must carry all licenses required under New Mexico state law to complete the Work to be performed by Prime Contractor at the time of bid opening. All Subcontractors must have the required licenses in place prior to beginning Work to be performed by them. Subcontractors do not need to be licensed in New Mexico prior to bid opening. All electrical work, whether performed by Bidder or Bidder's Subcontractor, shall be performed by a licensed electrician. It is the responsibility of the Bidder to consult with the New Mexico Construction Industries Division to determine what license classifications are required.

3.03 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 4 - EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

4.01 Subsurface and Physical Conditions

A. Bidder is advised to carefully review the physical conditions of the site. No exploration or tests of any subsurface conditions have been performed.

4.02 Underground Facilities

A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others. Bidder shall, per the provisions

in Paragraph 4.04, undertake additional subsurface investigation work to develop a sound understanding of subsurface conditions prior to preparing the Bid.

4.03 Hazardous Environmental Condition

A. The Supplementary Conditions identify those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that the Engineer has used in preparing the Bidding Documents.

B. Copies of reports and drawings referenced in paragraph 4.03.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in paragraph 4.06 of the General Conditions has been identified and established in paragraph 4.06 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any "technical data" or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

4.04 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated conditions appear in paragraphs 4.02, 4.03, and 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work appear in paragraph 4.06 of the General Conditions.

4.05 On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to locating of excavation and utility.

4.06 It is the responsibility of each Bidder before submitting a Bid to:

A. Examine and carefully study the Bidding Documents, the other related data identified in the Bidding Documents, and any Addenda;

B. Visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;

C. Become familiar with and satisfy Bidder as to all Federal, State, and local Laws and Regulations that may affect cost, progress, or performance of the Work;

D. Carefully study all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions, and (2) reports and drawings of Hazardous Environmental Conditions at the Site which have been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions, and (3) Contract Documents and Drawings regarding Underground Facilities and make such investigations as the Contractor deems necessary per Articles 4.02 and 4.05 of these Instructions to Bidders;

E. Obtain and carefully study (or accept consequences for not doing so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto;

F. Agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents;

G. Become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;

H. Correlate the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents;

I. Promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and

J. Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

4.07 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the

Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 – MANDATORY PRE-BID CONFERENCE

5.01 A **Mandatory Pre-Bid Conference** will be held as shown in the Advertisement for Bids. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are required to attend and participate in the conference. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective. Any Bid presented by a Bidder who did not attend the Mandatory Pre-Bid Conference will not be considered.

ARTICLE 6 - SITE AND OTHER AREAS

6.01 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

ARTICLE 7 - INTERPRETATIONS AND ADDENDA

7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than five days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner or Engineer.

ARTICLE 8 - BID SECURITY

8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of 5 % of Bidder's maximum Bid price and in the form of a certified check or a Bid bond (EJCDC No. C-430, 2007 Edition) issued by a surety meeting the requirements of paragraphs 5.01 and 5.02 of the General Conditions.

8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid

security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Agreement or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.

8.03 Bid security of other Bidders whom OWNER believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

ARTICLE 9 - CONTRACT TIMES

9.01 The number of days within which, or the dates by which, the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 -LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages are set forth in the Agreement.

ARTICLE 11 - SUBSTITUTE AND "OR-EQUAL" ITEMS

11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, or "or-equal" materials and equipment as defined in paragraph 6.05 of the General Conditions, or those substitute materials and equipment approved by the Engineer and identified by Addendum. The materials and equipment described in the Bidding Documents establish a standard of required type, function and quality to be met by any proposed substitute or "or-equal" item. Request for Engineer's clarification of materials and equipment considered "or-equal" prior to the Effective Date of the Agreement must be received by the Engineer at least 5 days prior to the date for receipt of Bids. No item of material or equipment will be considered by Engineer as a substitute unless written request for approval has been submitted by Bidder and has been received by Engineer at least 15 days prior to the date for receipt of Bids. Each request shall conform to the requirements of paragraph 6.05 of the General Conditions. The burden of proof of the merit of the proposed item is upon the Bidder. Engineer's decision of approval or disapproval of a proposed item will be final. If Engineer approves any proposed substitute item, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner.

ARTICLE 12 - SUBCONTRACTORS, SUPPLIERS, AND OTHERS

12.01 If a List of Proposed Subcontractors is identified as a required attachment to the Bid Proposal, the Bidder is required to identity all Subcontractors whose subcontracted work surpasses the Subcontractor listing threshold of five thousand dollars ($5,000). Firms identified in the List of Proposed Subcontractors shall not be substituted except as permitted under 13-4-36 NMAC of the Subcontractors' Fair Practices Act.

12.02 If the Bidder fails to specify a Subcontractor in excess of the listing threshold, the Bidder represents that the Bidder, as the prime Contractor, is fully qualified to perform

that portion of the Work. For each such listed Subcontractor, the Bidder shall include the following information:

A. the name of Subcontractor that will perform work or labor or render service on the project identified in the Contract Documents and the city or county of its principal place of business; and

B. the category of the work that will be done by each Subcontractor; only one Subcontractor may be listed for each category of work as defined by the Bidder.

12.03 If a List of Proposed Subcontractors is not identified as a required attachment to the Bid Proposal, the apparent successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required, under the same conditions identified in Article 12.01 above. If requested by Owner, such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute, without an increase in the Bid.

12.04 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest responsible Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner and Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after the Effective Date of the Agreement as provided in paragraph 6.06 of the General Conditions.

12.05 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

12.06 The Contractor shall not award work to Subcontractor(s) in excess of the limits stated in SC 6.06.

12.07 Contractor shall not substitute any person as Subcontractor in place of those identified on the List or Proposed Subcontractors without prior approval from Owner. The same applies to equipment manufacturers identified on the Equipment Suppliers List, when such a list is included within the Contract Documents.

ARTICLE 13 - PREPARATION OF BID

13.01 The Bid form is included with the Bidding Documents. Additional copies may be obtained from Engineer.

13.02 All blanks on the Bid form shall be completed in ink and the Bid signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid From. A Bid price shall be indicated for each Bid item listed therein, or the words "No Bid," "No Change," or "Not Applicable" entered.

13.03 A Bid by a corporation shall 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 seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be provided on the Bid Form.

13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be provided on the Bid Form.

13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.

13.06 A Bid by an individual shall show the Bidder's name and business address.

13.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid form. The official address of the joint venture must be provided on the Bid Form.

13.08 All names shall be printed in ink below the signatures.

13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers and dates of which shall be filled in on the Bid form.

13.10 The postal and email addresses and telephone number for communication regarding the Bid shall be shown.

13.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state or locality where the Project is located or Bidder shall covenant in writing to obtain such qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 14 - BASIS OF BID; COMPARSION OF BIDS

14.01 Unit Price

A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.

B. The total of all bid prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accordance with paragraph 11.03 of the General Conditions.

C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

14.02 Allowances

A. For cash allowances the Bid price shall include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 11.02.B of the General Conditions.

ARTICLE 15 - SUBMITTAL OF BID

15.01 With each copy of the Bidding Documents, a Bidder is furnished one separate unbound copy of the Bid Form, and the Bid bond form. The unbound copy of the Bid Form is to be completed and submitted with all the attachments outlined in Article 7 of the Bid Form.

15.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the Advertisement for Bids and shall be enclosed in an opaque sealed envelope plainly marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation "BID ENCLOSED." When using the mail or other delivery system, the Bidder is totally responsible for the mail or other delivery system delivering the Bid at the place and prior to the time indicated in the Advertisement for Bid. A mailed Bid shall be addressed to Owner at address in Article 1.01 of Bid Form.

ARTICLE 16 - MODIFICATION AND WITHDRAWAL OF BID

16.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.

16.02 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid or negotiated, that Bidder will be disqualified from further bidding on the Work. This provision to withdraw a Bid without forfeiting the Bid security does not apply to Bidder's errors in judgment in preparing the Bid.

ARTICLE 17 - OPENING OF BIDS

17.01 Bids will be opened at the time and place indicated in the Advertisement for Bids and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, at its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 - EVALUATION OF BIDS AND AWARD OF CONTRACT

19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to be non-responsible. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

19.03 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

19.04 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.

19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities to perform the Work in accordance with the contract Documents.

19.06 If the Contract is to be awarded, Owner will award the Contract to the Bidder whose Bid is in the best interests of the Project.

19.07 Upon receipt of Bids, the Owner will evaluate the Base Bids, as well as Additive Alternate Bids (if applicable), to determine which combination of Base Bid items and/or Additive Alternate Bid items are in the Owner's best interest. The Contract will be awarded to the lowest responsible and responsive Bidder, based on the total summation of all Base and Additive Alternate Bid items. Additive Alternate Bid items will be included in the award if the Owner deems them to be in the Owner's best interest. Owner reserves the right to include or exclude any combination of bid items in the final Contract based on available funding.

19.08 A 5% Indian preference will be applied by adding 5% to all non-Indian contractors' bid amounts for the purpose of cost comparison. However, only the actual bid amount will be used in the Agreement. Any Bidder wishing to be considered for the Indian preference must provide documentation of eligibility with his or her Bid proposal. The 5% Indian preference is available to all prime contractors who demonstrate Indian ownership / preference status in accordance with their own Tribe's laws. This applies to non-Navajo tribes, as well as Navajo-owned contractors. In the case of Navajo-owned firms, both Priority 1 and Priority 2 contractors are eligible for the Indian preference.

19.09 If the Contract is to be awarded, Owner will award the Contract to the responsible Bidder whose Bid, conforming with all the material terms and conditions of the Instructions to Bidders, is lowest, after the 5% Indian preference is considered. There is no in-state preference for this Project.

ARTICLE 20 - CONTRACT SECURITY AND INSURANCE

20.01 Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by such bonds.

ARTICLE 21 - SIGNING OF AGREEMENT

21.01 When Owner gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents which are identified in the Agreement as attached thereto. Within 15 days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner.

Owner shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

21.02 This Contract is expected to be funded in part with funds provided by the United States Department of Agriculture, Rural Utilities Service (RUS), Navajo Abandoned Mine Lands (AML) program and New Mexico Indian Affairs Department (NMIAD). Refer to Supplementary General Conditions for Federal requirements.

21.03 Concurrence by USDA-RD and the State of New Mexico in the award of the Contract is required before the Contract is effective.

ARTICLE 22 - N.M. DEPT. OF WORKFORCE SOLUTIONS REGISTRATION

22.01 A Bidder that submits a Bid valued at more than sixty thousand dollars ($60,000) must be registered with the Labor Relations Division, New Mexico Department of Workforce Solutions (NMDWS), Public Works Bureau, with an "Active" status, prior to submittal of Bid. The Bidder must enter his NMDWS registration number on the Bid Form or include a copy of the registration with the NMDWS as per Article 15 herein. The Bid presented by a Bidder who does not meet this requirement shall not be considered for award, pursuant to NMSA 1978, Section 13-4-13.1.

22.02 All tiers of Subcontractors shall be subject to this same requirement. The Bidder must also enter the Labor Relations Division, New Mexico Department of Workforce Solutions (NMDWS), Public Works Bureau registration number on the List of Proposed Subcontractors for each Subcontractor when the value of the subcontracted work will exceed sixty thousand dollars $60,000, as stated above. Any Subcontractor who lacks current registration, with an "Active" status, with NMDWS as of the date of Bid will be rejected, and the General Contractor will be required to substitute another registered Subcontractor acceptable to the Owner without any increase in Bid price.

ARTICLE 23 – NAVAJO NATION TAXES

23.01 All work performed and services provided within the territorial jurisdiction of the Navajo Nation is subject to 5% Navajo Sales Tax (24 N.N.C. §601 et seq.). Refer to Supplementary Conditions for specifics on withholding of taxes.

23.02 Taxes shall not be included in the Bid, except where specifically requested on the Bid form.

ARTICLE 24 - RETAINAGE

24.01 The Navajo Nation shall withhold, as a retainage amount, 5% for USDA and Navajo Nation funded portions of the Work, and 0% for New Mexico State funded portions of the contract amount. Such retainage shall be released to the Contractor upon final satisfactory performance of all duties under this Contract.

24.02 This project will be funded by Navajo Nation, USDA, and NMIAD funding. The main differences between each funding source with regards to retainage are as follows:

A. A 5% retainage will be applied to all payment made using Navajo Nation and USDA funds, but not to payments made with NMED funds.

B. Payments with Navajo Nation and USDA funds are typically paid in less than 30 days, whereas payments with State of New Mexico funds may take as long at 45 days, as described in Article SC-14.02.C.1 of the Supplementary Conditions.

C. All payments using USDA funds will consist of USDA wire transferring funds to the Navajo Nation and the Navajo Nation writing a check to the Contactor. Payments using NMED funds may consist of similar mechanism, or may consist of the State of New Mexico wire-transferring funds directly to the Contractor.

ARTICLE 25 - SUBCONTRACTORS FAIR PRACTICES ACT

25.01 The Subcontractors Fair Practices Act (SCFPA) requires that Payment and Performance Bonds be prepared and presented by the prime Contractor and first-tier Subcontractors only. The Subcontractor's bonds are to be payable to the prime Contractor, not the Owner.

25.02 The Performance and Payment Bonds provided by an affected Subcontractor should follow current law in the SCFPA (§ 13-4-37) that is:

A. Be issued by a corporate surety authorized to do business in New Mexico in accordance with the New Mexico Insurance Code;

B. Be a surety listed in the US Treasury Circular 570;

C. Name the prime Contractor as the obligee.

25.03 Pursuant to NMSA 1978, Section 13-1-148.1, a Subcontractor shall provide Performance and Payment Bonds if the Subcontractor's contract (to the Contractor) for work to be performed is one hundred twenty-five thousand dollars ($125,000), or more. Failure of a subcontractor to provide the required bonds shall not subject Owner to any increase in cost due to approved substitution of subcontractor.

25.04 The Performance and Payment Bonds required shall be provided to the general Contractor at the time the subcontract is executed. The Performance and Payment Bonds are at the expense of the subcontractor and should clearly state the amount and requirements of the bonds. (§ 13-4-37)

ARTICLE 26 - NAVAJO NATION LABOR LAWS

26.01 The Navajo Business Opportunity Act (NBOA) and Navajo Preference in Employment Act (NPEA) apply to this project. These laws require that Contractors give preference to qualified Navajo subcontractors and employees. The Contractor shall be solely responsible to determine whether a particular subcontractor or candidate for employment is qualified or not.

26.02 Contractors should consult with the Navajo Business Regulatory Department by calling Ms. Beverly Coho of the Navajo Business Regulatory Department at 928-871-7384 or by visiting www.navajobusiness.com to obtain a current listing of Navajo-owned sub-contractors. The local chapter houses can assist the Contractor to interview qualified local candidates for employment after the contract is awarded.

ARTICLE 27 – WAGE RATE REQUIREMENTS

27.01 The prevailing wage rates of the State of New Mexico apply to this contract as do any requirements of the State of New Mexico associated with the use of these State Prevailing wages.

27.02 The prevailing wage rates of the Navajo Nation Office of Labor Relations apply to this Project. The corresponding wage rate determination may be found in the appendices of these Contract Documents.

27.03 The higher wage rate of each classification as identified in the minimum wage rate determinations provided by the New Mexico Department of Workforce Solutions and Navajo Nation Office of Labor Relations will apply.

BIDDER'S QUALIFICATIONS STATEMENT

Important Note:
Completion of this statement is required of all Bidders and must be submitted together with the Bid, as stipulated in the Instructions to Bidders.

PROJECT TITLE: **Mariano Lake Phase 1A and 1B Water System Improvements**

SUBMITTED BY: _____
(Print or Type Name of Bidder)

ADDRESS: _____

_____

The undersigned certifies the truth and correctness of all statements and of all answers to questions made hereinafter. Use additional sheets for any responses, as necessary.

1. How many years has your organization been in business as a utilities contractor?_____

2. How many years has your organization been in business under its present name?_____

3. If a corporation, answer the following:

   a. Date of Incorporation: _____

   b. State of Incorporation: _____

   c. President's Name: _____

   d. Vice President's Name: _____

   c. Secretary or Clerk's Name: _____

   d. Treasurer's Name: _____

4. If individual or partnership, answer the following:

   a. Date of Organization: _____

   b. Name and Address of all Partners:
   (State if general or limited partnership)

   _____

   _____

   _____

   _____

5. If other than corporation or partnership, describe organization and name principals. _____

6. Do you plan to subcontract any part of this Project. _____ if so, briefly describe below and identify subcontractors on the List of Proposed Subcontractors form included in these Contract Documents, that meet the listing threshold. _____

7. Has any construction contract to which you have been a party been terminated by the owner; have you ever terminated work on a project prior to its completion for any reason; has any surety which issued a performance bond on your behalf ever completed the work in its own name or financed such completion on your behalf; has any surety expended any monies in connection with the contract for which they furnished a bond on your behalf; have you been late in completing a project during the last five years resulting in the assessment of liquidated damages? If the answer to any portion of this question is "yes", please furnish details of all such occurrences including name of owner, architect or engineer, and surety, and name and date of project. _____

8. Has any officer or partner of your organization ever been an officer or partner of another organization that had any construction contract terminated by the owner; terminated work on a project prior to its completion for any reason; had any surety which issued a performance bond complete the work in its own name or financed such completion; or had any surety expend any monies in connection with a contract for which they furnished a bond? If the answer to any portion of this question is "yes", please furnish details of all such occurrences, including name of owner, architect or engineer, and surety, and name and date of project. _____

9. List name of project, owner, architect or engineer, contract amount, percent complete and scheduled completion of the major construction projects your organization has in progress on this date. Include name, address and telephone number of a reference for each project listed. _____

10. List name of project, owner, architect or engineer, contract amount, date of completion and percent of work with own forces of the major projects of the same general nature as this project which your organization has completed in the past five years. Include name, address and telephone number of a reference for each project listed. _____

11. List name and construction experience of the principal individual of your organization. __

12. List the states and categories of construction in which your organization is legally qualified to do business. _____

_____

_____

_____

_____

_____

_____

_____

13. List name, address, and telephone number of an individual who represents each of the following and who may be contacted for a financial reference.

a. A surety: _____

_____

_____

b. A bank: _____

_____

_____

c. A major material supplier: _____

_____

_____

14. The Owner may require the low Bidder to submit a financial statement, prepared on an accrual basis in a form that clearly indicates Bidder's assets, liabilities and net worth, prior to issuance of the Notice of Award.

Dated this _____ day of _____ 20_____

Bidder: _____
(Print or Type Name of Bidder)

By: _____

Title: _____

(Seal, if Corporation)

BID FORM

Project Identification: **Mariano Lake Phase 1A and 1B Water System Improvements**

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ARTICLE 1 - BID RECIPIENT

1.01 This Bid Is Submitted To:

Navajo Nation on behalf of Mariano Lake Chapter
C/O Souder, Miller & Associates
Attention: George M. Mihalik, P.E.
3451 Candelaria Rd, NE, Suite D
Albuquerque, NM 87107

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in the Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 - BIDDER'S ACKNOWLEDGMENTS

2.01 Bidder accepts all of the terms and conditions of the Advertisement and Instructions to Bidders, including without limitations those dealing with the dispositions of Bid security. The Bid will remain subject to acceptance for 60 day after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 - BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

Addendum No.	Addendum Date
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all Federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests, if any, of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in SC-4.02, and (2) reports and drawings of Hazard Environmental Conditions, if any, at the Site that have been identified in SC-4.06 as containing reliable "technical data."

E. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.

F. Based on the information and observations referred to in Paragraph 3.01.E above, Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of the Work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

J. Bidder will submit written evidence of its authority to do business in the State or other jurisdiction where the Project is located not later than the date of its execution of the Agreement.

ARTICLE 4 - BIDDER'S CERTIFICATION

4.01 Bidder further represents that:

A. This Bid is genuine and not made in the interest of or on the behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 - BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

BASE BID

Note: Tax not included.

ITEM NO.	ITEM DESCRIPTION	UNIT	QTY.	UNIT PRICE	TOTAL PRICE
General and Miscellaneous - Phases 1A and 1B					
1	Materials Testing	Allow.	1	$10,000.00	$10,000.00
2	Mobilization (75%)/Demobilization (25%)	LS	1		
3	Storm Water Pollution Prevention Plan (SWPPP) Preparation	LS	1		
4	Traffic Control Plan Preparation	LS	1		
General and Miscellaneous - Phases 1A					
5	Storm Water Pollution Prevention Plan (SWPPP) Implementation, Complete In Place (CIP)	LS	1		
6	Traffic Control Plan Implementation, CIP	LS	1		
7	Re-seeding ,CIP	LF	19,748		
8	Hydrostatic Pressure Testing	LF	19,748		
9	Flushing, Disinfection and Bacteriological Testing	LF	19,748		
Water Pipeline and Service - Phase 1A					
10	1-inch PE SIDR 7 service line pipe, with appurtenances (incl. all fittings not separately listed), CIP	LF	610		
11	2-inch ASTM D2241 Class 160 PVC pipe, with appurtenances (incl. all fittings not separately listed), CIP	LF	1,388		
12	4-inch C900 DR18 PVC pipe, with appurtenances (incl. all fittings not separately listed), CIP	LF	2,137		
13	6-inch C900 DR18 PVC pipe, with appurtenances (incl. all fittings not separately listed), CIP	LF	15,613		
14	Trench Excavation - Uncontaminated rock, CIP	VLF	39,496		
15	Trench Excavation - Contaminated rock, CIP	VLF	2,108		
16	Trench Excavation - Contaminated soil, CIP	VLF	6,324		
17	Residential Service Connection with hydrant, not including Service Line to Meter or Meter, CIP	EA	9		
18	Residential Service Connection with individual pressure reducing valve and hydrant, not including Service Line to Meter or Meter, CIP	EA	1		

ITEM NO.	ITEM DESCRIPTION	UNIT	QTY.	UNIT PRICE	TOTAL PRICE
19	1-inch Combination Air Valve Assembly with Meter Can, CIP	EA	10		
20	2-inch Flush Valve Assembly, CIP	EA	5		
21	2-inch Gate Valve Assembly with Box, CIP	EA	3		
22	4-inch Gate Valve Assembly with Box, CIP	EA	2		
23	6-inch Gate Valve Assembly with Box, CIP	EA	11		
Casing for Road Crossings - Phase 1A					
24	Road Crossings Installed via Open Cut, 6-inch 0.25" wall steel casing , (incl. spacers, end seals), CIP (carrier pipe not included)	LF	40		
25	Road Crossings Installed via Open Cut, 12-inch 0.25" wall steel casing , (incl. spacers, end seals), CIP (carrier pipe not included)	LF	60		
26	Road Crossings Installed via Boring and Jacking, 12-inch 0.375 wall steel casing, (incl. spacers, end seals), CIP (carrier pipe not included)	LF	150		

TOTAL OF BASE BID: $_____
(Total of Items 1 through 26)

IN WORDS: _____

_____

ADDITIVE ALTERNATE BID ITEMS

Note: Tax not included.

ITEM NO.	ITEM DESCRIPTION	UNIT	QTY.	UNIT PRICE	TOTAL PRICE
General and Miscellaneous - Phases 1B					
27	Storm Water Pollution Prevention Plan (SWPPP) Implementation, Complete In Place (CIP)	LS	1		
28	Traffic Control Plan Preparation and Implementation, CIP	LS	1		
29	Re-seeding, CIP	LF	29,074		
30	Hydrostatic Pressure Testing	LF	29,074		
31	Flushing, Disinfection and Bacteriological Testing	LF	29,074		
Water Pipeline and Service - Phase 1B					
32	1-inch PE SIDR 7 service line pipe, with appurt., (incl. all fittings not separately listed), CIP	LF	871		

ITEM NO.	ITEM DESCRIPTION	UNIT	QTY.	UNIT PRICE	TOTAL PRICE
33	2-inch ASTM D2241 Class 160 PVC pipe, with appurtenances (incl. all fittings not separately listed), CIP	LF	2,421		
34	4-inch C900 DR18 PVC pipe, with appurtenances (incl. all fittings not separately listed), CIP	LF	6,577		
35	6-inch C900 DR18 PVC pipe, with appurtenances (incl. all fittings not separately listed), CIP	LF	19,205		
36	Trench Excavation - Uncontaminated rock, CIP	VLF	58,148		
37	Residential Service Connection with hydrant, not including Service Line to Meter or Meter, CIP	EA	15		
38	1-inch Combination Air Valve Assembly with Meter Can, CIP	EA	15		
39	2-inch Flush Valve Assembly, CIP	EA	9		
40	2-inch Gate Valve Assembly with Box, CIP	EA	7		
41	4-inch Gate Valve Assembly with Box, CIP	EA	4		
42	6-inch Gate Valve Assembly with Box, CIP	EA	9		
43	Pressure Reducing Valve Assembly with Vault, CIP	EA	1		
Casing for Road Crossings - Phase 1B					
44	Road Crossings Installed via Open Cut, 6-inch 0.25" wall steel casing, (incl. spacers, end seals), CIP (carrier pipe not included)	LF	120		
45	Road Crossings Installed via Open Cut, 10-inch 0.25" wall steel casing , (incl. spacers, end seals), CIP (carrier pipe not included)	LF	120		
46	Road Crossings Installed via Open Cut, 12-inch 0.25" wall steel casing , (incl. spacers, end seals), CIP (carrier pipe not included)	LF	380		

TOTAL OF ADDITIVE ALTERNATE BID: $_____
(Total of Items 27 through 46)

IN WORDS: _____

_____

TOTAL OF BASE BID PLUS ADDITIVE ALTERNATE BID: $_____
(Total of Items 1 through 46)

IN WORDS: _____

_____

A. Unit Prices have been computed in accordance with paragraph 11.03.B of the General Conditions.

B. Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities, determined as provided in the contract Documents.

C. All prices identified above do not include taxes, as further clarified in SC-6.10.B.6 of the Supplementary Conditions. The Navajo Sales Tax of 5% will be included with each payment made to the selected contractor per SC-6.10.B.

ARTICLE 6 - TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with paragraph 14.07 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damage.

ARTICLE 7 - ATTACHEMENTS TO THIS BID

7.01 The following documents are attached to and made a condition of the Bid:

A. Required Bid security in the form of a Bid Bond (EJCDC No. C-430) or Certified Check (circle type of security provided);

B. Campaign Contribution Disclosure form;

C. List of Proposed Subcontractors;

D. Required Bidder Qualifications Statement with Supporting Data;

E. NM Contractor License No.: _____;

F. NM Department of Workforce Solutions Registration No. _____;

G. If Bid amount exceeds $10,000, signed Compliance Statement (RD 400-6). Refer to specific equal opportunity requirements set forth in paragraph 18.10 of the Supplementary Conditions (provided in Appendix A);

H. If Bid amount exceeds $25,000, signed Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions (AD-1048) (provided in Appendix A);

I. If Bid amount exceeds $100,000, signed RD Instruction 1940-Q, Exhibit A-1, Certification for Contracts, Grants, and Loans (provided in Appendix A);

J. Navajo Nation Certification Regarding Debarment (provided in Appendix A);

K. Documentation of eligibility for Indian preference status (if applicable);

ARTICLE 8 - DEFINED TERMS

8.01 The terms used in this Bid with the initial capitol letters have the meanings indicated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 - BID SUBMITTAL

9.01 This Bid is submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____ SEAL, if required by State

By: _____
(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____ SEAL, if required by State

By: _____
(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): _____

A Corporation

Corporation Name: _____

State or Jurisdiction of Incorporation: _____

Type (General Business, Profession, Service, Limited Liability): _____

By: _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____ CORPORATE SEAL, if required by State

Attest _____
(Signature of Corporate Secretary)

Date of Qualification to do business in _____ [State or other jurisdiction where Project is located] is ___/___/_____

A Joint Venture

Name of Joint Venture: _____

First Joint Venture Name: _____ SEAL, if required by State

By: _____
(Signature of joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Second Joint Venture Name: _____ SEAL, if required by State

By: _____
(Signature of joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is party to the venture should be in the manner indicated above.)

Bidder's Business address: _____

_____

Business Phone No. (_____)_____

Business FAX No. (_____)_____

Business E-Mail Address: _____

NM Contractor License No. _____. (If applicable)

Employer's Tax ID No. _____

Phone and FAX Numbers, and Address for receipt of official communications, if different from Business contact information:

_____

_____

9.02 Bid submitted on _____, 20___.

Is Bidder eligible for Navajo Preference as defined in Article 19.08 of Instructions to Bidders?

Yes _____

No _____

If yes, attach documentation of Navajo Priority 1 Status from Navajo Nation Business Regulatory Department.

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER *(Name and Address)*:

SURETY *(Name and Address of Principal Place of Business)*:

OWNER *(Name and Address)*:

BID
Bid Due Date:
Description *(Project Name and Include Location)*:

BOND
Bond Number:
Date *(Not earlier than Bid due date)*:
Penal sum _____ $_____
(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER	**SURETY**
_____ (Seal)	_____ (Seal)
Bidder's Name and Corporate Seal	Surety's Name and Corporate Seal
By: _____	By: _____
Signature	Signature (Attach Power of Attorney)
_____	_____
Print Name	Print Name
_____	_____
Title	Title
Attest: _____	Attest: _____
Signature	Signature
_____	_____
Title	Title

Note: Above addresses are to be used for giving any required notice. Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

3. This obligation shall be null and void if:

3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or

3.2 All Bids are rejected by Owner, or

3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

LIST OF PROPOSED SUBCONTRACTORS

The following listing must be completed and signed by the Bidder and submitted with the Bid Proposal. Bids submitted without this completed and signed listing or with more than one listed for each item may be considered non-responsive. The subcontractor listing threshold shall be as indicated in the Instructions to Bidders. If none of the work will be subcontracted, Bidder shall write "NONE" and sign the sheet.

The General Contractor will determine categories of work that will be performed by the General Contractor, Subcontractors, and Tiers of Subcontractors. The following will be employed to perform the designated categories of work under this Contract.

Prior to award of the contract to the lowest qualified Bidder, the Contractor may be required to supply additional information regarding the Subcontractors listed below, as called for in the Instructions to Bidders, Bidder's Qualifications Statement, and in the technical specifications.

Contractor shall not substitute any person as Subcontractor in place of those identified on this form without prior approval from Owner. (§ 13-4-36)

* Category of Work	Firm Name and Business Address, Phone # and License Number of Subcontractors	** Range

List of Proposed Subcontractors - Continued

* Category of Work	Firm Name and Business Address, Phone # and License Number of Subcontractors	** Range

Use additional sheets if necessary.

Attest: _____ _____

Authorized Officer Date

_____

Name and Title

_____

Name of Firm

* Place title of subcontractor specialty.

** Subcontractor's contract range: In the column marked "Range", enter the letter corresponding to the subcontract amount.

A = Equal to or greater than $5,000 but less than $15,000
B = Equal to or greater than $15,000 but less than $50,000
C = Equal to or greater than $50,000

CAMPAIGN CONTRIBUTION DISCLOSURE FORM

Pursuant to the Procurement Code, Sections 13-1-28, et seq., NMSA 1978 and NMSA 1978, § 13-1-191.1 (2006), as amended by Laws of 2007, Chapter 234, any prospective contractor seeking to enter into a contract with any state agency or local public body **for professional services, a design and build project delivery system, or the design and installation of measures the primary purpose of which is to conserve natural resources** must file this form with that state agency or local public body. This form must be filed even if the contract qualifies as a small purchase or a sole source contract. The prospective contractor must disclose whether they, a family member or a representative of the prospective contractor has made a campaign contribution to an applicable public official of the state or a local public body during the two years prior to the date on which the contractor submits a proposal or, in the case of a sole source or small purchase contract, the two years prior to the date the contractor signs the contract, if the aggregate total of contributions given by the prospective contractor, a family member or a representative of the prospective contractor to the public official exceeds two hundred and fifty dollars ($250) over the two year period.

Furthermore, the state agency or local public body may cancel a solicitation or proposed award for a proposed contract pursuant to Section 13-1-181 NMSA 1978 or a contract that is executed may be ratified or terminated pursuant to Section 13-1-182 NMSA 1978 of the Procurement Code if: 1) a prospective contractor, a family member of the prospective contractor, or a representative of the prospective contractor gives a campaign contribution or other thing of value to an applicable public official or the applicable public official's employees during the pendency of the procurement process or 2) a prospective contractor fails to submit a fully completed disclosure statement pursuant to the law.

The state agency or local public body that procures the services or items of tangible personal property shall indicate on the form the name or names of every applicable public official, if any, for which disclosure is required by a prospective contractor.

THIS FORM MUST BE INCLUDED IN THE REQUEST FOR PROPOSALS AND MUST BE FILED BY ANY PROSPECTIVE CONTRACTOR WHETHER OR NOT THEY, THEIR FAMILY MEMBER, OR THEIR REPRESENTATIVE HAS MADE ANY CONTRIBUTIONS SUBJECT TO DISCLOSURE.

The following definitions apply:

"**Applicable public official**" means a person elected to an office or a person appointed to complete a term of an elected office, who has the authority to award or influence the award of the contract for which the prospective contractor is submitting a competitive sealed proposal or who has the authority to negotiate a sole source or small purchase contract that may be awarded without submission of a sealed competitive proposal.

"**Campaign Contribution**" means a gift, subscription, loan, advance or deposit of money or other thing of value, including the estimated value of an in-kind contribution, that is made to or received by an applicable public official or any person authorized to raise, collect or expend contributions on that official's behalf for the purpose of electing the official to statewide or local office. "Campaign Contribution" includes the payment of a debt incurred in an election campaign, but does not include the value of services provided without compensation or unreimbursed travel or other personal expenses of individuals who volunteer a portion or all of their time on behalf of a candidate or political committee, nor does it include the administrative or solicitation expenses of a political committee that are paid by an organization that sponsors the committee.

"**Family member**" means spouse, father, mother, child, father-in-law, mother-in-law, daughter-in-law or son-in-law of (a) a prospective contractor, if the prospective contractor is a natural person; or (b) an owner of a prospective contractor.

"**Pendency of the procurement process**" means the time period commencing with the public notice of the request for proposals and ending with the award of the contract or the cancellation of the request for proposals.

"**Prospective contractor**" means a person or business that is subject to the competitive sealed proposal process set forth in the Procurement Code or is not required to submit a competitive sealed proposal because that person or business qualifies for a sole source or a small purchase contract.

"**Representative of a prospective contractor**" means an officer or director of a corporation, a member or manager of a limited liability corporation, a partner of a partnership or a trustee of a trust of the prospective contractor.

Name(s) of Applicable Public Official(s) if any: _____
(Completed by State Agency or Local Public Body)

DISCLOSURE OF CONTRIBUTIONS BY PROSPECTIVE CONTRACTOR:

Contribution Made By: _____

Relation to Prospective Contractor: _____

Date Contribution(s) Made: _____
_____

Amount(s) of Contribution(s) _____
_____

Nature of Contribution(s) _____
_____

Purpose of Contribution(s) _____
_____

(Attach extra pages if necessary)

_____ _____
Signature Date

_____
Title (position)

--OR—

NO CONTRIBUTIONS IN THE AGGREGATE TOTAL OVER TWO HUNDRED FIFTY DOLLARS ($250) WERE MADE to an applicable public official by me, a family member or representative.

_____ _____
Signature Date

_____
Title (Position)

Notice of Award

Dated _____

Project: **Mariano Lake Phase 1A and 1B Water System Improvements**	Owner: **Navajo Nation**	Owner's Contract No.:
Contract: **Mariano Lake Phase 1A and 1B Water System Improvements**		Engineer's Project No.: .: **6415735**

Bidder: _____

Bidder's Address: _____

_____

_____

You are notified that your Bid dated _____ for the above Contract has been considered. You are the Successful Bidder and are awarded a Contract for _____

_____

_____

(Indicate total Work, alternates or sections or Work awarded.)

The Contract Price of your Contract is _____Dollars ($_____).

Five (5) copies of each of the proposed Contract Documents (except Drawings) accompany this Notice of Award.

_____ sets of the Drawings will be delivered separately or otherwise made available to you immediately.

You must comply with the following conditions precedent within [15] days of the date you receive this Notice of Award.

1. Deliver to the Owner five (5) fully executed counterparts of the Contract Documents.
2. Deliver with the executed Contract Documents the Contract security (Bonds) as specified in the Instructions to Bidders (Article 20), General Conditions (Paragraph 5.01), and Supplementary Conditions (Paragraph SC-5.01).
3. Other conditions precedent: None.

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Contract Documents.

_____
Owner

By: _____
Authorized Signature

_____
Title

Copy to Engineer

EJCDC C-520 AGREEMENT
BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

THIS AGREEMENT is by and between Navajo Nation on behalf of Mariano Lake Chapter ("Owner")

and _____ ("Contractor")

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

The project consists of construction of approximately 34,800 LF of 6-inch, 8,700 LF of 4-inch and 3,800 LF of 2-inch waterlines and 25 water services with associated appurtenances.

ARTICLE 2 – THE PROJECT

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

Mariano Lake Phase 1A and 1B Water System Improvements.

ARTICLE 3 – ENGINEER

3.01 The Project has been designed by Souder, Miller & Associates (Engineer), which is to act as Owner's representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Days to Achieve Substantial Completion and Final Payment*

A. The Work will be substantially completed within **240 calendar days** after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within **270 calendar days** after the date when the Contract Times commence to run.

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4.03 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial loss if the Work is not completed within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner **$900.00** for each day that expires after the time specified in Paragraph 4.02 above for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by Owner, Contractor shall pay Owner **$900.00** for each day that expires after the time specified in Paragraph 4.02 above for completion and readiness for final payment until the Work is completed and ready for final payment.

ARTICLE 5 – CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to Paragraphs 5.01.A below:

A. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit, with an estimated total of all unit price work equivalent to _____ _____, plus 5% Navajo Nation Sales Tax, as provided for in the Supplementary Conditions attached hereto.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

A. Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the **25th** day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below. All such payments will be measured by the schedule of values established as provided in Paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Engineer may determine or Owner may withhold, including but not limited to liquidated damages, in accordance with Paragraph 14.02 of the General Conditions.

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USDA-Rural Development and Navajo Nation Funded Construction:

a. 95 percent of Work completed (with the balance being retainage); and

b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

c. Retainage (5%) will only be held on portions of the Work financed with USDA-RD and Navajo Nation funds.

State Funded Construction:

a. 100 percent of Work completed; and

b. 100 percent of cost of materials and equipment not incorporated in the Work.

c. No retainage will be held on portions of the Work paid for with State funds.

B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less such amounts as Engineer shall determine in accordance with Paragraph 14.02.B.5 of the General Conditions and less 100 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

6.03 *Final Payment*

A. Upon final completion and acceptance of the Work in accordance with Paragraph 14.07 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 14.07.

ARTICLE 7 – INTEREST

7.01 All moneys not paid when due as provided in Article 14 of the General Conditions shall bear no interest.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce Owner to enter into this Agreement, Contractor makes the following representations:

A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Contractor has carefully studied all: (1) reports of explorations and tests, if any, of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities), if any, that

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have been identified in Paragraph SC-4.02 of the Supplementary Conditions as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in Paragraph SC-4.06 of the Supplementary Conditions as containing reliable "technical data."

E. Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and (3) Contractor's safety precautions and programs.

F. Based on the information and observations referred to in Paragraph 8.01.E above, Contractor does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

A. The Contract Documents consist of the following:

1. This Agreement (pages 1 to 7, inclusive).
2. Performance Bond (pages 1 to 3, inclusive).
3. Payment Bond (pages 1 to 3, inclusive).
4. Certificate of Insurance (1 page)
5. General Conditions (pages 1 to 62, inclusive).
6. Supplementary Conditions - modified by NNDOJ (pages 1 to 16, inclusive).
7. Appendices as listed in the Index to Appendices of the Project Manual.
8. Specifications as listed in the Index to Technical Specifications of the Project Manual.

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9. Drawings as listed in the Index to Design Drawings of the Project Manual.

10. Addenda (numbers _____ to _____, inclusive).

11. Exhibits to this Agreement (enumerated as follows):

    a. Contractor's Bid (pages 1 to _____, inclusive).

    b. All required attachments to the Bid as stipulated in Article 7 of the Bid Form, including Bid Bond, Bidders Qualifications Statement, Bidder's NM Contractor License Number, NM Department of Workforce Solutions Registration Number, Compliance Statement (RD 400-6), Navajo Nation Certificate Regarding Debarment, Certificate Regarding Debarment (AD-1048), RD Instruction 1940-Q (Exhibit A-1) regarding Certification, Documentation of Eligibility for Indian Preference Status (if applicable), Campaign Contribution Disclosure Form, and List of Subcontractors.

    c. All additional documentation submitted by Contractor prior to Notice of Award.

12. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:

    a. Notice to Proceed (1page).

    b. Work Change Directives.

    c. Change Orders.

B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 9.

D. The Contract Documents may only be amended, modified, or supplemented as provided in Paragraph 3.04 of the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 *Terms*

A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

10.02 *Assignment of Contract*

A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an

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assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

A. Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 *Contractor's Certifications*

A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

10.06 *Other Provisions*

None.

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IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement. Counterparts have been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or have been identified by Owner and Contractor or on their behalf.

This Agreement will be effective on _____ (which is the Effective Date of the Agreement).

OWNER: **The Navajo Nation on behalf of Mariano Lake Chapter**

By: **Ben Shelly**

Title: **President**

[SEAL]

Attest: _____

Title: _____

Address for giving notices:

Navajo Nation Water Management Branch

P.O. Drawer 678

Fort Defiance, AZ 86504

This Contract has been reviewed and, as amended by the language contained herein, is in accordance with Navajo Nation law:

_____ _____

Navajo Nation Department of Justice Date

CONTRACTOR:

_____

By: _____

Title: _____

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____

Title: _____

Address for giving notices:

_____

_____

_____

License No.: _____

Agent for service of process:

_____

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Notice to Proceed

Dated _____

Project: **Mariano Lake Phase 1A and 1B Water System Improvements**	Owner: **Navajo Nation**	Owner's Contract No.:
Contract: **Mariano Lake Phase 1A and 1B Water System Improvements Project**		Engineer's Project No.: **6415735**

Contractor:

Contractor's Address: [send Certified Mail, Return Receipt Requested]

You are notified that the Contract Times under the above contract will commence to run on _____. On or before that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 4 of the Agreement, the date of Substantial Completion is _____, and the date of readiness for final payment is _____. [(or) the number of days to achieve Substantial Completion is _____, and the number of days to achieve readiness for final payment is _____].

Before you may start any Work at the Site, Paragraph 2.01.B of the General Conditions provides that you and Owner must each deliver to the other (with copies to Engineer and other identified additional insureds and loss payees) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

Also, before you may start any Work at the Site, you must [add other requirements]:

_____	_____
Contractor	Owner
Received by:	Given by:
_____	_____
Authorized Signature	Authorized Signature
_____	_____
Title	Title
_____	_____
Date	Date

Copy to Engineer

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

PERFORMANCE BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

CONSTRUCTION CONTRACT
Effective Date of the Agreement:
Amount:
Description *(name and location)*:

BOND
Bond Number:
Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:
Amount:
Modifications to this Bond Form: ☐ None ☐ See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

_____ *(seal)*
Contractor's Name and Corporate Seal

By: _____
Signature

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

SURETY

_____ *(seal)*
Surety's Name and Corporate Seal

By: _____
Signature *(attach power of attorney)*

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

3.3 The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

7.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within

two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Definitions

14.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

14.2 Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

14.3 Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

14.4 Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

14.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

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PAYMENT BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

CONSTRUCTION CONTRACT
Effective Date of the Agreement:
Amount:
Description *(name and location)*:

BOND
Bond Number:
Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:
Amount:
Modifications to this Bond Form: ☐ None ☐ See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

_____ *(seal)*
Contractor's Name and Corporate Seal

By: _____
Signature

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

SURETY

_____ *(seal)*
Surety's Name and Corporate Seal

By: _____
Signature *(attach power of attorney)*

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.

4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.

5. The Surety's obligations to a Claimant under this Bond shall arise after the following:

   5.1 Claimants who do not have a direct contract with the Contractor,

      5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and

      5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).

   5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).

6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.

7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

   7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

   7.2 Pay or arrange for payment of any undisputed amounts.

   7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.

11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or

(2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

16. **Definitions**

16.1 **Claim:** A written statement by the Claimant including at a minimum:

1. The name of the Claimant;
2. The name of the person for whom the labor was done, or materials or equipment furnished;
3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
4. A brief description of the labor, materials, or equipment furnished;
5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
7. The total amount of previous payments received by the Claimant; and
8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

16.2 **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

16.3 **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

16.4 **Owner Default**: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

16.5 **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.

17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

18. Modifications to this Bond are as follows:

CERTIFICATE OF INSURANCE

Certificate of Insurance to be inserted here, in accordance with the General Conditions and coverages as stipulated in the Supplementary Conditions.

Important Note: The Certificate of Insurance shall contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least ten (10) days prior written notice has been given to Contractor. Within three (3) days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued. (Refer to Article SC-5.04.B.4 of the Supplementary Conditions.)

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Contractor's Application for Payment No.

	Application Period:	Application Date:
To (Owner): **Navajo Nation**	From (Contractor):	Via (Engineer):
Project: **Mariano Lake Phase 1A and 1B Water System Improvements**	Contract: **Mariano Lake Phase 1A and 1B Water System Improvements**	
Owner's Contract No.:	Contractor's Project No.:	Engineer's Project No.: **6415735**

Application For Payment
Change Order Summary

Approved Change Orders		
Number	Additions	Deductions
TOTALS		
NET CHANGE BY CHANGE ORDERS		

1. **ORIGINAL CONTRACT PRICE**	$
2. **Net change by Change Orders**	$
3. **Current Contract Price (Line 1 ± 2)**	$
4. **TOTAL COMPLETED AND STORED TO DATE (Column F on Progress Estimate)**	$
5. **RETAINAGE:**	
a. **5% X _____ Work Completed**	$
b. **5% X _____ Stored Material**	$
c. **Total Retainage (Line 5a + Line 5b)**	$
6. **AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5c)**	$
7. **LESS PREVIOUS PAYMENTS (Line 6 from prior Application)**	$
8. **AMOUNT DUE THIS APPLICATION (w/o Tax)**	$
9. **Tax @ 5.00%**	$
10. **AMOUNT DUE THIS APPLICATION (w/ Tax)**	$
11. **BALANCE TO FINISH, PLUS RETAINAGE (Column G on Progress Estimate + Line 5 above)**	$

Contractor's Certification

The undersigned Contractor certifies that to the best of its knowledge: (1) all previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with Work covered by prior Applications for Payment; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to Owner at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to Owner indemnifying Owner against any such Liens, security interest or encumbrances); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

By:	Date:

Payment of: $ _____
(Line 10 or other - attach explanation of the other amount)

is recommended by: _____ _____
(Engineer) (Date)

Payment of: $ _____
(Line 10 or other - attach explanation of the other amount)

is approved by: _____ _____
(Owner) (Date)

Approved by: _____ _____
Funding Agency (if applicable) (Date)

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Progress Estimate - Unit Price Work

Contractor's Application

For (Contract): **Mariano Lake Phase 1A and 1B Water System Improvements**							Application Number:			
Application Period:							Application Date:			
A				B	C	D	E	F		
Item		Bid Item Quantity	Unit Price	Bid Item Value ($)	Estimated Quantity Installed	Value of Work Installed to Date	Materials Presently Stored (not in C)	Total Completed and Stored to Date (D + E)	% (F / B)	Balance to Finish (B - F)
Bid Item No.	Description									

Stored Material Summary

Contractor's Application

For (Contract): **Mariano Lake Phase 1A and 1B Water System Improvements**								Application Number:			
Application Period:								Application Date:			
A		B	C		D		E	F			G
					Stored Previously			Subtotal Amount Completed and Stored to Date (D + E)	Incorporated in Work		Materials Remaining in Storage ($) (D + E - F)
Bid Item No.	Supplier Invoice No.	Submittal No. (with Specification Section No.)	Storage Location	Description of Materials or Equpment Stored	Date Placed into Storage (Month/Year)	Amount ($)	Amount Stored this Month ($)		Date (Month/ Year)	Amount ($)	
				Totals							

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Monthly Construction Progress Certificate

Mariano Lake Phase 1A and 1B Water System Improvements Project	CONTRACT NO. PARTIAL PAYMENT ESTIMATE NO.
OWNER: **Navajo Nation**	CONTRACTOR:
	CONTRACT PERIOD FROM: TO:

Field Orders Issued This Period:

1		Issued	Under Review
2		Issued	Under Review
3		Issued	Under Review

Change Orders/Contractor Claims This Period:	Changes in Contract	
	Days	Price
		$ -
Under Review (Outstanding) New Settled		
		$ -
Under Review (Outstanding) New Settled		
		$ -
Under Review (Outstanding) New Settled		
		$ -
Under Review (Outstanding) New Settled		
		$ -
Under Review (Outstanding) New Settled		

On Schedule? Yes No	Comments:
Days Left for Completion	

Briefly Describe Project Progress During This Period:

Issues Addressed During This Period (Indicate Any Issues That Remain Unresolved):

Engineer's Attestation:	Owner Concurrence:	Contractor Concurrence:
X	X	X
Signature	Signature	Signature
Print Name	Print Name	Print Name
Title	Title	Title

Certificate of Substantial Completion

Project: **Mariano Lake Phase 1A and 1B Water System Improvements**	Owner: **Navajo Nation**	Owner's Contract No.:
Contract: **Mariano Lake Phase 1A and 1B Water System Improvements Project**		Date of Contract:
Contractor:		Engineer's Project No.: **6415735**

This [tentative] [definitive] Certificate of Substantial Completion applies to:

☐ All Work under the Contract Documents: ☐ The following specified portions:

_____

_____

_____

_____

_____
Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Project or portion thereof designated above is hereby declared and is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

A [tentative] [revised tentative] [definitive] list of items to be completed or corrected, is attached hereto. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

The responsibilities between OWNER and CONTRACTOR for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as provided in the Contract Documents except as amended as follows:

☐ Amended Responsibilities ☐ Not Amended

Owner's Amended Responsibilities:

_____

_____

_____

Contractor's Amended Responsibilities:

_____

_____

_____

The following documents are attached to and made part of this Certificate:

_____

_____

_____

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

_____ _____
Executed by Engineer Date

_____ _____
Accepted by Contractor Date

_____ _____
Accepted by Owner Date

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by

ACEC
American Council of Engineering Companies

The Associated General Contractors of America — Skill Responsibility Integrity

ASCE American Society of Civil Engineers

National Society of Professional Engineers
Professional Engineers in Private Practice

AMERICAN COUNCIL OF ENGINEERING COMPANIES

ASSOCIATED GENERAL CONTRACTORS OF AMERICA

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.

3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidder*—The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

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12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.

16. *Cost of the Work*—See Paragraph 11.01 for definition.

17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *Engineer*—The individual or entity named as such in the Agreement.

20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

21. *General Requirements*—Sections of Division 1 of the Specifications.

22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.

23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

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27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.

29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*—Polychlorinated biphenyls.

31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.

37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

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40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.

43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.

46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.

47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.

48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

49. *Unit Price Work*—Work to be paid for on the basis of unit prices.

50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an

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addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 *Terminology*

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

a. does not conform to the Contract Documents; or

b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or

c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

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E. *Furnish, Install, Perform, Provide:*

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

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2.04 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of

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the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

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3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work*: Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work*: If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation , (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

   a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or

   b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;

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2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or

3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or

2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.

B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must

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comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and

2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or

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2. is of such a nature as to require a change in the Contract Documents; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review*: After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

   a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and

   b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

   a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

   b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

   c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or

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subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

   a. reviewing and checking all such information and data;

   b. locating all Underground Facilities shown or indicated in the Contract Documents;

   c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and

   d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree

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on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with

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such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.

E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.

F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

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I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

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B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.

E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

   a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or

   b. by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

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B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

6. include completed operations coverage:

   a. Such insurance shall remain in effect for two years after final payment.

   b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof

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(subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;

2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.

B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the

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Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

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C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by

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endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

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6.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and

3) it has a proven record of performance and availability of responsive service.

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times; and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

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2. *Substitute Items:*

a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.

d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

1) shall certify that the proposed substitute item will:

a) perform adequately the functions and achieve the results called for by the general design,

b) be similar in substance to that specified, and

c) be suited to the same use as that specified;

2) will state:

a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,

b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and

c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) will identify:

a) all variations of the proposed substitute item from that specified, and

b) available engineering, sales, maintenance, repair, and replacement services; and

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4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

E. *Engineer's Cost Reimbursement*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

F. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or

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other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

   1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor

   2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

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6.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all

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court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor

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shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.

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D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

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1. *Shop Drawings:*

    a. Submit number of copies specified in the General Requirements.

    b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

    a. Submit number of Samples specified in the Specifications.

    b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Contractor shall have:

    a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;

    b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

    c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

    d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop

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Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.

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B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;

2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. use or occupancy of the Work or any part thereof by Owner;

5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;

6. any inspection, test, or approval by others; or

7. any correction of defective Work by Owner.

6.20 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage 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 but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.

B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of

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damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

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ARTICLE 7 – OTHER WORK AT THE SITE

7.01 *Related Work at Site*

A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and

2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and

3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

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7.03 *Legal Relationships*

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.

C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

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8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits

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and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

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B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.

C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.

B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

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B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

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10.03 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

A. *Engineer's Decision Required*: All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The

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opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action*: Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part;

2. approve the Claim; or

3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on

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Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

    a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

    b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

    c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

    d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

    e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

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f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.

C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

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D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 *Allowances*

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances:*

1. Contractor agrees that:

a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance:*

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

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D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

2. there is no corresponding adjustment with respect to any other item of Work; and

3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;

b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;

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c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the

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control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;

2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and

3. as otherwise specifically provided in the Contract Documents.

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C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.

F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.

D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

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13.05 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or

2. correct such defective Work; or

3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute

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resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and

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equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments:*

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the

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Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

   a. the Work has progressed to the point indicated;

   b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and

   c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

   a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

   b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

   a. to supervise, direct, or control the Work, or

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b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

   a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;

   b. the Contract Price has been reduced by Change Orders;

   c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or

   d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due:*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment:*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:

   a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;

   b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;

   c. there are other items entitling Owner to a set-off against the amount recommended; or

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d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities

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pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

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14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

   a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;

   b. consent of the surety, if any, to final payment;

   c. a list of all Claims against Owner that Contractor believes are unsettled; and

   d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

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C. *Payment Becomes Due:*

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, 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 Engineer with the Application for 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.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

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15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);

2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;

3. Contractor's repeated disregard of the authority of Engineer; or

4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and

3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue.

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Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph

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10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or

2. agrees with the other party to submit the Claim to another dispute resolution process; or

3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

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17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

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SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (No. C-700, 2007 Edition) and other provisions of the Contract Documents as indicated below. All provisions that are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions will have the meanings indicated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

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SC-1.01.A.1. Add the following new Defined Terms at the end of Paragraph 1.01.A:

52. *Appendices to Project Manual*—Documentation included at the back of the Project Manual that form part of the Contract Documents.

53 *Attachments to Project Manual*—Documentation included at the back of the Project Manual that is provided for informational purposes only and is not part of the Contract Documents. 'Technical Data' included in the Attachments, upon which the Contractor may rely, is specified in the Supplementary Conditions, if applicable.

SC-1.01.A.2. Add the following new Paragraph after Paragraph 1.01.A.1:

The Project is financed in whole or in part by USDA Rural Utilities Service pursuant to the Consolidated Farm and Rural Development Act (7 USC Section 1921 et seq.). The Rural Utilities Service programs are administered through the USDA Rural Development offices; therefore, the Agency for these documents is USDA Rural Development. Other funding sources include the Navajo Nation Abandoned Mine Lands (AML) Program and Tribal Infrastructure Funding (TIF).

SC-1.01.A.3. Add the following language to the end of Paragraph 1.01.A.3:

The Application for Payment form to be used on this Project is EJCDC No. C-620. The Agency must approve all Applications for Payment before payment is made.

SC-1.01.A.9. Add the following language to the end of Paragraph 1.01.A.9:

The Change Order form to be used on this Project is EJCDC No. C-941. Agency approval is required before Change Orders are effective.

SC-1.01.A.19. Add the following language to the end of Paragraph 1.01.A.19:

The Engineer will utilize a subcontracted archeologist for construction phase archeological monitoring at no cost to the Contractor.

SC-2.05. Add the following new paragraph immediately after Paragraph 2.05.A:

B. Environmental Requirements: Prior to beginning construction, the Contractor must abide by all Cultural Resources Compliance requirements, as well as all avoidance methods and guidelines established in the Environmental Requirements included in the appendices of the Contract Documents.

SC-3.06.D Electronic Data

Add the following new subparagraph after subparagraph GC-3.01.C:

D. For the present Project, Bidding Documents in electronic media format are furnished to bidding contractors for the sole purpose of preparing bids, and not for construction. The selected construction Contractor shall not rely on files provided in electronic media format for construction but rather hard copies of such data provided by the Engineer or Owner upon award of the Contract.

SC-4.02. Delete Paragraphs 4.02.A and 4.02.B in their entirety and insert the following:

A. No reports or explorations or tests of subsurface conditions at or contiguous to the Site are known to the Owner or Engineer.

SC-4.06. Add the following new paragraphs immediately after Paragraph 4.06.A:

1. In the preparation of Drawings and Specifications, Engineer relied upon the following reports, plans and drawings of Hazardous Environmental Conditions which are at or contiguous to the Site:

   a. Information provided by EPA, Navajo Nation EPA, Arcadis, and Chevron, entitled: "Information and Maps on Mining Reclamation Areas".

   b. Environmental Health and Safety Plan provided by Chevron.

2. The documentation itemized in SC-4.06.A.1.a is included within Attachment A of the Project Manual. The documentation itemized in SC-4.06.A.1.b is available for viewing via the website of the Engineer (www.soudermiller.com) or at the office of the Engineer. The reports, plans and drawings referenced above are not part of the Contract Documents, but the "technical data" contained therein upon which the Contractor may rely as identified and established above are incorporated therein by reference. Contractor is not entitled to rely upon other information and data utilized by Engineer in the preparation of the Drawings and Specifications.

3. Contractor will be obligated to abide by the terms and conditions of the Environmental Health and Safety Plan referenced in SC-4.06.A.1.b.

SC-5.01 Add the following new paragraph immediately after Paragraph 5.01.C:

D. Pursuant to NMSA 1978, Section 13-1-148.1, all Subcontractors whose subcontracted work is valued at one hundred twenty-five thousand dollars ($125,000) or more shall be subject to this same requirement as set forth in Paragraphs 5.01 A, B and C, and 5.02, except that the Subcontractor's bonds are to be payable to the prime Contractor, not the Owner. The Performance and Payment Bond required shall be provided to the general Contractor at the time the subcontract is executed, and a copy delivered to the Owner. The Performance and Payment Bond is at the expense of the Subcontractor and should clearly state the amount and requirements of the bond. (§ 13-4-37). Failure of a Subcontractor to provide the required bonds shall not subject Owner to any increase in cost due to approved substitution of Subcontractor.

SC-5.04.B.4. Delete paragraph 5.04.B.4 in its entirety and insert the following:

4. Contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least ten (10) days prior written notice has been given to Contractor. Within three (3) days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued;

SC-5.04.C. Add the following new paragraph immediately after Paragraph 5.04.B:

C. The limits of liability for insurance required by Paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Navajo Policies, Laws and Regulations:

1. Workers' Compensation, and related coverages under Paragraphs 5.04.A.1 and A.2 of the General Conditions:

a. State:	Statutory
b. Applicable Federal (e.g., Longshoremen's)	Statutory
c. Employer's Liability	$ 500,000

2. Contractor's General Liability under Paragraphs 5.04.A.3 through A.6 of the General Conditions which shall include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody, and control of the Contractor:

a. General Aggregate	$ 2,000,000
b. Products - Completed Operations Aggregate	$ 1,000,000
c. Personal and Advertising Injury	$ 1,000,000
d. Each Occurrence (Bodily Injury and Property Damage)	$ 1,000,000
e. Property Damage liability insurance will provide Explosion, Collapse, and Underground coverages where applicable.	
f. Excess or Umbrella Liability	
1) General Aggregate	$ 5,000,000
2) Each Occurrence	$ 5,000,000

3. Automobile Liability under Paragraph 5.04.A.6 of the General Conditions:

a. Bodily Injury:	
Each Person	$ 1,000,000
Each Accident	$ 1,000,000
b. Property Damage:	
Each Accident	$ 1,000,000
c. Combined Single Limit of	$ 1,000,000

4. The Contractual Liability coverage required by paragraph 5.04.B.4 of the General Conditions shall provide coverage for not less than the following amounts:

a. Bodily Injury:	
Each Person	$ 2,000,000
Each Accident	$ 2,000,000

b. Property Damage:

Each Accident	$ 2,000,000
Annual Aggregate	$ 2,000,000

SC-5.05.B Add the following new paragraphs immediately after Paragraph 5.05.A:

B. Pursuant to 2 N.N.C. § 223 A, the obligation of the Owner to pay Contractor the full amount of the Contract, or any portion thereof as invoiced, or any amounts under any and all amendments or modifications to this Contract, shall be contingent upon the availability of funds for purposes such as the project which is the subject of this Contract. Pursuant to 2 N.N.C. § 350 D, if funds adequate to support continuation of performance under this Contract are not appropriated or are otherwise unavailable for any fiscal period(s) subsequent to that period in/for which this Contract is entered into, then this Contract shall be cancelled and Contractor shall be reimbursed only for the reasonable value of any non-recurring costs incurred on account of work performed or services provided under this Contract up to the date of cancellation, whether or not invoice(s) have been received by the Owner for such work or services prior to the date of cancellation, except for costs amortized in the price of such work or services.

C. Costs of Contractor incurred before the finalization and execution of this Contract, and not included in the Contract price, may be paid, so long as such costs are deemed by written agreement of the Parties to be reasonable, allowable and allocable to Contractor's performance under this Contract. Such written agreement must comply with the provisions of Paragraph SC-12.01 D herein.

SC-6.05.C. Amend the paragraph by making two subparagraphs under the title C. Engineer's Evaluation. The paragraph text is retitled, 6.05.C.2 After Effective Date of Agreement. A new paragraph is added before this paragraph to read as follows:

1. During Bidding. The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, or "or-equal" materials and equipment as defined in paragraph 6.05 of the General Conditions, or those substitute materials and equipment approved by the Engineer and identified by Addendum. The materials and equipment described in the Bidding Documents establish a standard of required type, function, and quality to be met by any proposed substitute or "or-equal" item. Request for Engineer's clarification of materials and equipment considered "or-equal" prior to the Effective Date of the Agreement must be received by the Engineer at least 5 days prior to the date for receipt of Bids. No item of material or equipment will be considered by Engineer as a substitute unless written request for approval has been submitted by Bidder and has been received by Engineer at least 15 days prior to the date for receipt of Bids. Each request shall conform to the requirements of Paragraph 6.05 of the General Conditions. The burden of proof of the merit of the proposed item is upon the Bidder. Engineer's decision of approval or disapproval of a proposed item will be final. If Engineer approves any proposed substitute item, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner.

SC-6.06 Add a new paragraph immediately after Paragraph 6.06.G:

H. The Contractor shall not award work valued at more than fifty (50%) percent of the Contract Price to Subcontractor(s), without prior written approval of the Owner.

SC-6.10 Add a new paragraph immediately after Paragraph 6.10.A:

B. Contractor hereby acknowledges and agrees that all of its work performed and services provided within the territorial jurisdiction of the Navajo Nation is subject to the 5% Navajo Sales Tax (24 N.N.C. §601 et seq.).

1. Identification of taxables. Contractor shall separately indicate, on each invoice submitted to the Owner, any and all of its work performed or services provided within the Navajo Nation under this Contract; and Contractor shall itemize the 5% Navajo Sales Tax on all invoices submitted.

2. Withholding and remittance. Solely as an accommodation to Contractor, the Navajo Nation shall withhold from each payment to Contractor 5% of the total invoice amount associated with Contractor's work to be performed and services to be provided within the Navajo Nation under this Contract, and shall transfer such 5% amount to the Office of the Navajo Tax Commission (ONTC) on behalf of Contractor. Contractor shall indicate on its quarterly tax return filed with the ONTC that the 5% amount has been previously withheld and paid.

3. Filing and other payments. Contractor acknowledges that the Nation's withholding of tax amounts pursuant to this Paragraph in no way removes Contractor's responsibility for timely filing of tax returns and payment of interest, penalties, or any other amounts relating to Contractor's tax obligations under the Navajo Nation's or any other jurisdiction.

4. Claim of immunity or exemption. If Contractor asserts that any of its work performed or services provided pursuant to this Contract is/are NOT subject to any Navajo Nation tax, Contractor shall provide explanation and documentation to verify its claim of exemption or immunity to the Navajo Nation at the following address:

   Office of the Navajo Tax Commission
   Post Office Box 1903
   Window Rock, Arizona 86515

5. Review and approval of claim. Contractor agrees to assert any claim of Navajo Nation tax exemption or immunity only in good faith and only on a reasonable basis in law and fact, and Contractor shall make every effort to assert such claim prior to the finalization and execution of this Contract, or any Modifications thereto, by the Parties. All such claims shall be reviewed and approved by the ONTC prior to the Navajo Nation's execution of this Contract or any Modifications thereto. If such claim is NOT approved, the Navajo Nation may at its discretion refuse to execute this Contract or any Modifications thereto. In the event that Contractor asserts such a claim subsequent to the execution by Parties of this Contract or any Modifications thereto, such claim shall be

likewise reviewed and approved. If such claim is NOT approved, such claim shall be treated as a judicial ruling under the provisions of Paragraph SC-17.09.A herein.

6. Please note that taxes are not included in the bid form, and will be added to each pay request by the Owner. The amount to be paid under this contract may be reduced by any current or past due Navajo Nation taxes owed by the Contractor on this or any other activity within the Navajo Nation. The Owner shall notify the Contractor as to what amounts, if any, have been offset pursuant to this regulation.

SC-6.13 Safety and Protection

G. Contractor shall provide two (2) copies of the safety plan to the Engineer prior to commencing construction (one shall be for Owner's files). Neither the Owner nor Engineer shall approve or comment on the Contractor's safety plan, nor shall the Owner or Engineer assume any responsibility for assuring compliance on the part of personnel on site, other than Owner's or Engineer's employees and representatives, as stipulated in Paragraph 6.13.D.

SC-9.03.A. Add the following language at the end of paragraph 9.03.A:

The Engineer will provide Resident Project Representative services for this project. The Duties, Responsibilities, and Limitations of Authority of the Resident Project Representative will be as stated in Exhibit D of the Agreement Between Owner and Engineer, E-500, 2008 Edition, as amended and executed for this specific Project.

SC-10.01.A.1 Add Paragraph 10.01.A.1 directly after Paragraph 10.01.A:

1. Any Change Order must include concurrence from USDA-RD and the State of New Mexico before it becomes effective.

SC-11.03.C Delete Paragraph 11.03.C and insert the following:

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item. Owner reserves the right to include any combination of items and only those that are within the established budget.

SC-12.01.D. Add a new Paragraph immediately after 12.01.C:

D. Any amendments, addendums, alterations, modifications, increase in payment, or changes whatsoever to any provision of this Contract shall be made only by a duly approved writing, deemed a Modification, that shall be signed by both the Navajo Nation and Contractor. Any agreement or authorization for any additional payment amounts over and above the Contract price must be directly related to the performance of Contractor's specific obligations under this Contract. Pursuant to 2 N.N.C. § 223 F, any such additional payment(s) shall not exceed 20% of the Contract price. Additional amounts provided for in the total of all Modifications to this Contract shall not, in the aggregate, exceed said 20% limitation.

SC-14.02.A.3. Add the following language at the end of paragraph 14.02.A.3:

No payments will be made that would deplete the retainage, place in escrow any funds that are required for retainage, or invest the retainage for the benefit of the Contractor.

SC-14.02.A.4. Add the following new Paragraph after Paragraph 14.02.A.3:

The Application for Payment form to be used on this Project is EJCDC No. C-620. The Agency must approve all Applications for Payment before payment is made.

SC-14.02.C.1. Delete Paragraph 14.02.C.1 in its entirety and insert the following in its place:

1. The Application for Payment with Engineer's recommendations will be presented to the Owner and Agency for consideration. If both the Owner and Agency find the Application for Payment acceptable, the recommended amount less any reduction under the provisions of Paragraph 14.02.D will become due forty-five (45) days after the Application for Payment is presented to the Owner, and the Owner will make payment to the Contractor.

   For portions of the Work financed by State of New Mexico funds, a total of forty-five (45) days is required to process any payment. Therefore, where State of New Mexico funds are involved, Paragraphs 14.02.C, 14.07.C, 15.04.A and 15.04.B shall hereby reference a period of forty-five (45) days for Owner to effect payment instead of ten (10) days and/or thirty (30) days.

SC-16 Delete Article 16 in its entirety and insert the following:

ARTICLE 16 - SOVEREIGN IMMUNITY; DISPUTE RESOLUTION

16.01 Nothing herein shall be considered a waiver, express or implied, of the sovereign immunity of the Navajo Nation, except to the limited extent provided for in the Navajo Sovereign Immunity Act, as amended, at 1 N.N.C. §§551 et. seq.

16.02 Arbitration. Any dispute arising out of or relating to this Contract shall be resolved by arbitration procedures referenced in the Navajo Sovereign Immunity Act, as amended, at 1 N.N.C. § 554 J and § 554 K, and as set forth in the Navajo Nation Arbitration Act, as amended, at 7 N.N.C. §§ 1101 et seq.

16.03 Arbitration rules. Such arbitration shall be conducted in accordance with the International Institute for Conflict Prevention and Resolution Rules for Non-Administered Arbitration, except to the extent such rules are modified by the following:

A. unless otherwise agreed to in writing by the Parties, all arbitration procedures shall be held in Window Rock, Arizona; and,

B. the arbitration panel shall consist of a single arbitrator, unless one of the Parties' claims exceeds $1,000,000.00, exclusive of interest, costs, and fees; in such case the arbitration panel shall consist of three (3) arbitrators with at least one arbitrator possessing at least ten (10) years of experience in Indian Law; and,

C. unless otherwise agreed to in writing by the Parties, all arbitration procedures shall be held in Window Rock, Arizona; and,

D. whether as a result of an arbitration provided for herein or of any judicial action to enforce an arbitration award resulting from such arbitration, any award against the Navajo Nation shall be in strict conformance with the provisions of 1 N.N.C. § 554 K 1-6; and,

E. whether in the context of an arbitration provided for herein or of any judicial action to enforce an arbitration award resulting from such arbitration, the laws of the Navajo Nation shall exclusively govern the interpretation of this Contract, the arbitration provisions set forth herein and the arbitration procedures conducted pursuant thereto, and the application of all provisions herein to Contractor and its subcontractors, agents, representatives, employees or consultants.

F. pursuant to 1 N.N.C. § 554 K and 7 N.N.C. § 1102, the appropriate Navajo Nation district court shall have exclusive jurisdiction to compel the Navajo Nation's participation in an arbitration, and shall have exclusive jurisdiction to enforce, modify, or vacate an arbitration award resulting from such arbitration.

16.04 Challenges limited. By entering into and executing this Contract, Contractor covenants and agrees that it shall not contest or challenge the territorial, administrative, legislative, executive or judicial jurisdiction of the Navajo Nation on the basis that such jurisdiction is inconsistent with the status of the Navajo Nation as an Indian tribal Nation, or that the Navajo Nation government is not a government of general jurisdiction, or that the Navajo Nation government does not possess full police power (i.e., the power to legislate and regulate for the public's general health and welfare) over all lands, persons, activities, transactions, or occurrences within its territorial boundaries, or on any other basis not generally applicable in the context of a similar challenge to the jurisdiction of a state government.

16.05 Arbitration as bar to suit. The arbitration provisions herein shall constitute the sole and exclusive procedural remedy to any dispute or controversy arising out of this Contract. Commencement of arbitration shall be a complete defense to any suit, action or proceeding instituted in any federal, state, or tribal court or any administrative tribunal, with respect to any dispute or controversy arising out of this Contract that is arbitrated as set forth herein.

16.06 Post-termination; post-expiration. The arbitration provisions of this Contract shall, with respect to such any dispute or controversy arising out of this Contract, survive the termination or expiration of this Contract.

SC-17.05 Delete Paragraph 17.05.A and insert the following:

A. By entering into and executing this Contract, Contractor consents to the full territorial, administrative, legislative, executive and judicial jurisdiction of the Navajo Nation, including but not limited to, the jurisdiction to regulate, adjudicate disputes, and to levy fines or enter judgments for injunctive relief and/or compensatory and punitive damages, in connection with all activities conducted by Contractor within the Navajo Nation or which have a proximate (legal) effect on persons or property within the Navajo Nation. Contractor

hereby acknowledges and agrees that this Contract constitutes a voluntary consensual relationship between Contractor and the Navajo Nation.

B. Procurement; hiring; subcontractors. Contractor shall comply with all applicable provisions of the Navajo Business and Procurement Act, at 12 N.N.C. §1501 et seq., the Navajo Preference in Employment Act, at 15 N.N.C. §601 et seq., the Navajo Business Opportunity Act, at 5 N.N.C. §201 et seq., and with all rules and regulations promulgated thereto.

C. Other laws. Contractor shall comply with all other applicable Navajo Nation laws and regulations and of the United States, now in force and effect or as hereafter may come into force and effect.

D. Non-compliance constitutes breach. The terms and provisions of said laws and regulations are fully incorporated herein by reference, and any violation thereof shall constitute a breach of this Contract and provide grounds for termination of this Contract. Termination of this Contract shall in no way limit any other remedies that may be available to either Party pursuant to said laws and regulations.

E. Claim of inapplicability. If Contractor asserts that any Navajo Nation laws or regulations are NOT applicable to any aspect of its performance under this Contract or to that of any of its subcontractors, agents, representatives, employees or consultants, Contractor shall provide explanation and documentation to verify its claim to the following address:

Office of the Attorney General
Department of Justice
Post Office Box 2010
Window Rock, Arizona 86515

F. Review and approval of claim. Contractor agrees to assert any claim of inapplicability only in good faith and only on a reasonable basis in law and fact, and Contractor shall make every effort to assert such claim prior to the finalization and execution of this Contract, or any Modifications thereto, by the Parties. All such claims shall be reviewed and approved by the Attorney General of the Navajo Nation or his/her designee prior to the Navajo Nation's execution of this Contract or any Modifications thereto. If such claim is NOT approved, the Navajo Nation may at its discretion refuse to execute this Contract or any Modifications thereto. In the event that Contractor asserts such a claim subsequent to the execution by the Parties of this Contract or any Modifications thereto, such claim shall be likewise reviewed and approved. If such claim is NOT approved, such claim shall be treated as a judicial ruling under the provisions of Paragraph SC-17.05.A herein.

SC-17.07 Insert a new paragraph as follows:

17.07 Private Contractor

A. Contractor, and each of its subcontractors, agents, representatives, employees or consultants, shall perform and conduct all activities under this Contract as a private, independent contractor and shall not receive any benefits to which the Navajo Nation's or Navajo AML's employees are entitled. The Navajo Nation and Navajo AML shall not be responsible for the payment of taxes, permit fees, licenses, insurance or any other expenses necessary or

convenient for Contractor, or any of its subcontractors, agents, representatives, employees or consultants, to perform under this Contract in compliance with applicable laws or regulations of the Navajo Nation or any other jurisdiction.

SC-17.08 Insert a new paragraph as follows:

17.08 Severability.

A. If any provision of this Contract is determined by a court of competent jurisdiction to be invalid, illegal or incapable of being enforced under any rule of law, all other conditions and provisions of this Contract shall nevertheless remain in full force and effect so long as the economic or legal substance of the rights, interests, and activities described herein are not affected in a materially adverse manner with respect to either Party.

SC-18 Add a new Article 18, "Federal/Navajo Nation Requirements," after Article 17.

SC-18.01 Add the following language at the beginning of Article 18 with the title "Agency Not a Party.":

A. This Contract is expected to be funded in part with funds provided by Agency. Neither Agency, nor any of its departments, entities, or employees is a party to this Contract.

SC-18.02 Add the following language after Article 18.01.A with the title "Contract Approval."

A. Owner and Contractor will furnish Owner's attorney such evidence as required so that Owner's attorney can complete and execute the following "Certificate of Owner's Attorney" (Exhibit GC-A) before Owner submits the executed Contract Documents to Agency for approval.

B. Concurrence by Agency in the award of the Contract is required before the Contract is effective.

SC 18.03 Add the following language after Article 18.02.B with the title "Conflict of Interest."

A. Contractor may not knowingly contract with a supplier or manufacturer if the individual or entity who prepared the plans and specifications has a corporate or financial affiliation with the supplier or manufacturer. Owner's officers, employees, or agents shall not engage in the award or administration of this Contract if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when: (i) the employee, officer or agent; (ii) any member of their immediate family; (iii) their partner or (iv) an organization that employs, or is about to employ, any of the above, has a financial interest in Contractor. Owner's officers, employees, or agents shall neither solicit nor accept gratuities, favors or anything of monetary value from Contractor or subcontractors.

SC-18.04 Add the following language after Article 18.03.A with the title "Gratuities."

A. If Owner finds after a notice and hearing that Contractor, or any of Contractor's agents or representatives, offered or gave gratuities (in the form of entertainment, gifts, or otherwise) to any official, employee, or agent of Owner or Agency in an attempt to secure this Contract or favorable treatment in awarding, amending, or making any determinations related to the performance of this Contract, Owner may, by written notice to Contractor, terminate this Contract. Owner may also pursue other rights and remedies that the law or this Contract

provides. However, the existence of the facts on which Owner bases such findings shall be an issue and may be reviewed in proceedings under the dispute resolution provisions of this Contract.

B. In the event this Contract is terminated as provided in paragraph 18.04.A, Owner may pursue the same remedies against Contractor as it could pursue in the event of a breach of this Contract by Contractor. As a penalty, in addition to any other damages to which it may be entitled by law, Owner may pursue exemplary damages in an amount (as determined by Owner) which shall not be less than three nor more than ten times the costs Contractor incurs in providing any such gratuities to any such officer or employee.

SC-18.05 Add the following language after Article 18.04.B with the title "Audit and Access to Records."

A. Owner, Agency, the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any books, documents, papers, and records of the Engineer which are pertinent to the Agreement, for the purpose of making audits, examinations, excerpts, and transcriptions. Engineer shall maintain all required records for three years after final payment is made and all other pending matters are closed.

B. Pursuant to 12 N.N.C. § 352, Contractor shall keep and maintain books, records, documents or other materials related to performance under this Contract for a period of five (5) years from the date of issuance of final payment under this Contract. Upon issuance of a Notice of Audit to Contractor, the Navajo Nation may audit any such documents and records at any time during the effective period of this Contract, up to the five (5) year period following final payment. If necessary because of funding source requirements, Contractor agrees to have an authorized individual execute and have notarized a release authorizing the Navajo Nation to release Contractor's books, records, documents or other materials related to performance under this Contract, as such information may be required by the funding source under an agreement with the Navajo Nation for purposes of an audit by the funding source of such documents and records. Contractor agrees that said executed release shall constitute permission for the disclosure of otherwise protected information pursuant to 2 N.N.C. § 85 A.5.d. and 2 N.N.C. § 86 C.

SC-18.06 Add the following language after Article 18.05.A with the title "Small, Minority and Women's Businesses."

A. If Contractor intends to let any subcontracts for a portion of the work, Contractor shall take affirmative steps to assure that small, minority and women's businesses are used when possible as sources of supplies, equipment, construction, and services. Affirmative steps shall consist of: (1) including qualified small, minority and women's businesses on solicitation lists; (2) assuring that small, minority and women's businesses are solicited whenever they are potential sources; (3) dividing total requirements when economically feasible, into small tasks or quantities to permit maximum participation of small, minority, and women's businesses; (4) establishing delivery schedules, where the requirements of the work permit, which will encourage participation by small, minority and women's businesses; (5) using the services and assistance of the Small Business

Administration and the Minority Business Development Agency of the U.S. Department of Commerce; (6) requiring each party to a subcontract to take the affirmative steps of this section; and (7) Contractor is encouraged to procure goods and services from labor surplus area firms.

SC-18.07 Add the following after Article 18.06.A with the title "Anti-Kickback."

A. Contractor shall comply with the Copeland Anti-Kickback Act (18 USC 874 and 40 USC 276c) as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Buildings or Public Works Financed in Whole or in Part by Loans or Grants of the United States"). The Act provides that Contractor or subcontractor shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public facilities, to give up any part of the compensation to which they are otherwise entitled. Owner shall report all suspected or reported violations to Agency.

SC-18.08 Add the following after Article 18.07.A with the title "Clean Air and Pollution Control Acts."

A. If this Contract exceeds $100,000, Compliance with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. 1857(h) and 42 USC 7401et. seq.), section 508 of the Clean Water Act (33 U.S.C. 1368) and Federal Water Pollution Control Act (33 USC 1251 et seq.), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR part 15) is required. Contractor will report violations to the Agency and the Regional Office of the EPA.

SC-18.09 Add the following after Article 18.08.A with the title "State Energy Policy."

A. Contractor shall comply with the Energy Policy and Conservation Act (P.L. 94-163). Mandatory standards and policies relating to energy efficiency, contained in any applicable State Energy Conservation Plan, shall be utilized.

SC-18.10 Add the following after Article 18.09.A with the title "Equal Opportunity Requirements."

A. If this Contract exceeds $10,000, Contractor shall comply with Executive Order 11246, "Equal Employment Opportunity," as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and as supplemented by regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."

B. Contractor's compliance with Executive Order 11246 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative active obligations required by the Standard Federal Equal Employment Opportunity Construction Contract Specifications, as set forth in 41 CFR Part 60-4 and its efforts to meet the goals established for the geographical area where the Contract is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the Contract, and in each trade, and Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole

purpose of meeting Contractor's goals shall be a violation of the Contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

C. Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the Contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number; estimated dollar amount of subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the Contract is to be performed.

SC-18.11 Add the following after Article 18.10.C with the title "Restrictions on Lobbying."

A. Contractor and each subcontractor shall comply with Restrictions on Lobbying (Public Law 101-121, Section 319) as supplemented by applicable Agency regulations. This Law applies to the recipients of contracts and subcontracts that exceed $100,000 at any tier under a Federal loan that exceeds $150,000 or a Federal grant that exceeds $100,000. If applicable, Contractor must complete a certification form on lobbying activities related to a specific Federal loan or grant that is a funding source for this Contract. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 USC 1352. Each tier shall disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Certifications and disclosures are forwarded from tier to tier up to the Owner. Necessary certification and disclosure forms shall be provided by Owner.

SC-18.12 Add the following after Article 18.11.A with the title "Environmental Requirements."

When constructing a project involving trenching and/or other related earth excavations, Contractor shall comply with the following environmental constraints:

A. Wetlands – When disposing of excess, spoil, or other construction materials on public or private property, Contractor shall not fill in or otherwise convert wetlands.

B. Floodplains – When disposing of excess, spoil, or other construction materials on public or private property, Contractor shall not fill in or otherwise convert 100 year floodplain areas delineated on the latest Federal Emergency Management Agency Floodplain Maps, or other appropriate maps, i.e., alluvial soils on NRCS Soil Survey Maps.

C. Historic Preservation – Any excavation by Contractor that uncovers an historical or archaeological artifact shall be immediately reported to Owner and a representative of Agency. Construction shall be temporarily halted pending the notification process and further directions issued by Agency after consultation with the State Historic Preservation Officer (SHPO).

D. Endangered Species – Contractor shall comply with the Endangered Species Act, which provides for the protection of endangered and/or threatened species and critical habitat. Should any evidence of the presence of endangered and/or threatened species or their critical habitat be brought to the attention of Contractor, Contractor will immediately report this evidence to Owner and a representative of Agency. Construction shall be temporarily halted pending the notification process and further directions issued by Agency after consultation with the U.S. Fish and Wildlife Service.

E. Mitigation Measures – If the project had an Environmental Report, Environmental Assessment, or Environmental Impact Statement to meet the requirements of the National Environmental Policy Act, compliance with the mitigation measures, if any, in that document are hereby included as a condition of this contract.

Detailed mitigation measures for this project are provided in Appendix C, Environmental Requirements, and the Specifications. The following is a brief summary of some of the mitigation measures required: Sites NM-Q-27-25 and NM-Q-27-37 shall be flagged by a qualified archeologist prior to ground disturbing activities and avoided during construction. Contractor shall water down dirt to keep fugitive dust from escaping the construction area. A SWPPP shall be provided prior to construction activities. Re-vegetation upon completion of construction will be required, in accordance with Navajo Nation Department of Agriculture vegetative reclamation guidelines. All construction-related activities shall be confined to the project right-of-way. Solid waste, and hazardous waste if applicable, shall be hauled and disposed of on a weekly basis. Portable toilets shall be required and serviced weekly. Waste oil shall not be stored on the site. Fill dirt from contaminated site will not be allowed for use on the proposed project. Comply with specification for work within Mining Reclamation Areas.

F. Mining Reclamation Area – Contractor shall comply with requirements regarding work within the "Mining Reclamation Area". The area is defined within the construction plans and requirements are described within the project technical specifications, with reference to Attachment A.

EXHIBIT GC-A

Certificate of Owner's Attorney

I, the undersigned, _____, the duly authorized and acting legal representative_____, do hereby certify as follows:

I have examined the attached Contract(s) and performance and payment bond(s) and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements is adequate and has been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the respective parties named thereon; and that the foregoing agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with the terms, conditions, and provisions thereof.

_____

Date: _____

AGENCY CONCURRENCE

As lender or insurer of funds to defray the costs of this Contract, and without liability for any payments thereunder, the Agency hereby concurs in the form, content, and execution of this Agreement.

By: _____ Date: _____

Type Name: _____

Work Change Directive

No. _____

Date of Issuance: _____ Effective Date: _____

Project: **Mariano Lake Phase 1A and 1B Water System Improvements**	Owner: **Navajo Nation**	Owner's Contract No.:
Contract: **Mariano Lake Phase 1A and 1B Water System Improvements**		Date of Contract:
Contractor:		Engineer's Project No.: **6415735**

Contractor is directed to proceed promptly with the following change(s):

Item No.	Description

Attachments (list documents supporting change):

Purpose for Work Change Directive:

Authorization for Work described herein to proceed on the basis of Cost of the Work due to:

- ☐ Nonagreement on pricing of proposed change.
- ☐ Necessity to expedite Work described herein prior to agreeing to changes on Contract Price and Contract Time.

Estimated change in Contract Price and Contract Times:

Contract Price $_____ (increase/decrease) Contract Time _____ (increase/decrease) days

Recommended for Approval by Engineer:	Date
Authorized for Owner by:	Date
Received for Contractor by:	Date
Received by Funding Agency (if applicable):	Date:

Change Order

No. _____

Date of Issuance:	Effective Date:

Project: **Mariano Lake Phase 1A and 1B Water System Improvements**	Owner: **Navajo Nation**	Owner's Contract No.:
Contract: **Mariano Lake Phase 1A and 1B Water System Improvements Project**		Date of Contract:
Contractor:		Engineer's Project No.: **6415735**

The Contract Documents are modified as follows upon execution of this Change Order:

Description:

Attachments: (List documents supporting change):

CHANGE IN CONTRACT PRICE:	CHANGE IN CONTRACT TIMES:
Original Contract Price:	Original Contract Times: ☐ Working days ☐ Calendar days
$ -	Substantial completion (days or date):
	Ready for final payment (days or date):
[Increase] [Decrease] from previously approved Change Orders No.____ to No.____:	[Increase] [Decrease] from previously approved Change Orders No.____ to No.____:
	Substantial completion (days):
$ -	Ready for final payment (days):
Contract Price prior to this Change Order:	Contract Times prior to this Change Order:
	Substantial completion (days or date):
$ -	Ready for final payment (days or date):
[Increase] [Decrease] of this Change Order:	[Increase] [Decrease] of this Change Order:
	Substantial completion (days or date):
$ -	Ready for final payment (days or date):
Contract Price incorporating this Change Order:	Contract Times with all approved Change Orders:
	Substantial completion (days or date):
$ -	Ready for final payment (days or date):

RECOMMENDED: Souder, Miller & Associates	ACCEPTED:	ACCEPTED:
By: _____	By: _____	By: _____
Engineer (Authorized Signature)	Owner (Authorized Signature)	Contractor (Authorized Signature)
Date: _____	Date: _____	Date: _____

Approved by Funding Agency (if applicable): _____ Date: _____

EJCDC No. C-941 (2002 Edition)
Prepared by the Engineers' Joint Contract Documents Committee and endorsed by the Associated General Contractors of America and the Construction Specifications Institute.

Field Order

No. ____

Date of Issuance: _____ Effective Date: _____

Project: **Mariano Lake Phase 1A and 1B Water System Improvements**	Owner: **Navajo Nation**	Owner's Contract No.:
Contract: **Mariano Lake Phase 1A and 1B Water System Improvements**		Date of Contract:
Contractor:		Engineer's Project No.: **6415735**

Attention:
You are hereby directed to promptly execute this Field Order issued in accordance with General Conditions Paragraph 9.04.A, for minor changes in the Work without changes in Contract Price or Contract Times. If you consider that a change in Contract Price or Contract Times is required, please notify the Engineer immediately and before proceeding with this Work.

Reference: _____ _____
(Specification Section(s)) (Drawing(s) / Detail(s))

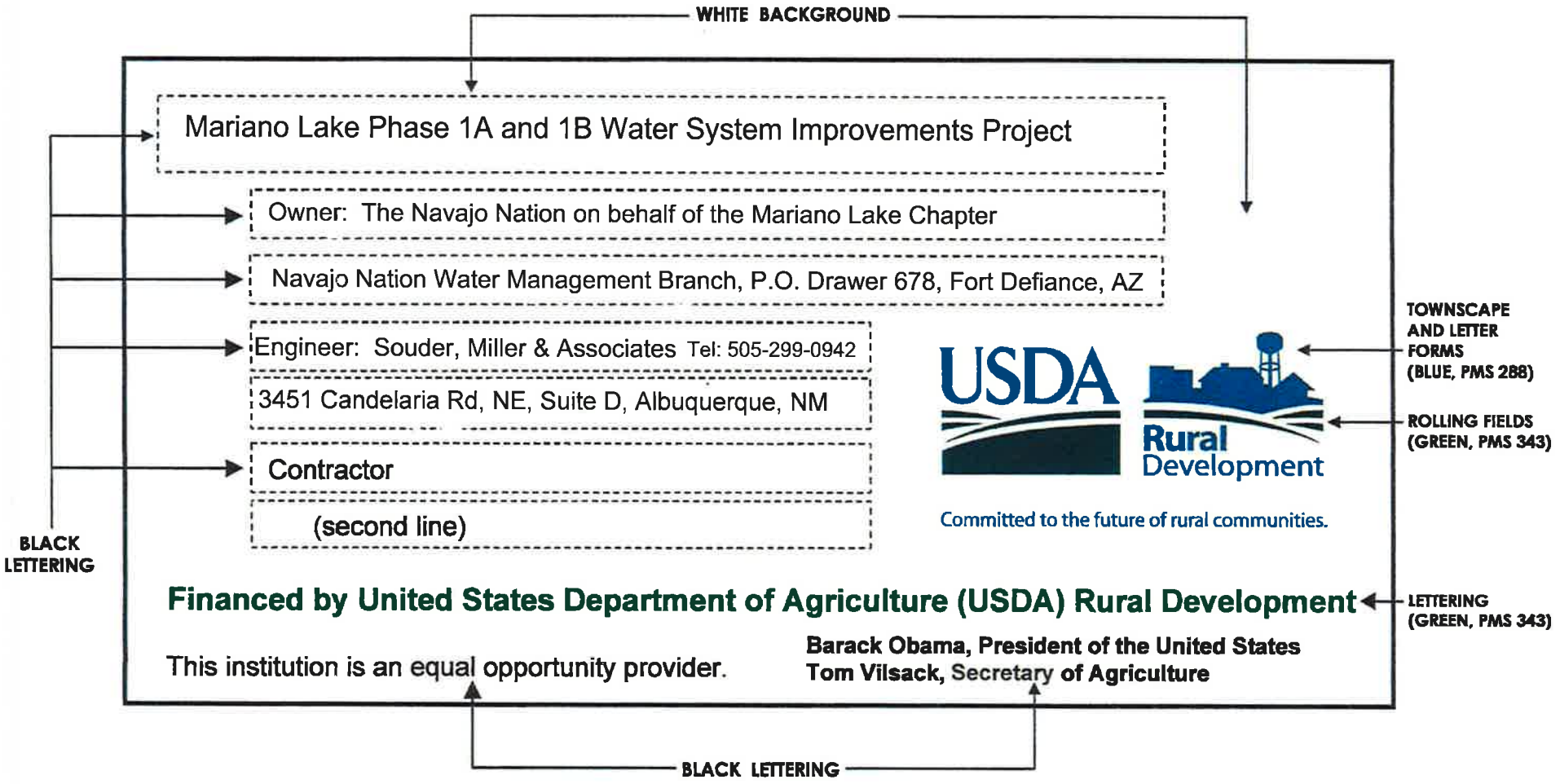
Description: _____

Attachments: _____

	Engineer:
Receipt Acknowledged by Contractor:	Date:

Copy to Owner

TEMPORARY CONSTRUCTION SIGN FOR RURAL DEVELOPMENT PROJECTS



SIGN DIMENSIONS: 1200 mm x 2400 mm x 19 mm (approx. 4' x 8' x ¾")
PLYWOOD PANEL (APA RATED A-B GRADE–EXTERIOR)

SMA
Engineering - Environmental Surveying

Submittals Checklist

Project Name: Mariano Lake Phase 1A and 1B Water System Improvements

Project Number: 6415735

Item	Date Received	Approved	Not Approved	Comments
General				
Preconstruction Site Video/Photos				
Traffic Control Plan				
Safety Plan				
Re-seeding Mix and Plan				
USDA Sign Proof				
Testing				
Compaction Test results				
Concrete Test results				
Hydrostatic Pressure Test results				
Disinfection Test results				
Site Civil / Earthwork				
Gravel				
Imported Fill				
Base Course				
Stormwater Controls				
Storm Water Pollution Prevention Plan (SWPPP)				
Waterline / Pipe Fittings				
PVC Waterline Pipe - 6, 4, and 2 inch				
PVC Pipe Fittings				
Joint Restraints (incl. required spacing)				
Detectable Warning Tape				
Tracer Wire				
Marker posts				
Casing - 6", 10", 12" (0.25" Steel)				
Casing Pipe - 12" (0.375" Steel)				
Casing Spacers				
Casing End Seals				
Tapping Saddles				
Valves				
Gate Valves - 6, 4, and 2 inch				
Valve Boxes				
Open/Shut-off Valve Tools				
Combination Air/Vacuum Valves				
ARV Boxes w/Lid Covers				
Corporation Stops				
Pressure Reducing Valve Station				
Main 6 inch PRV				
Valves				
Gauges				
Dismantling Joint				
Pipe Support Assembly				
Ball Valves				
Precast Manhole				
Manhole Bitumastic or Gasket Sleeve				
Hydrants/Service Lines				
Yard Hydrants				
Drainage Gravel				
Hydrant Vacuum Breakers				
Poly pipe - I inch				
Service Line Fittings				
Curb Stops				
Curb Valve Boxes				
Coppersetters				
Individual PRV Assembly				
Meter Cans				
Meter Can Keys				
Meter Box Covers				
Marker Posts/Decals				

Important Note: The items listed on this form require submittal data. However, this list should not be considered all inclusive. If Technical Specifications or the Drawings include other submittal requirements, those must be met as well. Also, the Engineer may require additional submittals beyond those identified above and/or in the Specifications and Drawings.

APPENDIX A

Federal and Navajo Nation Forms

- RUS form RD 400-6 Compliance Statement
- RUS form AD 1048 Certification Regarding Debarment
- RUS form RD 1940-Q Cert. for Contracts, Grants and Loans
- Navajo Nation Certification Regarding Debarment and Suspension

USDA
Form RD 400-6
(Rev. 4-00)

Form Approved
OMB No. 0575-0018

COMPLIANCE STATEMENT

This statement relates to a proposed contract with _____

_____,
(Name of borrower or grantee)

who expects to finance the contract with assistance from either the Rural Housing Service (RHS), Rural Business-Cooperative Service (RBS), or the Rural Utilities Service (RUS) or their successor agencies, United States Department of Agriculture (whether by a loan, grant, loan insurance, guarantee, or other form of financial assistance).I am the undersigned bidder or prospective contractor, I represent that:

1. I ☐ have, ☐ have not, participated in a previous contract or subcontract subject to Executive 11246 (regarding equal employment opportunity) or a preceding similar Executive Order.

2. If I have participated in such a contract or subcontract, I ☐ have, ☐ have not, filed all compliance reports that have been required to file in connection with the contract or subcontract.

If the proposed contract is for $50,000 or more and I have 50 or more employees, I also represent that:

3. I ☐ have, ☐ have not previsouly had contracts subject to the written affirmative action programs requirements of the Secretary of Labor.

4. If I have participated in such a contract or subcontract, I ☐ have, ☐ have not developed and placed on file at each establishment affirmative action programs as required by the rules and regulations of the Secretary of Labor.

I understand that if I have failed to file any compliance reports that have been required of me, I am not eligible and will not be eligible to have my bid considered or to enter into the proposed contract unless and until I make an arrangement regarding such reports that is satisfactory to either the RHS, RBS or RUS, or to the office where the reports are required to be filed.

I also certify that I do not maintain or provide for my employees any segregated facilities at any of my establishments, and that I do not permit my employees to perform their services at any location, under my control, where segregated facilities are maintained. I certify further that I will not maintain or provide for my employees any segregated facilities at any of my establishments, and that I will not permit my employees to perform their services at any location, under my control, where segregated facilities are maintained. I agree that a breach of this certification is a violation of the Equal Opportunity clause in my contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and wash rooms, restaurants and other eating areas time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation 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. I further agree that (except where I have obtained identical certifications for proposed subcontractors for specific time periods) I 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; that I will retain such certifications in my files; and that I will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods): (See Reverse).

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0575-0018. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENTS FOR CERTIFICATIONS OF NON-SEGREGATED FACILITIES

A certification of Nonsegregated Facilities, as required by the May 9, 1967, order (32F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted prior to the award of a subcontract exceeding $10,000 which is not exempt from the provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e. quarterly, semiannually, or annually).

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

DATE _____ _____

(Signature of Bidder or Prospective Contractor)

_____

Address (including Zip Code)

U.S. DEPARTMENT OF AGRICULTURE

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 7 CFR Part 3017, Section 3017.510, Participants' responsibilities. The regulations were published as Part IV of the January 30, 1989, Federal Register (pages 4722-4733). Copies of the regulations may be obtained by contacting the Department of Agriculture agency with which this transaction originated.

(BEFORE COMPLETING CERTIFICATION, READ INSTRUCTIONS ON REVERSE)

(1) **The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.**

(2) **Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.**

Organization Name **PR/Award Number or Project Name**

Name(s) and Title(s) of Authorized Representative(s)

Signature(s) **Date**

Instructions for Certification

1. By signing and submitting this form, the prospective lower tier participant is providing the certification set out on the reverse side in accordance with these instructions.

2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

3. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

5. The prospective lower tier participant agrees by submitting this form that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

6. The prospective lower tier participant further agrees by submitting this form that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

7* A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

•U. S.GPO: 1995-757-776/201 07

CERTIFICATION FOR CONTRACTS, GRANTS AND LOANS

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant or Federal loan, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant or loan.

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant or loan, the undersigned shall complete and submit Standard Form - LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including contracts, subcontracts, and subgrants under grants and loans) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

_____ _____

(name) (date)

_____

(title)

oOo

NAVAJO NATION CERTIFICATION
Regarding Debarment and
Suspension

Consultant acknowledges that to the best of his knowledge that his company and principal participants on this contract:

1. **Are not debarred, suspended, or otherwise slated for debarment, ineligible and/or excluded from participation on Federal, State and Tribal Government contracts etc.**

2. **Are not presently nor have been under criminal indictment or civilly charged by a governmental entity (Federal, State, and Tribal Government) for fraud, forgery, falsification, theft, bribery, destruction of records, receiving stolen property and other criminal offenses in the administration of a government contract.**

3. **Have not been terminated for cause or convenience by a governmental entity in the administration of a government contract (Federal, State, and Tribal Government).**

4. **If the Navajo Nation determines that the Certificate provided herein is not true, it will be grounds to terminate the contract and pursue other legal remedies.**

Applicant's Company and Address:

_____

_____

_____

Name & Signature of Signatory

Name:_____

_____
Signature **Date**

APPENDIX B

Minimum Wage Rate Determinations

- New Mexico Department of Workforce Solutions
- Navajo Nation Office of Labor Relations
  - Office of Navajo Labor Relations Pre-construction Conference Presentation
  - The Navajo Preference In Employment Act

Note: The higher wage for each classification as identified in the minimum wage rate determinations provided by the New Mexico Department of Workforce Solutions and Navajo Nation Office of Labor Relations will apply, as stipulated in Article 1.7 of Technical Specifications Section 01 00 00.

NEW MEXICO DEPARTMENT OF WORKFORCE SOLUTIONS - PUBLIC WORKS BUREAU
QUESTIONS?? Call OR E-mail:

Otis Caddy @ (505) 841-4406 OR Lynno.caddy@state.nm.us or
Kim Kew @ (505) 841-4405 OR kim.kew@state.nm.us fax (505) 841-4423

Contracting Agency/Owner	County	Decision Date	Decision No.
Navajo Nation Water Management Branch	McKinley	12/06/12	MC-12-1929 A
		Expires for Bids	
Type of Construction: A		04/05/13	

Description of Work: Mariano Lake Phase 1A and 1B Water System Improvements
The project consists of construction of approximately 34,800 LF of 6-inch, 7,400 LF of 4-inch, and 5,200 LF of 2-inch waterlines and 32 water services with associated appurtenances

***REMINDER* to those preparing BID documents:** If bids are not opened by the above "Expires for Bids" date, a **NEW** wage decision may be required. If bids are NOT submitted before new wage rates go into effect, a NEW wage decision WILL be required. Call the Public Works Bureau at (505) 841-4409 to check status of new wage rates.

NOTICES

ALL contractors **MUST** have an active registration with the Labor Enforcement Fund before bidding on any public works project. Bids from contractors who are not registered will be considered **INVALID**.

The General/Prime Contractor selected for this project **MUST** submit a completed Statement of Intent to Pay Prevailing Wages to the Contracting Agency (or it's agent) before any work is started.

Sub-contractors & 2nd/3rd Tier Contractors **MUST** also submit Statements through their General/Prime before they start work. The General/Prime is responsible for informing the Contracting Agency or it's agent whenever there is a change to the subcontractors on the project.

The Contracting Agency or it's agent **MUST** fill out and submit the Notification of Award and Subcontractor list to the Public Works Bureau and forward the remainder of this wage decision package to the General/Prime Contractor that is awarded the project contract. That contractor is also responsible for making certain that all subcontractors have copies of the wage decision and other needed forms.

The General/Prime Contractor **MUST** post the wage rate table at the job site outside the Superintendent's trailer/office in an easily accessible place.

Workers **MUST** be classified & paid according to the work they perform, regardless of qualifications.

These wage rates are good for the life of a project.

New Mexico Department of Workforce Solutions
Public Works Bureau
625 Silver Ave SW, Suite 410, Albuquerque, NM 87102
Kim Kew (505) 841-4405 Otis Caddy (505) 841-4406 Email to: public.works@state.nm.us or fax to: (505) 841-4423

Wage Decision # MC-12-1929 A
NOTIFICATION OF AWARD (NOA)

***Description and Location of Work*: Mariano Lake Phase 1A and 1B Water System Improvements**
The project consists of construction of approximately 34,800 LF of 6-inch, 7,400 LF of 4-inch, and 5,200 LF of 2-inch waterlines and 32 water services with associated appurtenances

City of Mariano Lake McKinley County BIA Route 49, Mariano Lake

REMINDER for Agency Conducting BID Process: **If bids are NOT submitted before new wage rates go into effect, a NEW wage decision WILL be required.**
When the Contract is awarded for this project the Wage Rate Poster and the Wage Rate Packet, excluding this NOA and Subcontractor List, must be delivered to the ***GENERAL/PRIME CONTRACTOR.*** The Contracting Agency or its agent must complete this form (including the next page listing all of the subcontractors including 2nd tier subcontractors) and fax or mail it to the address above. ***If the project is canceled,*** this form must be completed by the agency conducting the bid process. Failure to submit the NOA in a timely manner is a violation of paragraph 11.1.2.10.B (3) of the Public Works Minimum Wage Act Policy Manual.

General/Prime Contractor Company Name:_____ License#:_____

Address:_____ City:_____ State:_____ Zip:_____

Telephone: _____ Fax:_____

Project Contact's name:_____E-Mail:_____

Approximate Date Work to Start:_____

Estimated Completion Date:_____

Estimated Cost of Project:_____

Bid Opening Date:_____

Note: The General/Prime Contractor MUST mail/fax in their Statement of Intent to Pay Prevailing Wages to the Contracting Agency or its agent before beginning work on the project. Each Subcontractor (and all tiers of subcontractors) **MUST** also mail/fax their Statement of Intent to Pay Prevailing Wages through the General/Prime Contractor before they start work. After work on the project is completed (**but before final payments),** subcontractors and all tiers of subcontractors must mail/fax (through the General/Prime Contractor) an Affidavit of Wages Paid.

Signature for Contracting Agency (or agent) _____
Printed Name_____
Date _____

SUBCONTRACTOR LIST

Do NOT list suppliers or professional services (such as surveyors)

INCLUDE individual subcontractor dollar amount for project

Email to: public.works@state.nm.us or fax to: (505) 841-4423

Please include **2nd & 3rd Tier** subcontractors. Make extra copies of form if necessary.

Wage Dec. # MC-12-1929 A

General Contractor: _____

Company Name: _____
Address: _____ City: _____ State: ____ Zip: _____
E-Mail Address: _____ License No.: _____
Phone No.: _____ Fax No.: _____ Sub ____ 2nd TIER ____ (To Whom) 3rd TIER ____ (To Whom)
Work to be performed: _____ Amount ($): _____

Company Name: _____
Address: _____ City: _____ State: ____ Zip: _____
E-Mail Address: _____ License No.: _____
Phone No.: _____ Fax No.: _____ Sub ____ 2nd TIER ____ (To Whom) 3rd TIER ____ (To Whom)
Work to be performed: _____ Amount ($): _____

Company Name: _____
Address: _____ City: _____ State: ____ Zip: _____
E-Mail Address: _____ License No.: _____
Phone No.: _____ Fax No.: _____ Sub ____ 2ne TIER ____ (To Whom) 3rd TIER ____ (To Whom)
Work to be performed: _____ Amount ($): _____

Company Name: _____
Address: _____ City: _____ State: ____ Zip: _____
E-Mail Address: _____ License No.: _____
Phone No.: _____ Fax No.: _____ Sub ____ 2nd TIER ____ (To Whom) 3rd TIER ____ (To Whom)
Work to be performed: _____ Amount ($): _____

Company Name: _____
Address: _____ City: _____ State: ____ Zip: _____
E-Mail Address: _____ License No.: _____
Phone No.: _____ Fax No.: _____ Sub ____ 2nd TIER ____ (To Whom) 3rd TIER ____ (To Whom)
Work to be performed: _____ Amount ($): _____

Company Name: _____
Address: _____ City: _____ State: ____ Zip: _____
E-Mail Address: _____ License No.: _____
Phone No.: _____ Fax No.: _____ Sub ____ 2ne TIER ____ (To Whom) 3rd TIER ____ (To Whom)
Work to be performed: _____ Amount ($): _____

Mariano Lake Phase 1A and 1B Water System Improvements: **Wage Decision # MC-12-1929 A**
The project consists of construction of approximately 34,800 LF of 6-inch, 7,400 LF of 4-inch, and 5,200 LF of 2-inch waterlines and 32 water services with associated appurtenances

TYPE "A" - STREET, HIGHWAY, UTILITY & LIGHT ENGINEERING

Effective January 1, 2012

Trade Classification	Base Rate	Fringe Rate
Bricklayer/Blocklayer/Stonemason	17.74	0.26
Carpenter/Lather	15.99	0.44
Cement Mason	15.52	0.26
Ironworker	21.77	6.03
Painter (Brush/Roller/Spray)	17.56	0.44
Electricians (outside)		
Groundman	26.79	11.03
Equipment Operator	29.61	11.03
Lineman/Wireman or Tech	30.20	11.03
Cable Splicer	31.38	11.03
Plumber/Pipefitter	28.30	4.07
Laborers		
Group I	13.73	0.35
Group II	14.03	0.35
Group III	14.43	0.35
Operators		
Group I	15.74	0.26
Group II	15.94	0.26
Group III	16.52	0.26
Group IV	16.54	0.26
Group V	16.53	0.26
Group VI	16.69	0.26
Group VII	16.74	0.26
Group VIII	16.89	0.26
Group IX	17.39	0.26
Group X	18.19	0.26
Truck Drivers		
Group I	13.32	0.26
Group II	13.52	0.26
Group III	13.72	0.26
Group IV	13.92	0.26

NOTE: SUBSISTENCE AND INCENTIVE PAY DO NOT APPLY TO TYPE "A" CONSTRUCTION.

SUSANA MARTINEZ
GOVERNOR

JOHN SANCHEZ
LT. GOVERNOR

CELINA BUSSEY
SECRETARY

STATE OF NEW MEXICO
DEPARTMENT OF WORKFORCE SOLUTIONS
625 Silver Ave SW Suite 410
Albuquerque, NM 87102
Telephone (505) 841-4405
Fax (505) 841-4420

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 assigned by statute to each project stakeholder.

Contracting Agency

- Ensure that all contractors wishing to bid on a Public Works project valued at more than $60,000 are registered with the Labor Relations Division, Labor Enforcement Fund (LEF) prior to bidding.
- Provide completed Notice of Award (NOA) to Labor Relations Division within 3 (Three) days of this project being awarded.

General Contractor

- Provide to Labor Relations Division within 3 (Three) days a complete sub-contractor list and Statements of Intent (SOI) to pay Prevailing Wages.
- Ensure that all sub-contractors wishing to bid on a Public Works project valued at more than $60,000 are registered with the Labor Relations Division prior to bidding.
- Submit weekly certified payrolls to the owner/contracting agency.
- NM Apprenticeship and Training Fund payments are to be paid to either an approved Apprenticeship program or to the Labor Relations Division.
- The Wage Rate poster must be displayed at the job site in an easily accessible place.
- When a project has been completed, Affidavits of Wages Paid (AWP) need to be sent to the Labor Relations Division.

Sub-Contractor

- Ensure that all sub-contractors wishing to bid on a Public Works project valued at more than $60,000 are registered with the Labor Relations Division prior to bidding.
- Submit weekly certified payrolls to the General Contractors.
- NM Apprenticeship and Training Fund payments must be paid to either an approved Apprenticeship program or the Labor Relations Division.

Additional Information.

Reference material and forms for these requirements are available through the following New Mexico Workforce Solutions Web Link. www.dws.state.nm.us/new, Labor Relations, Pubic works

Additional Information

Additional information, requirements, and documents on these topics can be found through the Public Works web pages.

- Labor Enforcement Fund (LEF)
- Weekly Certified Payroll
- Public Works Apprenticeship and Training Fund (PWAT)
- Forms: Statement of Intent (SOI), Affidavit of Wages Paid (AWP)
- Prevailing Wage Rates (Base Rates, Fringe, and Apprenticeship Contributions)

CONTACT INFORMATION

Contact us for any questions relating to Public Works Projects.

Kim Kew at kim.kew@state.nm.us or 505-841-4405
Otis Caddy LynnO.Caddy@state.nm.us 505-841-4406

TYPE "A" - STREET, HIGHWAY, UTILITY & LIGHT ENGINEERING

Effective January 1, 2012

Trade Classification	Base Rate	Fringe Rate
Bricklayer/Blocklayer/Stonemason	17.74	0.26
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Painter (Brush/Roller/Spray)	17.56	0.44
Electricians (outside)		
Groundman	26.79	11.03
Equipment Operator	29.61	11.03
Lineman/Wireman or Tech	30.20	11.03
Cable Splicer	31.38	11.03
Plumber/Pipefitter	28.30	4.07
Laborers		
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Group III	16.52	0.26
Group IV	16.54	0.26
Group V	16.53	0.26
Group VI	16.69	0.26
Group VII	16.74	0.26
Group VIII	16.89	0.26
Group IX	17.39	0.26
Group X	18.19	0.26
Truck Drivers		
Group I	13.32	0.26
Group II	13.52	0.26
Group III	13.72	0.26
Group IV	13.92	0.26

NOTE: SUBSISTENCE AND INCENTIVE PAY DO NOT APPLY TO TYPE "A" CONSTRUCTION.

Type A construction: Laborers, Operators, and Truck Drivers

Laborer classification groups and wage spreads for type "A" construction:

(1) Group I (unskilled): -$0.30: building and common laborer; carpenter tender chainman; rodman; stakedriver; concrete buggy operator (hand); concrete workers; flagman; soil sample tester;

(2) Group II (semiskilled): (base): wagon, air tract, drill and diamond drillers' tender (outside); air and power tool man (not a carpenter's tool); asphalt heaterman; asphalt jointman; asphalt raker; batching plant scaleman; tenderers (to cement mason and plasterer); chain sawman; concrete power buggyman; concrete touch-up man; concrete sawman - coring mach.; curbing machine, asphalt or cement; cutting torchman; metal form setter-road; grade setter; hod carrier; mortar mixer and mason tender; powderman or blaster helper; sandblaster; scaler; vibratorman (hand type) ; vibratory compactor (hand type); window washer; nurseryman-gardener; wagon, air tract, drill and diamond driller (outside); roadway hardware worker;

(3) Group III (miscellaneous): +$0.40: gunite pumpcreteman and nozzleman; multi-plate setter; manhole builder; pipielayer; powderman-blaster-makeup; landscaper; traffic control technician; laboratory technician.

Equipment operator classification groups and wage spreads for type "A" construction:

(1) Group I: -$0.80: concr. paving curing machine;

(2) Group II: -$0.60: belt type conveyors (material and concrete); broom (self prop.); fork lift; grease truck oper.; head oiler; hydro lift; tractor (under 50 drawbar HP with or without attach.); indus. loco. brakeman; front end loader (2CY or less): fireman; oiler; screedman; roller (pull type); mulching machine, roller (self propelled);

(3) Group III: -$0.02: concr. paving form grader; concr. paving gang vibrator; concr. paving joint or saw mach.; concr. paving sub grader; tractor with backhoe attachment; subgrade or base finisher; power plant (elec. gen. or welding mach.);

(4) Group IV: (base): bulldozer (including self-propelled roller with dozer attachment); batch or continuous mix plant (concr., soil cement, or asph.); roller (steel wheel); front end loader (2 through 10CY); scraper oper., motor grader;

(5) Group V: +$0.00: asph. distr.; asph. paving or laydown mach.; asph. retort heater; mixer, heavy duty, asph. or soil cement; trenching mach.; clam type shaftmucker; backhoe, clamshell, dragline, gradall, shovel (under 3/4 CY); elevating grader or belt loader; cranes (crawler or mobile) under 20 ton; air compressor (300 CFM and over); crushing screening and washing plants; drlg. mach. (cable core or rotary); mixer, concr. (1 CY and

less); pump (6 in. intake or over); winch truck; hoist (1 drum); indus. loco. motorman; lumber stacker; tractor (50 drawbar HP or over);

(6) Group VI: +$0.15: concr. paver mixer; hoist (2 drums and over); side boom; traveling crane; piledriver; backhoe, clamshell, dragline, gradall, shovel (3/4 CY to 3 CY); cranes (crawler or mobile) 20 ton to 40 ton; front end loader (over 10 CY); mixer., concr. (over 1 CY); mechanic and/or welder;

(7) Group VII: +$0.20: concr. slip-form paving mach.; concr. paving finishing mach.; concr. paving longitudinal float; gunite mach.; refrig.; jumbo form or drlg.; stage; slusher; concr. paving spreader; pumpcrete mach.; grout pump oper.;

(8) Group VIII: +$0.35: mine hoist; bulldozer (multiple units); scraper (multiple units); mucking mach.; backhoe, clamshell, dragline, gradall, shovel (over 3 CY); cranes (crawler or mobile) over 40 tons;

(9) Group IX: +$0.85: belt loader (CMI type) oper.; pipemobile oper. assistant; derrick, cableway;

(10) Group X: +$1.65: pipemobile operator; mole operator.

Truck driver classification groups and wage spreads for type "A" construction:

(1) Group I: -$0.20: pick-up truck 3/4 ton or under; warehouseman; dump truck, under 8 cubic yards; flatbed, 1 1/2 ton or under;

(2) Group II: (BASE): dump truck, 8 to 16 cubic yards; tank truck, under 6,000 gallons; flatbed, over 1 1/2 ton;

(3) Group III: +$0.20: spreader box (self-propelled); distributor (asphalt) transit mix; lowboy, light equipment; off-highway hauler; tank truck, over 6,000 gallons; dump truck, over 16 cubic yards; trailer semi-trailer dump;

(4) Group IV: +$0.40: diesel-powered transport; lowboy, heavy equipment.

December 4, 2012

AD13-209

Jason John, Acting Branch Director
NAVAJO DEPARTMENT OF WATER RESOURCES
Post Office Box 678
Fort Defiance, Arizona 86504

RE: MARIANO LAKE WATER SYSYTEM IMPROVEMENTS – PHASES 1A AND 1B

Dear Mr. John:

The Office of Navajo Labor Relations (ONLR) received your request for prevailing wage rates for the above reference project. Please find attached the ONLR wage rates which are applicable to the construction project.

Pursuant to the NPEA Section 607(B)(1) "...In all cases where construction is contemplated for which prevailing wage rates have not been set, the contract letting entity shall submit to ONLR a written request for a project prevailing wage scale. Such request shall be submitted not less than 60 days prior to the scheduled date for bid solicitation and shall include detailed information on the anticipated construction classifications, nature' of the project and completion plans...."

The ONLR respectfully requests that Navajo Department of Water Resources to review the requirements of the Navajo Preference in Employment Act (NPEA) before any work begins. If a Pre-Construction Conference is scheduled, the Eastern Agency ONLR Office at (928) 871-6800 is to be notified and a representative will explain the applicable laws to the general contractor and subcontractors, where necessary.

Should you have any questions, contact our office at (928) 871-6800. Thank You.

Sincerely,

Michael Armijo, CEA
OFFICE OF NAVAJO LABOR RELATIONS

ATTACHMENTS

OFFICE OF NAVAJO LABOR RELATIONS
PREVAILING WAGE

Wage Decision Number: ONLR12-0198P
Date Issued: December 4, 2012

PIPELINE CONSTRUCTION

Pipeline Construction includes the construction, demolition, rehabilitation or repairs of gas, oil and water pipelines, gas and oil pumping stations and compressor stations work.

MARIANO LAKE WATER SYSTEM IMPROVEMENTS – PHASES 1A AND 1B
NAVAJO DEPARTMENT OF WATER RESOURCES

Effective January 1, 2012

Trade Classifications:	Hourly Rate:
Carpenter	$ 21.96
Electrician	$ 19.71
Grouting Technician	$ 20.15
Insulator	$ 19.31
Ironworker	$ 20.63
Laborer	$ 16.50
Painter	$ 17.03
Plumber/Pipefitter	$ 21.39
Sheet Metal Worker	$ 20.91
Welder	$ 32.15
Rig time will be determined between Employer and Employee(s) at time of need.	
Welder's Helper	$ 21.15
Truck Drivers:	**Hourly Rate:**
Truck/Trailer	$ 18.00
Equipment Operators:	**Hourly Rate:**
Backhoe	$ 19.00
Boom	$ 25.96
Bulldozer	$ 19.59
Crane	$ 21.23
Forklift	$ 18.83
Front End Loader	$ 19.15
Motor Grader	$ 20.00
Track Hoe	$ 21.00

Trencher	$ 20.00

The rates listed above are required minimum ONLR Prevailing Wage Rates. Contractors may pay rates above these rates. The ONLR Director will add wage rates for unlisted classifications needed for work only after review and approval. Overtime is one and one - half time the basic rate for hours worked over forty hours in one week. Foremen will receive an additional $2.50 per hour. **Where federal funds are involved, the Davis-Bacon rates apply.** Other exceptions may apply in accordance with the *Navajo Preference in Employment Act (NPEA),* Section 7(E). Apprentices must be enrolled in a recognized apprenticeship program as required by Section 7(A)(6) of the NPEA. The appropriate apprenticeship program as outlined by the NPEA Section 7(E)(7) will govern wage rates for such apprentices. These wages apply only to the **MARIANO LAKE WATER SYSTEM IMPROVEMENTS – PHASES 1A AND 1B** construction projects.

APPROVED:

Reynold R. Lee, Director

12.4.12
Date

cc: Gililand Damon, Labor Compliance Officer, Crownpoint ONLR Office

REVISED 1/1/2012marmijo

Office of Navajo Labor Relations
Pre-construction Conference Presentation

Office of Navajo Labor Relations
Pre-construction Conference Presentation

Many questions do arise when ONLR conducts an orientation, and some presenters will allow participants to ask questions only until the presentation is completed. However, in my presentation, you may pose a question for clarification at any time, which will enable you to comprehend and fully comply with the requirements of the Navajo Preference in Employment Act with respect to this project.

Office of Navajo Labor Relations

- Is mandated to monitor and enforce the Navajo Preference in Employment Act;
- is responsible for implementing and carrying out the labor policies of the Navajo Nation;
- Acts as an administrative agency for matters relating to employment;
- Gathers information relating to employment; and
- Recommends and proposes policies, rules, regulations, and specific Navajo preference plans to the Human Services Committee of the Navajo Nation Council

Office of Navajo Labor Relations

- Administration: 928.871.6800
- Fort Defiance Agency: 928.871.7429
- Eastern Agency: 928.871.7431
- Central Agency: 928.674.2214
- Northern Agency: 505.368.1142
- Tuba City Agency: 928.283.3100
- Kayenta Agency: 928.697.5645

Navajo Preference in Employment Act with respect to jurisdiction

- All employers doing business within the Navajo Nation or having a contract with the Navajo Nation are required to fully abide by the Navajo Preference in Employment Act
- Within the Navajo Nation there are various employers e.g. the Navajo Nation Government; Navajo Nation Entities (NTUA, NHA etc.); and private employers (Mining Companies, Construction Contractors, etc.).
- Employers in communities outside the Navajo Nation that are dependent on the Navajo Nation for services e.g. Fire Dept, Police Dept, etc.

Contractors' Responsibilities

- Comply with each provision of the Navajo Preference in Employment Act
- Give preference in employment to enrolled members of the Navajo Nation
- Compensate its workers in accordance with the project's established wage rates
- Submit information and/or documents to the ONLR

Give preference in employment to enrolled members of the Navajo Nation

- Utilize Navajo Nation employment sources and job services for employee recruitment and referrals (Section 4.B)
- Advertise all vacancies in one newspaper covering the Navajo Nation Section (Section 4.B.);
- Advertise all vacancies in one radio station covering the Navajo Nation (Section 4.B.);
- Specify a Navajo employment preference policy statement in all job announcements and advertisements (Section 4.B.);

Compliance with the Navajo Preference in Employment Act

- Post in a conspicuous place on its premises for its employees and applicants a Navajo preference policy notice (Section 4.B);
- Use non-discriminatory job qualifications and selection criteria in employment (Section 4.B);
- Not penalize, discipline, discharge not take any adverse action against any employee without just cause (Section 4.B);
- Issue a written notification to the employee for any and all actions e.g. employment termination, etc. taken against the employee (Section 4.B);

Compliance with the Navajo Preference in Employment Act

- Maintain a safe and clean working environment and provide employment conditions which are free of prejudice, intimidation and/or harassment (Section 4.B)
- Establish written necessary qualifications for each employment position to be utilized on the project; (Section 4.D);
- Provide to applicants and or candidates a copy of the written necessary qualifications at the time they express an interest in such position (Section 4.D);
- Post in a conspicuous place on its premises a copy of the Project Wage Determination (Section 4.B);

Compensate its employees in accordance with the established Project Wage Determination

- Federally Funded Projects – Davis Bacon Wage Determination;
- State Funded Projects – State Wage Determination;
- Privately Funded Projects – Navajo Nation Wage Determination; and
- Navajo Nation Funded Projects – Navajo Nation Wage Determination.

Compliance with the Navajo Preference in Employment Act

- Irrespective of the qualification of any non-Navajo applicant or candidate, any Navajo applicant or candidate who demonstrates the necessary qualifications for an employment position: 1.) shall be selected by the employer in the case of hiring, promotion, transfer, upgrading, recall and other employment opportunities with respect to such position; and 2.) shall be retained by the employer in the case of a reduction-in-force affecting such class of positions until all non-Navajos employed in that class of positions are laid-off
- Among a pool of applicants or candidates who are solely Navajo and meet the necessary qualifications, the Navajo with the best qualifications shall be selected or retained.

Give preference in employment to enrolled members of the Navajo Nation

- 1st preference: enrolled members of the Navajo Nation (census number)
- 2nd preference: non-Navajo spouses (a non-Navajo who is legally married to a Navajo by proof of marriage by a valid marriage certificate and who has resided within the territorial jurisdiction of the Navajo Nation for one continuous year preceding the application for Navajo preference consideration)
- 3rd preference: all others

Submit required information and/or documents to ONLR

- List of Key personnel – these positions are usually the Project Superintendent and/or an individual with signatory authority. The contractor will be required to justify other positions not normally considered "key" personnel (Project Superintendent on down)
- Manpower Projection Report – must be submitted two weeks prior to the project commencing;
- Weekly Manpower Report – must be submitted on a weekly basis;
- Certified Payroll Report – must be attached to the Weekly Manpower Report;
- Project Completion Report – must be submitted two week prior to ending work on the project;

Submit required information and/or documents to ONLR

- Copies of advertisements (radio and newspaper)
- Copy of job orders / request for referrals submitted to employment agencies covering the Navajo Nation
- Job Descriptions – for each position to be utilized on the project, which shall include necessary qualifications and the duties & responsibilities for the position;
- Interview sheets – name of applicant, date of interview, interviewer, hired/not hired (reasons), and N/NN
- Subcontractor listing – name and address of contact person, phone number, brief description of work to be performed and duration of subcontract work;

Submit required information and/or documents to ONLR

- Navajo Affirmative Action Plan – Within 90 days after an employer commences business within the territorial jurisdiction of the Navajo Nation, the employer shall file with ONLR a written Navajo affirmative action plan. In any case where a labor organization represents employees of the employer, the plan shall be jointly filed by the employer and labor organization. Any such associated labor organization shall have obligations equivalent to those of the employer as to employees represented by such organization. (Note: the NAAP shall be submitted two weeks prior to commencing work)

Submit required information and/or documents to ONLR

- An employer-sponsored cross-cultural program shall be an essential part of the affirmative actions plans - Such program shall primarily focus on the education of management and supervisory personnel regarding the cultural and religious traditions or beliefs of Navajos and their relationship to the development of employment policies which accommodate such traditions and beliefs.
- Training – shall be an integral part of the specific affirmative action plans or activities for Navajo Preference in employment
- Affirmative Action Regulations – (for submitting the NAAP)

Thank You!

Remember!

Do not hesitate to contact

any of our offices should a question arise

THE NAVAJO PREFERENCE IN EMPLOYMENT ACT

(Amended August 1, 1985)
(Amended October 25, 1990)

The Office of Navajo Labor Relations
The Navajo Nation
P.O. Drawer 1943
Window Rock, Arizona 86515
Phone (928) 871-6800/6801

CO-73-90

Class "C" Resolution
No BIA Action Required.
Executive Branch Action
Necessary

RESOLUTION OF THE
NAVAJO NATION COUNCIL

Amending the Navajo Preference in Employment Act,
Title 15, Chapter 7 of the Navajo Tribal Code

WHEREAS:

1. The Navajo Nation Council is the governing body of the Navajo Nation, 2 N.T.C., Section 102; and

2. The ability of members of the Navajo Nation to secure and retain employment within the territorial jurisdiction implicates the health, safety and welfare of the Nation; and

3. Pursuant to an Executive Order, dated February 24, 1986, the Navajo Labor Investigative Task Force was created to assess and investigate labor issues important to the Nation; and

4. By Executive Order dated November 17, 1989, the Navajo Labor Investigative Task Force was reconstituted and its authority to investigative labor matters pursuant to the 1986 Executive Order was reaffirmed; and

5. During the course of its investigation, the Navajo Labor Investigative Task Force received comments in various forms concerning labor matters as well as company and union officials. The Task Force incorporated its findings into a document, entitled Report to the Navajo Nation Council Regarding the Proposed Amendments to the Navajo Preference in Employment Act. Based on these findings and the comments received from the interested public, the Task Force proposed that the Navajo Preference in Employment Act (15 N.T.C., Section 601, et. seq.) be amended; and

6. The Navajo Labor Investigative Task Force presented its report, minutes of public meetings it conducted and proposed amendments to the Navajo Preference Act to the Human Services Committee of the Navajo Nation Council; and

7. Pursuant to its powers to recommend legislation on labor matters (2 N.T.C., Section 604(b)(3)), the Human Services Committee of the Navajo Nation Council by Resolution HSC-0024-91 dated September 26, 1990, adopted the Report to the Navajo Nation Council Regarding the Proposed Amendments to the Navajo Preference in Employment Act and recommended that the Navajo Nation Council enact into law, the Proposed Amendments to the Navajo Preference in Employment Act. (Resolution attached hereto as Exhibit "A")

NOW THEREFORE BE IT RESOLVED THAT:

The Navajo Nation Council hereby repeals in its entirety, Title 15, Chapter 7 of the Navajo Tribal Code and enacts in its place, the amendments to Title 15, Chapter 7 of the Navajo Tribal Code, attached hereto as Exhibit "B", with the exception of Section 6 (B).

CERTIFICATION

I hereby certify that the foregoing resolution was duly considered by the Navajo Nation Council at a duly called meeting at Window Rock, Navajo Nation (Arizona), at which a quorum was present and that same was passed by a vote of 63 in favor, 0 opposed and 9 abstained, this 25th day of October 1990.

Speaker
Navajo Nation Council

October 29, 1990
Date Signed

ACTION BY THE EXECUTIVE BRANCH

1. Pursuant to 2 N.T.C., Section 1005 (c)(1), I hereby sign into law the foregoing legislation this 5th day of November, 1990:

Leonard Haskie, Interim President
Navajo Nation

* * * *

2. Pursuant to 2 N.T.C., Section 1005 (c)(10), I hereby veto the ~~foregoing~~ legislation this _____ day of _____ 1990 for the reason(s) expressed in the attached letter to the Speaker:

Leonard Haskie, Interim President
Navajo Nation

NAVAJO PREFERENCE IN EMPLOYMENT ACT
AMENDED OCTOBER 1990

Section 1. TITLE

A. This Act shall be cited as the Navajo Preference in Employment Act and is hereby codified as Title 15 Chapter 7 of the Navajo Tribal Code.

Section 2. PURPOSE

A. The purposes of the Navajo Preference in Employment Act are:

1. To provide employment opportunities for the Navajo work force;

2. To provide training for the Navajo people;

3. To promote the economic development of the Navajo Nation;

4. To lessen the Navajo Nation's dependence upon off reservation sources of employment, income, goods and services;

5. To foster the economic self-sufficiency of Navajo families; and

6. To protect the health, safety, and welfare of Navajo workers;

7. To foster cooperative efforts with employers to assure expanded employment opportunities for the Navajo work force.

B. It is the intention of the Navajo Nation that the provisions of this Act be construed and applied to accomplish the purposes set forth above.

Section 3. DEFINITIONS

1. The term "Commission" shall mean the Navajo Nation Labor Commission.

2. The term "employment" shall include, but is not limited to, the recruitment, hiring, promotion, transfer, training, upgrading, reduction-in-force, retention, and recall of employees.

3. The term "employer" shall include all persons, firms, associations, corporations, and the Navajo Nation and all of its agencies and instrumentalities, who engage the services of any person for compensation, whether as employee, agent, or servant.

4. The term "Navajo" means any enrolled member of the Navajo Nation.

5. The term "ONLR" means the Office of Navajo Labor Relations.

6. The term "probable cause" shall mean a reasonable ground for belief in the existence of facts warranting the proceedings complained of.

7. The term "territorial jurisdiction" means the territorial jurisdiction of the Navajo Nation as defined in 7 NTC §254.

8. The term "counsel" or "legal counsel" shall mean (a) a person who is an active member in good standing of the Navajo Nation Bar Association and duly authorized to practice law in the courts of the Navajo Nation; and (b) for the sole purpose of co-counselling in association with a person described in clause (a), an attorney duly authorized, currently licensed and in good standing to practice law in any State of the United States who has, pursuant to written request demonstrating the foregoing qualifications and good cause, obtained written approval of the Commission to appear and participate as co-counsel in a particular Commission proceeding.

9. The term "necessary qualifications" shall mean those job-related qualifications which are essential to the performance of the basic responsibilities designated for each employment position, including any essential qualifications concerning education, training and job-related experience, but excluding any qualifications relating to ability or aptitude to perform responsibilities in other employment positions. Demonstrated ability to perform essential and basic responsibilities shall be deemed satisfaction of necessary qualifications.

10. The term "qualifications" shall include the ability to speak and/or understand the Navajo language, and familiarity with Navajo culture, customs and traditions.

11. The term "person" shall include individuals; labor organizations; tribal, federal, state and local governments, their agencies, subdivisions, instrumentalities and enterprises; and private and public, profit and non-profit, entities of all kinds having recognized legal capacity or authority to act, whether organized as corporations, partnerships, associations, committees or in any other form.

12. The term "employee" means an individual employed by an employer.

13. The term "employment agency" means a person regularly undertaking, with or without compensation, to procure employees for an employer or to obtain for employees opportunities to work for an employer.

14. The term "labor organization" or "union" means an organization in which employees participate or by which employees are represented and which exists for the purpose, in whole or in part, of dealing with employers concerning grievances, labor disputes, wages, rates of pay, hours or other terms and conditions of employment, including a national or international labor organization and any subordinate conference, general committee, joint or system board, or joint council.

15. The term "petitioner" means a person who files a complaint seeking to initiate a Commission proceeding under the Act.

16. The term "respondent" means the person against whom a complaint is filed by a petitioner.

17. The term "Act" means the Navajo Preference in Employment Act.

Section 4. NAVAJO EMPLOYMENT PREFERENCE

A. All employers doing business within the territorial jurisdiction of the Navajo Nation, or engaged in any contract with the Navajo Nation shall:

1. Give preference in employment to Navajos. Preference in employment shall include specific Navajo affirmative action plans and timetables for all phases of employment to achieve the tribal goal of employing Navajos in all job classifications including supervisory and management positions.

2. Within 90 days after the later of the effective date of this Section 4(A)(2) or the date on which an employer commences business within the territorial jurisdiction of the Navajo Nation, the employer shall file with ONLR a written Navajo affirmative action plan which complies with this Section and other provisions of the Act. In any case where a labor organization represents employees of the employer, the plan shall be jointly filed by the employer and labor organization. Any such associated labor organization shall have obligations under this Section equivalent to those of the employer as to employees represented by such organization. Failure to file such a plan within the prescribed time limit, submission of a plan which does not comply with the requirements of the Act, or failing to implement or comply with the terms of a conforming plan shall constitute a violation of the Act. In the event of a required joint plan by an employer and associated labor organization, only the non-complying party shall be deemed in violation of the Act, as long as the other party has demonstrated a willingness and commitment to comply with the Act.

3. Subject to the availability of adequate resources, ONLR shall provide reasonable guidance and assistance to employers and associated labor organizations in connection with the development and implementation of a Navajo affirmative action plan. Upon request, ONLR shall either approve or disapprove any plan, in whole or in part. In the event of approval thereof by ONLR, no Charge shall be filed hereunder with respect to alleged unlawful provisions or omissions in the plan, except upon 30 days prior written notice to the employer and any associated labor organization to enable voluntary correction of any stated deficiencies in such plan. No Charge shall be filed against an employer and any associated labor organization for submitting a non-conforming plan, except upon 30 days prior notice by ONLR identifying deficiencies in the plan which require correction.

Specific Requirements for Navajo Preference

1. All employers shall include and specify a Navajo employment preference policy statement in all job announcements and advertisements and employer policies covered by this Act.

2. All employers shall post in a conspicuous place on its premises for its employees and applicants a Navajo preference policy notice prepared by ONLR.

3. Any seniority system of an employer shall be subject to this Act and all other labor laws of the Navajo Nation. Such a seniority system shall not operate to defeat nor prevent the application of the Act; provided, however, that nothing in this Act shall be interpreted as invalidating an otherwise lawful and bona fide seniority system which is used as a selection or retention criterion with respect to any employment opportunity where the pool of applicants or candidates is exclusively composed of Navajos or non-Navajos.

4. The Navajo Nation when contracting with the federal or state government or one of its entities shall include provisions for Navajo preference in all phases of employment as provided herein. When contracting with any federal agency, the term Indian preference may be substituted for Navajo preference for federal purposes; provided that any such voluntary substitution shall not be construed as an implicit or express waiver of any provision of the Act nor a concession by the Navajo Nation that this Act is not fully applicable to the federal contract as a matter of law.

5. All employers shall utilize Navajo Nation employment sources and job services for employee recruitment and referrals; provided, however, that employers do not have the foregoing obligations in the event a Navajo is selected for the employment opportunity who is a current employee of the employer.

6. All employers shall advertise and announce all job vacancies in at least one newspaper and radio station serving the Navajo Nation; provided, however, that employers do not have the foregoing obligations in the event a Navajo is selected for the employment opportunity who is a current employee of the employer.

7. All employers shall use non-discriminatory job qualifications and selection criteria in employment.

8. All employers shall not penalize, discipline, discharge nor take any adverse action against any Navajo employee without just cause. A written notification to the employee citing such cause for any of the above actions is required in all cases.

9. All employers shall maintain a safe and clean working environment and provide employment conditions which are free of prejudice, intimidation and harassment.

10. Training shall be an integral part of the specific affirmative action plans or activities for Navajo preference in employment.

11. An employer-sponsored cross-cultural program shall be an essential part of the affirmative action plans required under the Act. Such program shall primarily focus on the education of non-Navajo employees, including management and supervisory personnel, regarding the cultural and religious traditions or beliefs of Navajos and their relationship to the development of employment policies which accommodate such traditions and beliefs. The cross-cultural program shall be developed and implemented through a process which involves the substantial and continuing participation of an employer's Navajo employees, or representative Navajo employees.

12. No fringe benefit plan addressing medical or other benefits, sick leave program or any other personnel policy of an employer, including policies jointly maintained by an employer and associated labor organization, shall discriminate against Navajos in terms or coverage as a result of Navajo cultural or religious traditions or beliefs. To the maximum extent feasible, all of the foregoing policies shall accommodate and recognize in coverage such Navajo traditions and beliefs.

C. Irrespective of the qualifications of any non-Navajo applicant or candidate, any Navajo applicant or candidate who demonstrates the necessary qualifications for an employment position:

1. Shall be selected by the employer in the case of hiring, promotion, transfer, upgrading, recall and other employment opportunities with respect to such position; and

2. Shall be retained by the employer in the case of a reduction-in-force affecting such class of positions until all non-Navajos employed in that class of positions are laid-off, provided that any Navajo who is laid-off in compliance with this provision shall have the right to displace a non-Navajo in any other employment position for which the Navajo demonstrates necessary qualifications.

Among a pool of applicants or candidates who are solely Navajo and meet the necessary qualifications, the Navajo with the best qualifications shall be selected or retained, as the case may be.

D. All employers shall establish written necessary qualifications for each employment position in their work force, a copy of which shall be provided to applicants or candidates at the time they express an interest in such position.

SECTION 5. REPORTS

All employers doing business or engaged in any project or enterprise within the territorial jurisdiction of the Navajo Nation or pursuant to a contract with the Nation shall submit employment information and reports as required to ONLR. Such reports, in a form acceptable to ONLR, shall include all information necessary and appropriate to determine compliance with the provisions of this Act. All reports shall be filed with ONLR not later than 10 business days after the end of each calendar quarter, provided that ONLR shall have the right to require filing of reports on a weekly or monthly schedule with respect to part-time or full-time temporary employment.

SECTION 6. UNION AND EMPLOYMENT AGENCY ACTIVITIES/RIGHTS OF NAVAJO WORKERS

A. Subject to lawful provisions of applicable collective bargaining agreements, the basic rights of Navajo workers to organize, bargain collectively, strike, and peaceable picket to secure their legal rights, shall not be abridged in any way by any person. The right to strike and picket does not apply to employees of the Navajo Nation, its agencies, or enterprises.

B. It shall be unlawful for any labor organization, employer or employment agency to take any action, including action by contract, which directly or indirectly causes or attempts to cause the adoption or use of any employment practice, policy or decision which violates the Act.

SECTION 7. NAVAJO PREVAILING WAGE

A. Definitions. For purposes of this Section, the following terms shall have the meanings indicated:

1. The term "prevailing wage" shall mean the wage paid to a majority (more than 50 percent) of the employees in the classification on similar construction projects in the area during a period not to exceed 24 months prior to the effective date of the prevailing wage rate set hereunder; provided that in the event the same wage is not paid to a majority of the employees in the classification, "prevailing wage" shall mean the average of the wages paid, weighted by the total number of employees in the classification.

2. The term "prevailing wage rate" shall mean the rate established by ONLR pursuant to this Section.

3. The term "wage" shall mean the total of:

(A) the basic hourly rate; and

(B) the amount of (i) contributions irrevocably made by a contractor or

subcontractor to a trustee or to a third person pursuant to a bona fide fringe benefit fund, plan or program for the benefit of employees and (ii) costs to the contractor or subcontractor which may be reasonably anticipated in providing bona fide fringe benefits to employees pursuant to an enforceable commitment to carry out a financially responsible plan or program which was communicated in writing to the employees affected. The types of fringe benefits contemplated hereunder include medical or hospital health care, pensions on retirement or death, compensation for injuries or illness resulting from occupational activity, or insurance to provide any of the foregoing; unemployment benefits; life insurance, disability insurance, sickness insurance, or accident insurance; vacation or holiday pay; defraying costs of apprenticeship or other similar programs; or other bona fide fringe benefits.

4. The term "area" in determining the prevailing wage means the geographic area within the territorial jurisdiction of the Navajo Nation; provided that in the event of insufficient similar construction projects in the area during the period in question, "area" shall include the geographic boundaries of such contiguous municipal, county or state governments as ONLR may determine necessary to secure sufficient wage information on similar construction projects.

5. The term "classifications" means all job positions in which persons are employed, exclusive of classifications with assigned duties which are primarily administrative, executive or clerical, and subject to satisfaction of the conditions prescribed in Sections (E)(7) and (8), exclusive of "apprentice" and "trainee" classifications as those terms are defined herein.

6. "Apprentice" means (a) a person employed and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with an Apprenticeship Agency administered by a State or Indian Tribe and recognized by the Bureau, or (b) a person in the first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State or Tribal Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

7. "Trainee" means a person registered and receiving on-the-job training in a construction occupation under a program which has been approved in advance by the U.S. Department of Labor, Employment and Training Administration, as meeting its standards for on-the-job training programs and which has been so certified by that Administration, or (b) employed and/or receiving on-the-job training under a public employment or work experience program which is approved and funded by the Navajo Nation.

8. The term "construction" shall mean all activity performed under a contract which relates to (a) the building, development, rehabilitation, repair, alteration or installation of structures and improvements of all types, including without limitation buildings, bridges, dams, plants, highways, sewers, water mains, powerlines and other structures; (b) drilling, blasting, excavating, clearing and landscaping, painting and decorating; (c) transporting materials and supplies to or from the site of any of the activities referred to in (a) or (b) by employees of the contractor or subcontractor; and (d) manufacturing or finishing materials, articles, supplies or equipment at the construction site of any of the foregoing activities by employees of the contractor or subcontractor.

9. The term "contract" shall mean the prime construction contract and all subcontracts of any tier thereunder entered into by parties engaged in commercial, business or governmental activities (whether or not such activities are conducted for profit).

B. Establishment

1. For all construction reasonably anticipated to occur in the area on a regular basis, ONLR shall establish a general prevailing wage rate for each classification within specified types of construction. ONLR shall define classifications and types of construction in accordance with guidelines generally recognized in the construction industry. In all cases where construction is contemplated for which prevailing wage rates have not been set, the contract letting entity shall submit to ONLR a written request for a project prevailing wage scale. Such request shall be submitted not less than 60 days prior to the scheduled date for bid solicitation and shall include detailed information on the anticipated construction classifications, nature of the project and completion plans. ONLR shall use its best efforts to provide a project prevailing wage scale, for each classification involved in the project construction, within 60 days after receipt of a request therefor.

2. In setting prevailing wage rates, ONLR shall conduct such surveys and collect such data as it deems necessary and sufficient to arrive at a wage determination. Wage data may be collected from contractors, contractors' associations, labor organizations, public officials and other sources which reflect wage rates paid in classifications on types of construction in the area, including the names and addresses of contractors and subcontractors; the locations, approximate costs, dates and types of construction; the number of workers employed in each classification on the project; and the wage rates paid such workers. Wage rate data for the area may be provided, and considered in making wage determinations, in various forms including signed statements, collective bargaining agreements and prevailing wage rates established by federal authorities for federally-assisted construction projects.

3. Any classification of workers not listed in a prevailing wage rate and which is to be used under a construction contract shall be classified in conformance

with the prevailing wage determination issued and applicable to the project; provided that an additional classification and prevailing wage rate therefor will be established in the event each of the following criteria are satisfied:

(a) The work performed by the proposed classification is not performed by a classification within the existing prevailing wage scale;

(b) The proposed classification is utilized in the area by the construction industry; and

(c) The wages set for the proposed classification bear a reasonable relationship to the wage rates contained in the existing scale for other classifications.

4. (a) Subject to the prior written approval thereof by the Director of ONLR, a general prevailing wage rate shall be effective on the date notice of such rate is published in a newspaper in general circulation in the Navajo Nation. The notice shall contain the following information:

(i) The fact a prevailing wage rate has been set and approved in writing by the Director of ONLR;

(ii) The type of construction for which the rate was established;

(iii) The effective date, described as the date of publication of the notice or other specified date;

(iv) The address and telephone number of ONLR; and

(v) A statement that ONLR will provide a copy of the full wage determination on request, and respond to any reasonable questions regarding such determination or its application.

General prevailing wage rates shall continue in effect until such time as any modifications are adopted.

(b) A prevailing wage rate for a particular project shall be effective on the date of issuance to the requesting party of a written wage determination approved by the Director of ONLR. The wage determination shall continue in effect for the duration of the project; provided that any such determination may be modified by ONLR in the event the period of time from the effective date of the determination to the date bids are solicited exceeds 180 days and the estimated date of completion of the project is more than one year after the effective date of the determination.

(c) Project and general wage determinations may be modified from time to time, in whole or in part, to adjust rates in conformity with current conditions, subject to the special conditions applicable to project determinations. Such modifications become effective upon the same terms and conditions which are applicable to original determinations.

(d) Fringe Benefits. The fringe benefit amount of wages reflected in a prevailing wage rate shall be paid in cash to the employee, and shall not be deducted from such employee's wages, unless each of the following conditions is satisfied:

(i) The deduction is not contrary to applicable law;

(ii) A voluntary and informed written consent authorizing the deduction is obtained from the employee in advance of the period in which the work is to be done and such consent is not a condition either for the obtaining or continuing employment;

(iii) No profit or other benefit is obtained as a result of a deduction, directly or indirectly, by the contractor, subcontractor or any person affiliated with them in the form of a commission, dividend or other consideration; and

(iv) The deduction serves the convenience and interests of the employee.

D. 1. No contract-letting entity, contractor or subcontractor shall proceed with a construction contract subject to this Section in the absence of a contractual requirement for payment of prevailing wages pursuant to a specified wage determination issued by ONLR. Violation of this obligation shall render the contract-letting entity, and the employer contractor or subcontractor, jointly and severally liable for the difference between wages actually paid and the prevailing wage rate, together with interest thereon (or if no prevailing wage rates have been set, such wage rate as may be issued by ONLR during the course, or after the completion, of the construction project).

2. Failure by any employer, contractor or subcontractor to pay prevailing wages shall render such employer liable for the difference between the amount of wages actually paid and the prevailing rate, together with interest thereon.

3. Any deduction of fringe benefits by an employer contractor or subcontractor in violation of Section 7(C) shall render such employer liable for the amount of such deduction, together with interest thereon.

4. Upon written request of ONLR, a contract-letting entity or contractor, as the case may be, shall withhold from any monies payable on account of work performed by an employer contractor or subcontractor under a construction

contract such sums as may be determined by ONLR as necessary to satisfy any liabilities of such contractor or subcontractor for unpaid prevailing wages or wrongful deduction of fringe benefits.

5. If following a hearing under Section 11 a contract-letting entity (other than the Navajo Nation), contractor or subcontractor is found to have willfully violated this Section the Commission may enter a debarment order disqualifying such party from receiving any contract, or subcontract thereunder, with the Navajo Nation for a period not to exceed three years.

6. The liabilities described in this Section 7(D) shall not foreclose the Commission from awarding such other relief or imposing such other civil penalties as may be appropriate following a hearing conducted under Section 11.

E. Exemptions. This Section shall not apply to:

1. A contract associated with a construction activity which relates to the provision of architect, engineer, legal or consultant services, or, except as provided under Section 7(A)(8)(d), the manufacturing or furnishing of materials or performance of services and maintenance work by persons not employed by a prime contractor or any of its subcontractors.

2. A construction contract relating to a project having a total cost of $2,000 or less.

3. A construction contract which is let by a natural person who is an owner or person legally authorized to let such contract, for such person's personal, family or household purposes.

4. A construction contract to the extent the work thereunder is performed by employees of the owner, or employees of the person or entity legally authorized to let the prime contract.

5. A construction contract for a project receiving federal financial assistance to the extent the prevailing wage is set by federal authorities pursuant to the Davis-Bacon Act, 40 U.S.C. §§ 276a et seq. (as amended), or other federal law applicable to such project.

6. A construction contract to the extent such contract requires payment of wages pursuant to a wage scale established under a collective bargaining agreement between any contractor or subcontractor and a labor organization.

7. With the exception of the provisions of Section 7(C), an apprentice provided that the apprentice is paid not less than (a) the basic hourly rate prescribed in the registered program for the apprentice's level of progress, expressed as a percentage of the applicable journeyman rate specified in the prevailing

wage rate, and (b) the fringe benefit amount prescribed in the registered program or, if not specified, the fringe benefit amount set in the prevailing wage rate for the applicable journeyman classification. An apprentice who is not enrolled in a registered program (within the meaning of Section 7(A)(6)), shall be paid wages in an amount not less than the level prescribed for the applicable journeyman classification specified in the prevailing wage rate.

8. With the exception of the provisions of Section 7(c), a trainee provided that the trainee is paid not less than (a) the basic hourly rate prescribed in the approved program for the trainee's level of progress, expressed as a percentage of the applicable journeyman rate specified in the prevailing wage rate and (2) the fringe benefit amount prescribed in the approved program or, if not specified and as to federally approved programs only, the fringe benefit amount set in the prevailing wage rate for the applicable journeyman classification. A trainee who is not enrolled in an approved program (within the meaning of Section 7(A)(8)), shall be paid wages in an amount not less than the level prescribed for the applicable journeyman classification specified in the prevailing wage rate.

SECTION 8. HEALTH AND SAFETY OF NAVAJO WORKERS

Employers shall, with respect to business conducted within the territorial jurisdiction of the Navajo Nation, adopt and implement work practices which conform to occupational safety and health standards imposed by law.

SECTION 9. CONTRACT COMPLIANCE

A. All transaction documents, including without limitation, leases, subleases, contracts, subcontracts, permits, and collective bargaining agreements between employers and labor organizations (herein collectively "transaction documents") which are entered into by or issued to any employer and which are to be performed within the territorial jurisdiction of the Navajo Nation shall contain a provision pursuant to which the employer and any other contracting party affirmatively agree to strictly abide by all requirements of this Act. With respect to any transaction document which does not contain the foregoing provision, the terms and provisions of this Act are incorporated therein as a matter of law and the requirements of the Act shall constitute affirmative contractual obligations of the contracting parties. In addition to the sanctions prescribed by the Act, violation of the Act shall also provide grounds for the Navajo Nation to invoke such remedies for breach as may be available under the transaction document or applicable law. To the extent of any inconsistency or conflict between a transaction document and the Act, the provision of the transaction document in question shall be legally invalid and unenforceable and the Act shall prevail and govern the subject of the inconsistency or conflict.

B. Every bid solicitation, request for proposals and associated notices and advertisements which relate to prospective contracts to be performed within the

territorial jurisdiction of the Navajo Nation shall expressly provide that the contract shall be performed in strict compliance with this Act. With respect to any such solicitation, request, notice or advertisement which does not contain the foregoing provision, the terms and provisions of this Act are incorporated therein as a matter of law.

SECTION 10. MONITORING AND ENFORCEMENT

A. Responsible Agency. Compliance with the Act shall be monitored and enforced by ONLR.

B. Charges.

1. Charging Party. Any Navajo may file a charge ("Individual Charge") claiming a violation of his/her rights under the Act. ONLR, on its own initiative, may file a charge ("ONLR Charge") claiming a violation of rights under the Act held by identified Navajos or a class of Navajos, including a claim that respondent is engaging in a pattern of conduct or practice in violation of rights guaranteed by the Act. An Individual Charge and ONLR Charge are collectively referred to herein as a "Charge".

2. Form and Content. A Charge shall be in writing, signed by the charging party (which shall be the Director of ONLR in the case of an ONLR Charge), and contain the following information:

(a) The name, address and any telephone number of the charging party;

(b) The name and address or business location of the respondent against whom the Charge is made;

(c) A clear and concise statement of the facts constituting the alleged violation of the Act, including the dates of each violation and other pertinent events and the names of individuals who committed, participated in or witnessed the acts complained of;

(d) With respect to a Charge alleging a pattern or practice in violation of the Act, the period of time during which such pattern or practice has existed and whether it continues on the date of the Charge;

(e) The specific harm sustained by the charging party in the case of an Individual Charge or the specific harm sustained by specified Navajos or a class of Navajos with respect to an ONLR Charge; and

(f) A statement disclosing whether proceedings involving the alleged violation have been initiated before any court or administrative agency or within any grievance process maintained by the respondent, including the date of commencement, the court, agency or process and the status of the proceeding.

ONLR shall provide assistance to persons who wish to file Individual Charges. Notwithstanding the foregoing provisions, a Charge shall be deemed sufficient if it contains a reasonably precise identification of the charging party and respondent, and the action, pattern or practice which are alleged to violate the Act.

3. Place of Filing. Individual Charges may be filed in any office of ONLR. An ONLR Charge shall be filed in ONLR's administrative office in Window Rock.

4. Date of Filing. Receipt of each Individual Charge shall be acknowledged by the dated signature of an ONLR employee which shall be deemed the date on which the Individual Charge is filed. The date on which an ONLR Charge is signed by the ONLR Director shall be deemed the date of filing for such Charge.

5. Amendment. A Charge may be amended by filing, in the office where the Charge was first submitted, a written instrument which sets forth the amendment and any portions of the original Charge revised thereby. To the extent the information reflected in the amendment arose out of the subject matter of the original Charge, the amendment shall relate back and be deemed filed as of the filing date of such Charge. Any portion of the amendment which does not qualify for relation back treatment shall constitute a new Charge.

6. Time Limitation. A Charge shall be filed within one year after accrual of the claim which constitutes the alleged violation of the Act. The date of accrual of a claim shall be the earlier of

   (a) the date on which the charging party had actual knowledge of the claim, or

   (b) taking into account the circumstances of the charging party, the date on which the charging party should reasonably have been expected to know of the existence of the claim; provided, however, that a Charge relating to a continuing, or pattern or practice, violation of the Act shall be filed within one year after the later of

      (i) the date of termination of such violation, pattern or practice or

      (ii) the date of accrual of the claim to which the Charge relates. Failure to file a Charge within the time limitations prescribed herein shall bar proceedings on the related claim before the Commission or in any Court of the Navajo Nation; provided, however, that nothing herein shall be interpreted as foreclosing proceedings before any Navajo Court or administrative body (other than the Commission) on any claim which also arises

under applicable common, statutory or other law independent of this Act.

7. Notice to Respondent. Within 20 days after a Charge is filed, ONLR shall serve a copy thereof on respondent; provided, however, that if in ONLR's judgment service of a copy of the Charge would impede its enforcement functions under the Act, ONLR may in lieu of a copy serve on respondent a notice of the Charge which contains the date, place and summary of relevant facts relating to the alleged violation, together with the identity of the charging party unless withheld for the reason stated above. Service of any amendment to the Charge shall be accomplished within 20 days after the amendment is filed. Failure of ONLR to serve a copy of a Charge or notice thereof within the prescribed time period shall not be a ground for dismissal of the Charge or any subsequent proceedings thereon.

8. Withdrawal of Charge.

   (a) ONLR may, in its discretion, withdraw any ONLR Charge upon written notice thereof to respondent and each person identified in the Charge whose rights under the Act were alleged to have been violated. Any person receiving notice of withdrawal or any other person who asserts a violation of his/her rights as a result of the violation alleged in the withdrawn ONLR Charge may file an Individual Charge which, if filed within 90 days after the issuance date of ONLR's withdrawal notice, shall relate back to the filing date of the ONLR Charge.

   (b) Any charging party may, in his/her discretion, withdraw an Individual Charge by filing a written notice of withdrawal with the ONLR office where the Charge was submitted, with a copy thereof filed with the ONLR administrative office in Window Rock. ONLR shall, within 20 days after receiving the notice, transmit a copy to the respondent. Within 90 days after receipt of the withdrawal notice, ONLR may file an ONLR Charge relating in whole or part to the violations alleged in the withdrawn Individual Charge. Any filing of an ONLR Charge within the prescribed time period shall relate back to the filing date of the withdrawn Charge.

9. Overlapping Charges. Nothing herein shall be construed as prohibiting the filing of any combination of Individual Charges and an ONLR Charge which, in whole or part, contain common allegations of violations of the Act.

10. Informants. Irrespective of whether a person is otherwise eligible to file an Individual Charge, any such person or an organization may in lieu of filing a Charge submit to ONLR written or verbal information concerning alleged violations of the Act and may further request ONLR to file an ONLR Charge thereon. In addition to other limitations on disclosure provided in Section 10(M) and in the absence of the written consent of the informant, neither the

identity of the informant nor any information provided by such informant shall be disclosed to the respondent, agents or legal counsel for the respondent, or the public, either voluntarily by ONLR or pursuant to any discovery or other request for, or order relating to, such information during the course of any judicial or non-judicial proceeding, including a proceeding before the Commission or any subsequent appeal or challenge to a Commission or appellate decision; provided, however, that in the event the informant is called as a witness by ONLR at a Commission proceeding involving the information provided by the informant,

(a) the informant's name may be disclosed, but his/her status as an informant shall remain privileged and confidential and shall not be disclosable through witness examination or otherwise, and

(b) with the exception of the witness status as an informer, information provided by the informant is disclosable in accordance with the procedures outlined under Section 10(M).

C. Investigation of Charges.

1. General. ONLR shall conduct such investigation of a Charge as it deems necessary to determine whether there is probable cause to believe the Act has been violated.

2. Subpoenas.

(a) The Director of ONLR shall have the authority to sign and issue a subpoena compelling the disclosure by any person evidence relevant to a Charge, including a subpoena ordering, under oath as may be appropriate:

(i) The attendance and testimony of witnesses;

(ii) Responses to written interrogatories;

(iii) The production of evidence, including without limitation books, records, correspondence or other documents (or lists or summaries thereof) in the subpoenaed person's possession, custody or control or which are lawfully obtainable by such person; and

(iv) Access to evidence for the purposes of examination and copying. Neither an individual charging party nor a respondent shall have a right to demand issuance of a subpoena prior to the initiation of any proceedings on the Charge before the Commission, in which event subpoenas are issuable only pursuant to the procedures governing such proceedings.

(b) Service of the subpoena shall be effected by one of the methods prescribed in Section 10(O). A subpoena directed to a natural person shall be served either on the person at his/her residence or office address or, in the case of personal delivery, at such residence or office either on the person subpoenaed or on anyone at least eighteen years of age (and in the case of office service, a person who is also an employee of such office). Service of a subpoena directed to any other person shall be addressed or delivered to either the statutory agent (if any) of such person or any employee occupying a managerial or supervisory position at any office of the person maintained within or outside the territorial jurisdiction of the Navajo Nation. Personal service may be performed by a natural person at least eighteen years of age, including an employee of ONLR.

(c) The subpoena shall set a date, time and place for the attendance of a witness, or production of or access to evidence, as the case may be, provided that the date for compliance shall be not less than 30 days after the date on which service of the subpoena was effected.

(d) Any person served with a subpoena intending not to fully comply therewith shall, within five business days after service, serve on the Director of ONLR a petition requesting the modification or revocation of the subpoena and identifying with particularity each portion of the subpoena which is challenged and the reasons therefor. To the extent any portion of the subpoena is not challenged, the unchallenged parts shall be complied with in accordance with the terms of the subpoena as issued. The ONLR Director shall issue and serve on petitioner a decision and reasons therefor within eight business days following receipt of the petition, and any failure to serve a decision within such period shall be deemed a denial of the petition. In the event the Director's decision reaffirms any part of the subpoena challenged in the petition, the Director may extend the date for compliance with such portion for a period not to exceed 10 business days. Any petitioner dissatisfied with the decision of the ONLR Director shall either

(1) comply with the subpoena (with any modifications thereto reflected in the Director's decision) or

(2) within five business days following receipt of the Director's decision or the date such decision was due, file a petition with the Commission (with a copy concurrently served on the ONLR Director) seeking modification or revocation of the subpoena and stating with particularity therein each portion of the subpoena challenged and the reasons therefor. A copy of the ONLR Director's decision, if any, shall be attached to the petition.

(e) In the event a person fails to comply with a served subpoena, ONLR may petition the Commission for enforcement of the subpoena. For purposes of awarding any relief to petitioner, the Commission may issue any order appropriate and authorized in a case where it is established that a Commission order has been violated. A copy of the petition shall be concurrently served on the non-complying person.

(f) Beginning on the first day of non-compliance with a subpoena served on a respondent, or any employee or agent of respondent, until the date of full compliance therewith, there shall be a tolling of all periods of limitation set forth in this Section 10.

D. Dismissal of Charges.

1. Individual Charges. ONLR shall dismiss an Individual Charge upon reaching any one or more of the following determinations:

(a) The Individual Charge, on its face or following an ONLR investigation, fails to demonstrate that probable cause exists to believe a violation of the Act has occurred;

(b) The Individual Charge was not filed within the time limit prescribed by Section 10(B)(6);

(c) The charging party has failed to reasonably cooperate in the investigation of, or attempts to settle, the Individual Charge;

(d) The charging party has refused, within 30 days of receipt, to accept a settlement offer agreed to by respondent and approved by ONLR, which accords substantially full relief for the harm sustained by such party; or

(e) The Charge has been settled pursuant to Section 10(G).

2. ONLR Charges. ONLR shall dismiss an ONLR Charge upon determining that

(a) no probable cause exists to believe a violation of the Act has occurred,

(b) the Charge was not filed within the time limits prescribed by Section 10(B)(6), or

(c) the Charge has been settled pursuant to Section 10(G).

3. Partial Dismissal. In the event a portion of a Charge is dismissable on one or more of the foregoing grounds, only such portion of the Charge

shall be dismissed and the remainder retained by ONLR for final disposition.

4. Notice. Written notice of dismissal, stating the grounds therefor, shall be served on respondent and the individual charging party in the case of an Individual Charge or, in the case of an ONLR Charge, on the respondent and any person known to ONLR who claims to be aggrieved by the violations alleged in such Charge. Such notice shall be accompanied by a right to sue authorization pursuant to Section 10(H).

E. Probable Cause Determination. Following its investigation of a Charge and in the absence of a settlement or dismissal required under Section 10(D), ONLR shall issue written notice of its determination that probable cause exists to believe a violation of the Act has occurred or is occurring. Such notice shall identify each violation of the Act for which probable cause has been found, and copies thereof shall be promptly sent to the respondent, the charging party in the case of an Individual Charge, and, in the case of an ONLR Charge, each person identified by ONLR whose rights are believed to have been violated. Any probable cause determination shall be based on, and limited to, the evidence obtained by ONLR and shall not be deemed a judgment by ONLR on the merits of allegations not addressed in the determination.

F. Conciliation. If, following its investigation of a Charge, ONLR determines there is probable cause to believe the Act has been or is being violated, ONLR shall make a good faith effort to secure compliance and appropriate relief by informal means through conference, conciliation and persuasion. In the event there is a failure to resolve the matter informally as to any allegations in an Individual Charge for which probable cause has been determined, ONLR shall either issue the notice prescribed in Section 10(H) or initiate a Commission proceeding under Section 10(I) concerning unresolved allegations. A successful resolution of any such allegation shall be committed to writing in the form required under Section 10(G). Nothing herein shall be construed as prohibiting ONLR from initiating or participating in efforts to informally resolve a Charge prior to issuance of a probable cause determination.

G. Settlement.

1. Settlement agreements shall be committed to writing and executed by respondent, the individual charging party if any and, in the case of any Charge, by the Director of ONLR. Refusal of an individual charging party to execute a settlement agreement subjects the Individual Charge to dismissal under the conditions set forth in Section 10(D)(1)(d). Settlement agreements may also be signed by those aggrieved persons identified as having a claim with respect to an ONLR Charge.

2. Settlement agreements hereunder shall be enforceable among the parties thereto in accordance with the terms of the agreement. Any member of a

class of persons affected by the settlement who is not a signatory to the agreement shall have the right to initiate proceedings before the Commission pursuant to the procedure in Section 10(H)(2)(a)(iii).

3. Each settlement agreement shall provide for the dismissal of the Charge to the extent the violations alleged therein are resolved under the agreement.

4. Any breach of a settlement agreement by respondent shall present grounds for filing a Charge under this Section 10. A charging party asserting a claim for breach may either seek

(a) enforcement of that portion of the settlement agreement alleged to have been breached, or

(b) in the case of a material breach as to any or all terms, partial or total rescission of the agreement, as the case may be, and such other and further relief as may have been available in the absence of settlement. A Charge asserting a breach of a settlement agreement with respect to any original allegation in the Charge covered by such agreement shall, for purposes of all time limitations in this Section 10, be deemed to arise on the accrual date of the breach.

H. Individual Right to Sue.

1. Individual Charges.

(a) Prior to the expiration of 180 days following the date an Individual Charge was filed, ONLR, by notice to the individual charging party, shall authorize such individual to initiate a proceeding before the Commission in accordance with the procedures prescribed in Section 10(J), if:

(i) The Individual Charge has been dismissed by ONLR pursuant to Section 10(D)(1);

(ii) ONLR has issued a probable cause determination under Section 10(E), there has been a failure of conciliation contemplated by Section 10(F), and ONLR has determined not to initiate a Commission proceeding on behalf of the individual charging party; or

(iii) Notwithstanding the absence of a probable cause determination or conclusion of conciliation efforts, ONLR certifies it will be unable to complete one or both of these steps within 180 days after the date on which the Individual Charge was filed.

(b) After the expiration of 180 days following the date an Individual Charge was filed, the individual charging party shall have the right to

initiate a proceeding before the Commission irrespective of whether ONLR has issued a notice of right to sue, made a probable cause determination, or commenced or concluded conciliation efforts.

2. ONLR Charges.

(a) Prior to the expiration of 180 days following the date an ONLR Charge was filed, ONLR, by notice to any person known to it who claims to be aggrieved by the allegations presented in such Charge, shall authorize such person to initiate a proceeding before the Commission in accordance with the procedures prescribed in Section 10(J), if:

(i) The ONLR Charge has been dismissed by ONLR pursuant to Section 10(D)(2);

(ii) ONLR has issued a probable cause determination under Section 10(E), there has been a failure of conciliation contemplated by Section 10(F), and ONLR has determined not to initiate a Commission proceeding on the Charge;

(iii) ONLR has entered into a settlement agreement under Section 10(G) to which such aggrieved person is not a party; or

(iv) Notwithstanding the absence of a probable cause determination or conclusion of conciliation efforts, ONLR certifies it will be unable to complete one or both of these steps within 180 days after the date on which the ONLR Charge was filed.

(b) After the expiration of 180 days following the date an ONLR Charge was filed and prior to the date on which ONLR commences a Commission proceeding, any person claiming to be aggrieved by the allegations presented in such Charge shall have the right to initiate a proceeding before the Commission irrespective of whether ONLR has issued a notice of right to sue, made a probable cause determination or commenced or concluded conciliation efforts.

3. Content of Notice. A notice of right to sue shall include the following information:

(a) Authorization to the individual charging party or aggrieved person to initiate a proceeding before the Commission pursuant to and within the time limits prescribed by Section 10(J);

(b) A summary of the procedures applicable to the institution of such proceeding, or a copy of the Act containing such procedures;

(c) A copy of the Charge; and

(d) A copy of any written determination of ONLR with respect to such Charge.

4. ONLR Assistance. Authorization to commence Commission proceedings hereunder shall not prevent ONLR from assisting any individual charging party or aggrieved person in connection with Commission proceedings or other efforts to remedy the alleged violations of the Act.

I. ONLR Right to Sue.

1. Individual Charges. ONLR shall have the right to initiate proceedings before the Commission based on the allegations of an Individual Charge with respect to which ONLR has issued a probable cause determination under Section 10(E) and there has been a failure of conciliation contemplated by Section 10(F). ONLR shall have such right notwithstanding that the individual charging party has a concurrent right to sue hereunder which has not been exercised. ONLR's right to sue shall continue until such time as the individual charging party commences a Commission proceeding and, in that case, shall be revived in the event the proceeding is dismissed or concluded for reasons unrelated to the merits. Initiation of Commission proceedings by ONLR shall terminate the right to sue of an individual charging party, subject to revival of such right in the event the proceeding is dismissed or concluded for reasons unrelated to the merits. Nothing herein shall be construed as foreclosing ONLR from exercising its right to intervene in a Commission proceeding under Section 10(L).

2. ONLR Charges. ONLR shall have the right to initiate proceedings before the Commission based on the allegations of an ONLR Charge with respect to which ONLR has issued a probable determination under Section 10(E) and there has been a failure of conciliation contemplated by Section 10(F). ONLR shall have such right notwithstanding that a person claiming to be aggrieved as a result of the allegations in the ONLR Charge has a concurrent right to sue hereunder which has not been exercised. In the event an aggrieved person first initiates a Commission proceeding in an authorized manner, ONLR's right to sue shall only expire as to such person and shall revive in the event the aggrieved person's proceeding is dismissed or concluded for reasons unrelated to the merits. Nothing herein shall be construed as foreclosing ONLR from exercising its right to intervene in a Commission proceeding under Section 10(L).

J. Initiation of Commission Proceedings. Proceedings before the Commission shall be initiated upon the filing of a written complaint by a petitioner with the Commission. Complaints shall satisfy each of the following conditions:

1. The petitioner is authorized to file the Complaint under the terms and conditions prescribed by this Section 10;

2. The underlying Charge was filed within the time limits prescribed in Section 10(B)(6); and

3. The complaint was filed within 360 days following the date on which the underlying Charge was filed.

Upon motion of respondent and a showing that any one or more of the foregoing conditions has not been satisfied, the Commission shall dismiss the complaint; provided, however, that no complaint shall be dismissed under (2) above as to any allegation of a pattern of conduct or practice in violation of the Act to the extent such pattern or practice continued to persist during the time limit prescribed in Section 10(B)(6); and provided further that, in the absence of dismissal or conclusion of Commission proceedings on the merits, nothing herein shall be construed as prohibiting the refiling of a Charge alleging the same or comparable pattern or practice violations of the Act which continued to persist during the time limits prescribed in Section 10(B)(6) for refiling such Charge.

K. Preliminary Relief. Prior to the initiation of Commission proceedings on a Charge and notwithstanding the failure to satisfy any precondition to such proceedings, either ONLR, an individual charging party or aggrieved person may, upon notice to respondent, petition the Commission for appropriate temporary or preliminary relief in the form of an injunction or other equitable remedy on the ground that prompt action is necessary to carry out the purposes of the Act, including the preservation and protection of rights thereunder. Nothing herein shall be construed as foreclosing a petition which seeks comparable relief subsequent to the commencement of Commission proceedings.

L. Intervention in Commission Proceedings. Within three business days after the date on which any complaint, or petition pursuant to Section 10(K), is filed with the Commission, other than a complaint or petition filed by ONLR, the Commission shall cause copies thereof to be sent to the ONLR Director and the Attorney General of the Navajo Nation. ONLR shall have an unconditional right to intervene in the Commission proceeding initiated by such complaint or petition upon the timely application by motion accompanied by a pleading setting forth the claims for which intervention is sought.

M. Confidentiality.

1. Conciliation. In the absence of written consent of the persons concerned, statements or offers of settlement made, documents provided or conduct by participants in conciliation efforts under Section 10(F) shall not be admissible in any Commission or other proceeding relating to the Charge which is the subject of conciliation, to prove liability for or invalidity of the Charge or the amount or nature of relief therefor; provided, however, that nothing herein shall be construed as requiring the exclusion of such evidence merely because it was presented in the course of conciliation if:

(a) The evidence is otherwise discoverable; or

(b) The evidence is offered for another purpose, including without limitation, proving bias or prejudice of a witness, negativing a contention of undue delay, or proving an effort to obstruct a criminal investigation or prosecution.

2. Charge, Records and Information. Prior to the institution of Commission proceedings thereon, and in the absence of the written consent of the persons concerned, ONLR shall not disclose as a matter of public information any Charge, response thereto, any statements or other information obtained in the course of its investigation of the Charge, except that nothing herein shall prevent earlier disclosure of such information by ONLR in its discretion:

(a) To charging parties or their attorneys, respondents or their attorneys, witnesses or other interested persons where the disclosure is deemed by ONLR to be necessary for securing a resolution of the Charge, including appropriate relief therefor;

(b) To employees or representatives of the Navajo Nation or employees or representatives of federal, state or local authorities having a governmental interest in the subject matter of the Charge; or

(c) To persons for the purpose of publishing data derived from such information in a form which does not reveal the identity of charging parties, aggrieved persons, respondents or persons supplying the information.

Except as otherwise provided herein, any person to whom a permissible disclosure is made hereunder shall be bound to maintain the confidentiality of such information from further disclosure and shall use the information solely for the purpose for which it was disclosed.

3. Privileged Information. Neither ONLR, charging parties, aggrieved persons, respondents, witnesses or persons supplying information in connection with a Charge shall be compelled, either before or after commencement of Commission proceedings, to disclose any information which represents the opinions or conclusions formed by ONLR during the course of its investigation of a Charge, or any information which is protected by the attorney-client privilege, the informer's privilege referred to in Section 10(B)(10), or any other absolute or limited privilege recognized under the laws of the Navajo Nation. To the extent justice requires, the Commission may, balancing the rights of parties and affected persons, prohibit or limit the disclosure of any other information for good cause shown, including a showing that disclosure would impede enforcement of the Act, jeopardize rights guaranteed thereunder, or cause annoyance, embarrassment, oppression or undue burden or expense to parties or affected persons.

N. Non-retaliation. It shall be unlawful for any employer, labor organization, joint labor-management committee involved in apprenticeship or other matters relating to employment, employment agency or other person to, directly or indirectly, take, or attempt to induce another person to take, any action adversely affecting

(1) the terms and conditions of any person's employment or opportunities associated with such employment,

(2) an applicant's opportunity for employment,

(3) the membership of an employee or applicant for employment in a labor organization, or

(4) any other right, benefit, privilege or opportunity unrelated to employment, because such person has opposed an employment practice subject to this Act or has made a charge, testified, or assisted or participated in any manner in an investigation, proceeding or hearing under the Act.

O. Service of Documents. Service of any notice, determination or other document required to be transmitted under this Section 10 shall be accomplished by personal delivery or certified mail, return receipt requested.

Section 11. HEARING

A. The Commission shall schedule a hearing within sixty (60) days of the filing of a written complaint by a petitioner with the Commission. The hearing shall be held at a location designated by the Commission.

1. Notice: The Commission shall issue a notice of hearing. The time and place of the hearing shall be clearly described in the notice. The notice shall also set forth in clear and simple terms the nature of the alleged violations and shall state (1) the violations may be contested at a hearing before the Commission, and (2) any party may appear by counsel and cross examine adverse witnesses.

2. Upon application by a party to the Commission, or on the Commissions' own motion, the Commission may issue subpoenas compelling the disclosure by any person evidence relevant to the complaint, including a subpoena ordering, under oath as may be appropriate:

(a) The attendance and testimony of witnesses;
(b) Responses to written interrogatories;
(c) The production of evidence; and
(d) Access to evidence for the purpose of examination and copying.

3. The Commission is hereby authorized to administer oaths and compel attendance of any person at a hearing and to compel production of any documents.

4. In the event a party does not make an appearance on the day set for hearing or fails to comply with the rules of procedure set forth by the Commission for the conduct of hearings, the Commission is hereby authorized to enter a default determination against the non-appearing and/or noncomplying party.

B. Burden of Proof: In any compliance review, complaint proceeding, investigation, or hearing, the burden of proof shall be upon the respondent to show compliance with the provisions of this Act by clear and convincing evidence.

C. Hearing: The Commission shall conduct the hearing in a fair and orderly manner and extend to all parties the right to be heard.

1. The Commission shall not be bound by any formal rules of evidence.

2. The respondent shall have the opportunity to answer the complaint and the parties shall have the right to legal counsel, present witnesses, and cross-examine adverse witnesses.

3. The Commission shall issue its decision by a majority vote of a quorum present and shall be signed by the Chairman of the Commission.

4. Copies of the decision shall be sent to all parties of record in the proceeding by certified mail, return receipt.

5. The proceeding shall be recorded. Any party may request a transcript of the proceeding at their own expense.

6. The decision of the Commission shall be final with a right of appeal only on questions of law to the Navajo Nation Supreme Court.

Section 12. REMEDIES AND SANCTIONS

A. If, following notice and hearing, the Commission finds that respondent has violated the Act, the Commission shall:

1. Issue one or more remedial orders, including without limitation, directed hiring, reinstatement, displacement of non-Navajo employees, backpay, frontpay, injunctive relief, mandated corrective action to cure the violation within a reasonable period of time, and/or, upon a finding of intentional violation, imposition of civil fines; provided that liability for backpay or other forms of compensatory damages shall not accrue from a date more than two years prior to the date of filing of the Charge which is the basis for the complaint.

2. In the case of an individual suit initiated pursuant to Section 10(H) award costs and attorneys' fees if the respondent's position was not substantially justified.

3. Refer matters involving respondent contracts, agreements, leases and permits to the Navajo Nation Attorney General for appropriate action.

B. In the absence of a showing of good cause thereof, if any party to a proceeding under this Act fails to comply with a subpoena or order issued by the Commission, the Commission may impose such sanctions as are just, including without limitation any one or more of the following:

(1) In the case of noncompliance with a subpoena of documents or witnesses:

(a) An order that the matters regarding which the subpoena was issued or any other designated facts shall be deemed established for the purposes of the proceeding and in accordance with the claim of the party obtaining the order;

(b) An order refusing to allow the disobedient party to support or oppose designated claims or defenses, or prohibiting that party from introducing designated matters in evidence;

(c) An order striking pleadings or parts thereof, or staying further proceedings until the subpoena is obeyed, or dismissing the action or proceeding or any part thereof, or rendering a judgment by default against the disobedient party.

(2) In the case of noncompliance by a party or nonparty with a Commission subpoena of documents or witnesses or with any other order of the Commission:

(a) An order holding the disobedient person in contempt of the Commission and imposing appropriate sanctions therefor, including a civil fine;

(b) An order directing the disobedient person to pay the reasonable costs and/or attorney's fees caused by the noncompliance.

C. The person or party in whose favor a Commission's decision providing for remedial action is entered shall have the right to seek legal and/or equitable relief in the District Courts of the Navajo Nation to enforce the remedial action; provided that the Commission itself shall have the right to seek legal and/or equitable relief in the District Courts of the Navajo Nation to enforce civil fines or sanctions imposed by the Commission against a person or party. In both instances the Attorney General of the Navajo Nation shall have an unconditional right to intervene on behalf of the Navajo Nation. Any attempted enforcement of a Commission order or decision directing payment of money by the Navajo Nation or any of its governmental entities shall, with respect to the extent of any liability be governed by the Navajo Sovereign Immunity Act, 1 N.T.C. §§351 et seq., as amended.

Section 13. APPEAL AND STAY OF EXECUTION

A. Any party may appeal a decision of the Commission to the Navajo Nation Supreme Court by lodging a written notice of appeal, in the form prescribed by the Navajo Rules of Civil Appellate Procedure and within ten (10) days after receipt of the Commission's decision.

B. In the absence of a stipulation by the parties approved by the Commission, a stay of execution of the decision from which the appeal is taken shall only be granted upon written application of the appellant to the Commission and an opportunity for response by appellee. The application for a stay shall be filed within the period prescribed for appeal in Subsection (A) hereof. No stay shall be issued unless the appellant presents a clear and convincing showing that each of the following requirements has been satisfied:

1. Appellant is likely to prevail on the merits of the appeal;

2. Appellant will be irreparably harmed in the absence of a stay;

3. Appellee and interested persons will not be substantially harmed by a stay;

4. The public interest will be served by a stay; and

5. An appeal bond or other security, in the amount and upon the terms prescribed by Subsection (C) below, has been filed with and approved by the Commission; provided that no appeal bond shall be required of ONLR, the Navajo Nation or any governmental agency or enterprise of the Navajo Nation.

C. The appeal bond shall be issued by a duly authorized and responsible surety which shall obligate itself to pay to appellee, or any other person in whose favor an award is made by the Commission decision, the amounts specified or described in the bond upon conclusion of the appeal and failure of appellant, following written demand by appellee, to satisfy the foregoing obligations. The amount or nature of liability assumed by the surety shall be specified in the bond and shall include:

1. The total amount of all monetary awards made in the Commission decision, together with such interest thereon as may be prescribed in the Commission's decision;

2. Costs of appeal and attorneys' fees incurred by appellee in defending the appeal and which may be awarded to appellee by the Navajo Nation Supreme Court;

3. Damages sustained by appellee or other recipients of a Commission award for delay in satisfaction of the Commission decision caused by the appeal; and

4. Such other amount or liability reasonably required to be secured to protect the interests of the appellee or other award recipients.

The bond shall provide that the surety submits to the jurisdiction of the Commission and the Courts of the Navajo Nation, and irrevocably appoints the Commission as the surety's agent upon whom any papers affecting the surety's liability on the bond may be served. The surety's liability may be enforced on motion of the appellee filed with the Commission, with copies thereof served on the surety and appellant.

In lieu of posting an appeal bond, appellant may, with the approval of the Commission, post a cash bond and undertaking in the amount and upon the terms which are required above with respect to an appeal bond.

No appeal bond or cash bond and undertaking, nor the liabilities of the surety or appellant thereunder, shall be exonerated or released until all amounts and liabilities prescribed therein have been fully paid and satisfied.

D. Within three business days following the filing with the Navajo Nation Supreme Court of any appeal from a Commission proceeding, the Clerk of such Court shall, in all cases other than those in which ONLR is not either the appellant or appellee, cause copies of the notice of appeal and all other documents filed in connection therewith to be sent to the ONLR Director and the Attorney General of the Navajo Nation. ONLR shall have an unconditional right to intervene and participate as amicus in the appeal proceedings upon timely application therefor by motion lodged with the Navajo Nation Supreme Court. ONLR's right of participation shall be coextensive with that of the parties to the appeal, including the rights to file opening, answering and reply briefs, and the right to present oral argument to the Court.

Section 14. NON-NAVAJO SPOUSES

A. When a non-Navajo is legally married to a Navajo, he or she shall be entitled to preference in employment under the Act. Proof of marriage by a valid marriage certificate shall be required. In addition such non-Navajo spouse shall be required to have resided within the territorial jurisdiction of the Navajo Nation for a continuous one-year period immediately preceding the application for Navajo preference consideration.

B. Upon meeting the above requirements, such consideration shall be limited to preference in employment where the spouse would normally be in a pool of non-Navajo workers. In this instance, Navajo preference would place the non-Navajo spouse in the applicant pool of Navajos for consideration. However, preference priority shall still be given to all Navajo applicants who meet the necessary job qualifications within that pool.

C. Non-Navajo spouses having a right to secondary preference under this Section shall also have and enjoy all other employment rights granted to Navajos under the Act, it being understood that Navajos retain a priority right with respect to provisions of the Act concerning preferential treatment in employment opportunities.

Section 15. LIE-DETECTOR TEST

A. No person, shall request or require any employee or prospective employee to submit to, or take a polygraph examination as a condition of obtaining employment or of continuing employment or discharge or discipline in any manner an employee for failing, refusing, or declining to submit to or take a polygraph examination.

B. For purposes of this section, "polygraph" means any mechanical or electrical instrument or device of any type used or allegedly used to examine, test, or question individuals for the purpose of determining truthfulness. This provision shall not apply to federal or state government employees.

Section 16. RULES AND REGULATIONS

Human Services Committee of the Navajo Nation Council is hereby delegated the authority to promulgate rules and regulations necessary for the enforcement and implementation of the provisions of this Act. The Commission is hereby delegated the authority to adopt and implement, on its own initiative and without any approval, rules of procedure and practice governing the conduct of proceedings under Section 11 of the Act; provided only that such rules are consistent with the provisions of the Act.

Section 17. ALL PRIOR INCONSISTENT LAW IS REPEALED

All prior Tribal laws, rules, regulations, and provisions of the Navajo Tribal Code previously adopted which are inconsistent with this Act are hereby repealed.

Section 18. EFFECTIVE DATE AND AMENDMENT OF THE ACT

A. The effective date of this Act shall be 60 days after the passage of the Act by the Navajo Nation Council and shall remain in effect until amended or repealed by the Navajo Nation Council.

B. Any amendment or repeal of the Act shall only be effective upon approval of the Navajo Nation Council, and shall not be valid if it has the effect of amending,

modifying, limiting, expanding or waiving the Act for the benefit or to the detriment of a particular person.

C. Any amendment to the Act, unless the amendment expressly states otherwise, shall be effective 60 days after the passage thereof by the Navajo Nation Council.

D. The time limits prescribed in Section 10 relating to filing a Charge and subsequent proceedings thereon were added by amendment adopted by the Navajo Nation Council subsequent to the effective date of the original Act. Notwithstanding an actual accrual date for any alleged violation of the Act which is prior to the effective date of the amendment which added the time limits in Section 10 hereof, such alleged violation shall be deemed to accrue on the effective date of the foregoing amendment for purposes of all time limits set forth in Section 10.

Section 19. SEVERABILITY OF THE ACT

If any provision of this Act or the application thereof to any person, association, entity or circumstances is held invalid, such invalidity shall not affect the remaining provisions or applications thereof.

NAVAJO PREFERENCE IN EMPLOYMENT ACT

NPEA ORIENTATION
Check List

INITIAL	EXHIBIT	DESCRIPTION
_____	(A)	Navajo Preference in Employment Act (information) - NPEA Requirement Letter - Navajo Preference in Employment Act Poster
_____	(B)	Office of Navajo Labor Relations (information) - ONLR Office w/ Staffs
_____	(C)	Start New Workers Out Right
_____	(D)	Manpower Projection Report
_____	(E)	List of All Subcontractors
_____	(F)	Job Description – Non-Discriminatory
_____	(G)	Newspaper and Radio Station Advertisement - Navajo Preference Statement - Job Services
_____	(H)	Affirmative Action Regulation
_____	(I)	Notification for use of non-Navajo - Employer Interview Report - Justification
_____	(J)	Conditions for Employment Expressed to Applicant – Orientation on Employer Policies
_____	(K)	Written Notification for any Employee Action
_____	(L)	Weekly Manpower Reports
_____	(M)	Weekly Certified Payroll Reports
_____	(N)	Contractors/Subcontractor's Reports - Construction Progress Report (bi-weekly) - Project Completion Report
_____	(O)	Wage Rates Decision No.: _____

_____
Company Name (**please print**)

_____
Company Representative – Name and Title (**please print**)

_____
Company Representative Signature

_____
Project Name and Location

Revised 03/21/07

OFFICE OF NAVAJO LABOR RELATIONS

A

NAVAJO PREFERENCE IN EMPLOYMENT ACT

PACKET INCLUDES:

Forms and Information

1. Employer Interviews Report.
2. "Start New Workers Out Right" sheet.
3. Navajo Preference in Employment Act Poster – **Post at Job Site.**
4. Contractor/Subcontractor's Manpower Projection Report.
5. Weekly Manpower Reports.
6. Weekly Certified Payroll Reports.
7. Project Completion Report Form.

The ONLR strongly recommends that all contractors use apprentices or trainees as well as female applicants on the project. Interested parties should call the ONLR for more information. The ONLR strongly recommends that contractors make every effort to recruit and hire Navajos (see NPEA, Section 4.A.(1.) and Section 4.B.(6.)).

Contractors found in non-compliance of the NPEA shall be notified by the ONLR. Attempts will be made to resolve disputes or discrepancies informally. If no resolution can be reached, the ONLR will take whatever administrative action(s) or remedies necessary. Should this occur, the contractor will be notified in writing. If no response is received by the specified date, the ONLR will proceed with other actions including filing an ONLR Charge.

Contractors are responsible for hiring Navajo workers. All contractors are required to advertise in the area using a radio station and newspaper including the Navajo Preference Statement in the advertisement. Contractors will advertise vacancies 7–10 days.

1. Contractor(s) or subcontractor(s) shall provide a detailed job summary or description, along with wage rates or salary, for all or any position considered "specialized" by the employer.

2. The contractor and its subcontractor(s) shall retain the right to reject any job applicants; however, if the contractor or its subcontractor(s) is unable to recruit or hire Navajo, the contractor shall have:

   (a) the burden to justify the rejection of every Navajo applicant in each employee craft or category in which the contractor or its subcontractor(s) was unable to meet its requirements; and

   (b) the burden of substantiating the criteria used in hiring such employee craft on category as relevant to the job being performed.

Navajo Occupational Safety and Health Administration (NOSHA) monitor all construction activities on the Navajo Nation. Any questions or assistance regarding safety issues, NOSHA can be contacted at (928) 871-6824.

At least **two weeks prior to completion of project**, the contractor shall complete the Project Completion Report form and submit to the ONLR (the form is provided in this packet).

PLEASE CALL IF THERE ARE ANY QUESTIONS OR CONCERNS. THANK YOU.

DATE CHRONO

Name; Title
Company Name
Mailing Address
City, State, Zip Code

RE: Project Name
NPEA Requirement Letter

Dear Mr./Ms.:

Thank-you for contacting our office regarding your upcoming project.

Enclosed is the NPEA Requirement Letter along with the NPEA Orientation Checklist.

If you have any other questions, please call our office at (928) 871-6800.

Sincerely,

Name, Labor Compliance Officer
Office of Navajo Labor Relations
DIVISION OF HUMAN RESOURCES

cc: Window Rock ONLR
Chrono File

ATTACHMENT

Date CHRONO

Name
Company
Address
City, State, Zip Code

RE: NPEA REQUIREMENT LETTER

Dear Mr./Ms.:

The Office of Navajo Labor Relations ("ONLR") monitors construction projects on the Navajo Nation to ensure all contractors and/or subcontractors comply with the Navajo Preference in Employment Act ("NPEA"). The requirements are as follows:

A. Give preference in employment to enrolled members of the Navajo Nation:

   1. Advertise all job vacancies in at least one newspaper and radio station serving the Navajo Nation. Note: All job announcements and advertisements shall specify a Navajo employment preference statement.

B. Establish written necessary qualifications/job descriptions for each employment position in their work force, a copy of which shall be provided to applicants or candidates at the time they express an interest in such position.

C. Use non-discriminatory job qualifications and selection criteria in employment. Any Navajo applicant or candidate who demonstrates the necessary qualifications for an employment position:

   1. Is to be selected by the employer in the case of hiring, promotion, transfer, upgrading, recall and other employment opportunities with respect to such position;

   2. To be retained by the employer in the case of the reduction-in-force affecting such class of positions until all non-Navajos employed in that class of position are laid off; and

3. Among a pool of applicants or candidates who are solely Navajos, the Navajo with the best qualifications is to be selected or retained.

D. Provide a fringe benefit plan that does not discriminate against Navajos in terms of coverage due to Navajo cultural or religious traditions or beliefs.

E. File with the ONLR a written Navajo Affirmative Action Plan (Program). An employer-sponsored cross-cultural program shall be an essential part of the affirmative action plans required by the NPEA. Such program shall primarily focus on the education of non-Navajo employees, including management and supervisory personnel, regarding the cultural and religious traditions or beliefs of Navajos, and their relationships to the development of employment policies that accommodate such traditions and beliefs.

F. Maintain a safe and clean working environment free of prejudice, intimidation, and harassment.

G. Not penalize, discipline, discharge, nor take any adverse action against any employee without a written notice showing just cause. This notice shall be given to the employee at the time of the adverse action.

H. Post in a conspicuous place on its premises, a Navajo preference policy notice.

I. For each Contractor/Subcontractor to be utilized on the project, the ONLR will require the following information:

1. Contractor/Subcontractor Manpower Projection Report. A list of all classifications and number of workers that will be required. This shall be submitted two weeks before start of work.

2. Job Description for each classification, listing experience, tool requirements, etc.

3. Name of Individual who will conduct the interview and hiring.

4. Employer Interview Report shall be submitted with the first certified payroll report.

5. Weekly Manpower Report shall be submitted with each week's certified payroll report.

6. Certified Payroll Report shall be submitted with each week's manpower report.

7. Navajo Affirmative Action Program shall be submitted two weeks before start of work.

8. Location of office(s) and telephone number(s) of contractors/subcontractors.

9. Name of Individual designated as contact person at the job site.

10. List of Key Personnel the contractor anticipates on bringing to the job site. These positions are usually the project superintendent and/or an individual with signatory authority. The contractors and/or subcontractors will be required to justify other positions not normally considered "key" personnel.

11. Job Summary and Duration of the Project.

The ONLR will provide an overview of NPEA requirements and in-depth orientation for all contractors. If you have any questions, call our office at (928) 871-6800.

Sincerely,

Name, Labor Compliance Officer
Office of Navajo Labor Relations
DIVISION OF HUMAN RESOURCES

cc: Window Rock ONLR
Project/Chrono File

N O T I C E OF THE NAVAJO PREFERENCE IN EMPLOYMENT ACT

Employers must post this notice in a conspicuous place on its premises where notices to employees and job applicants are customarily posted.

Title 15, N.T.C., Chapter 7 requires that all employers doing business within the boundaries of the Navajo Nation or engaged in any contracts with the Navajo Nation, shall give preference in employment to enrolled members of the Navajo Nation, and submit an affirmative action program.

Navajo Preference in Employment Act ("NPEA") applies to:

o Hiring	o Termination	o Transfers	o Recalls
o Promotion	o Reduction-in-force	o Training	o Recruitment

NPEA requires employers doing business within the territorial jurisdiction of the Navajo Nation to:

- Provide applicant with written job descriptions.
- Provide training to enhance the skills of Navajo Employees.
- Not discipline or discharge Navajo employees without just cause and written notification.
- Provide a work place free of prejudice, intimidation and harassment.
- Pay established Prevailing Wages for construction work.
- Provide Navajo Affirmative Action Program to employ Navajos in all job classifications including supervisory and management positions.

The ONLR requires employers to receive a NPEA orientation prior to commencing work on the Navajo Nation.

If you think your rights have been violated or see other possible violations of the Navajo Preference, call or write to the Office of Navajo Labor Relations for more information.

OFFICE OF NAVAJO LABOR RELATIONS

Post Office Drawer 1943
Window Rock, Arizona 86515
Phone: (928) 871-6800/6801
Facsimile: (928) 871-7088

Post Office Box 1704
Shiprock, New Mexico 87420
Phone: (505) 368-1142
Facsimile: (505) 368-1145

Post Office Box 2660
Chinle, Arizona 86503
Phone: (928) 674-2214
Facsimile: (928) 674-2216

Post Office Box 733
Tuba City, Arizona 86045
Phone: (928) 283-3100
Facsimile: (928) 283-3107

Post Office Box 550
Kayenta, Arizona 86033
Phone: (928) 697-5645
Facsimile: (928) 697-5647

NOTE: Copies of the Navajo Preference in Employment Act are available at any of the above

OFFICE OF NAVAJO LABOR RELATIONS

B

The purpose of the Office of Navajo Labor Relations is as follows:

A. To monitor and enforce the NAVAJO PREFERENCE IN EMPLOYMENT ACT (NPEA), Title 15, NNC, Chapter 7.

B. To implement and carry out the labor policies of the Navajo Nation as established by the Navajo Nation Council.

C. To act as administrative agency for matter relating to employment preference in hiring, recruitment, promotion, lay-off, termination, transfer and other areas of employment.

D. To gather information from employers, employees, labor organization and governmental agencies relating to employment, compensation and working conditions.

E. To recommend and propose policies, rules, regulations, specific Navajo Preference Plans to Human Services Committee of the Navajo Nation Council.

Window Rock/Fort Defiance, AZ
Post Office Drawer 1943
Window Rock, Arizona 86515
Telephone: (928) 871-6800/6801
Fax: (928) 871-7088

Kayenta, AZ
Post Office Box 550
Kayenta, Arizona 86033
Telephone: (928) 697-5645
Fax: (928) 697-5647

Shiprock, NM
Post Office Box 1704
Shiprock, New Mexico 87420
Telephone: (505) 368-1142
Fax: (505) 368-1145

Chinle, AZ
Post Office Box 2660
Chinle, Arizona 86503
Telephone: (928) 645-2214
Fax: (928) 645-2216

Tuba City, AZ
Post Office Box 733
Tuba City, Arizona 86045
Telephone: (928) 283-3100
Fax: (928) 283-3107

Office of Navajo Labor Relations

ADMINISTRATION OFFICE:
Post Office Drawer 1943
Window Rock, Arizona 86515
Telephone: (928) 871-6800
Fax: (928) 871-7088

PHYSICAL ADDRESS:
W008-222 Doublewide Trailer
Morgan Blvd.
Window Rock, Arizona 86515

STAFF:

Reynold R. Lee, *Director*; reynoldrlee@navajo.org	(928) 871-6800/6801
Carletta Benally, *Administrative Assistant*	(928) 871-6801
Eugene Kirk, *Labor Compliance Officer*; eugenekirk@navajo.org	(928) 871-6800/6801
Gililand Damon, *Labor Compliance Officer*; gililanddamon@navajo.org	(928) 871-6800/6801
Michael Armijo, *Construction Employment Analyst*; mikearmijo@yahoo.com	(928) 871-6800/6801
Valara James, *Office Assistant*, valara_lola@yahoo.com	(928) 871-6800

Shiprock Sub-Office:
John P. Wilson, *Labor Compliance Officer*
Georgina Howe, *Office Assistant*
Post Office Box 1704
Shiprock, New Mexico 87420
Phone: (505) 368-1143
Fax: (505) 368-1145

Physical Location:
Northwest of Tse Bit'ai Shopping Center
First Trailer East of Hogan.

Kayenta Sub-Office:
Delight Butler, *Labor Compliance Officer*
Tanisha Nez, *Office Assistant*
Post Office Box 550
Kayenta, Arizona 86033
Phone: (928) 697-5645
Fax: (928) 697-5647

Physical Location:
Kayenta Chapter House

Chinle Sub-Office:
Harrison Bia, *Labor Compliance Officer*
Norma Horton, *Office Assistant*
Post Office Box 2660
Chinle, Arizona 86503
Phone: (928) 674-2214
Fax: (928) 674-2216

Physical Location:
Navajo Nation Government Offices
West of Chinle Chapter House.

Tuba City Sub-Office:
Vacant, *Labor Compliance Officer*
Mary L. Bracker, *Office Assistant*
Post Office Box 733
Tuba City, Arizona 86045
Phone: (928) 283-3100
Fax: (928) 283-3107

Physical Location:
Located on East Side of TCCC
Right next to Coalmine Sub-office.

START NEW WORKERS OUT RIGHT

C

EXECUTIVE SUMMARY

The safer construction top-management, project-management and foreman give more orientation to their workers new to the job than less safe managers. Research proves that attention to new workers is a key characteristic of safe, productive management. This information shows:

WHY orientating workers increases profits.
HOW to develop a new workers program tailored to your company.

WHY NEW WORKERS PROGRAM INCREASES PROFITS

The facts show that construction companies which are putting their workers right to work without any orientation are spending needless dollars for accident costs, lost time, damaged materials and machinery, etc. These new workers are the ones who are having the accidents, accidents, which cost thousands in workers compensation costs.

The common construction practice of putting new workers directly on the job with no orientation is creating a very high accident rate for workers in their first few days and weeks on the job.

For most construction companies, it is their new workers -- no matter how experienced they are -- who are having the accidents. And these accidents are costing company profits.

Accidents to new workers can be substantially reduced by an orientation for employees new to the job. The investment of time to start a new worker out right will be repaid many times over when that worker works safely and does not have an accident.

Every accident creates many costs for your company. Insurance costs are one of the major costs. A recent study by Prof. Raymond Levitt of Stanford University, of 23 construction firms engaged in highway, heavy building, industrial and specialty trade construction found that companies with formal safety orientation programs for all new hires had an average insurance modification rates, 25% lower than their competitors who did not have any such programs. These reduced costs give a distinct advantage in the bidding process and allow for greater profits. Beyond these obvious costs yet equally important, is the fact that accidents have a very adverse impact on project morale and company reputation.

Orientation will pay off by reducing accidents. Few accidents mean more profits.

HOW TO DEVELOP YOUR COMPANY'S ORIENTATION PROGRAM

A successful company orientation program includes all new workers regardless of the number of years worked in the industry. It covers every worker new to the company, new to a particular job site or only new to a crew. This means that your new worker program needs three parts – each important.

1. Top management communication to new worker of company, commitments on safety, health, and expectations for each employee.

2. Project management orientation, including the special requirements for each project.

3. Foreman orientation to job and crew.

The worker who is new to the company is also new to the project and to the crew. Such people need the most orientation. They are unfamiliar with company policies and procedures. They are unfamiliar with job site conditions. They are unfamiliar with superintendents, foremen and fellow employees. They feel that they must prove themselves to the company, the superintendent, the foreman, and their fellow workers and to themselves.

Safety orientation, however, cannot stop with them. All employees, even those with company seniority, should receive safety orientation every time they are transferred to a new job site or crew. The particular organization and layout of the work and therefore the particular safety hazards at the job site are as unfamiliar to them as to a brand new employee. On many sites, even when there is no turnover in crews on the job, conditions change so much during the course of the job that all site employees need constant update orientation. Very productive safe superintendents stop their project workers for briefing sessions every time the work changes.

TOP MANAGEMENT'S ROLE IN ORIENTATION

Your company needs to develop two programs:

1. A New Worker Orientation-to-the-Company Program.

2. A Management Training System to Insure Project and Crew Level Orientation.

ESSENTIALS OF A COMPANY ORIENTATION PROGRAM

Your company program must be developed by upper management to suit the company. After a program is implemented, it needs to be reviewed and updated to guarantee that it is functioning as designed. The type of work and number of employees will govern the extent and formality of each company's program.

NEW WORKER ACTION STEPS:

Everyone new to your crew (no matter how experienced) is a new worker

1. Ask about last job.
2. Describe the new job.
3. Show worker around site; point out hazards.
4. Introduce worker to others
5. Describe your rules.
6. Give worker a test run on tools and equipment.
7. Keep an eye on the new worker during the first few days.
8. Check back to see how the worker is coming along.

Foremen and superintendents will be more willing to spend the necessary time on a new worker orientation if they are held accountable for accidents as part of their supervisory responsibilities.

START NEW WORKERS OUT RIGHT is only the first part of the **SAFER** program. The greatest reduction in accidents and the greatest increase in savings will result from combining orientation with the other four basic points of the safer program.

1. Account for all accidents – so foremen and supervisors know that safety is an important part of their job performance.

2. Foremen and Managers plan safety into each job so the safety is an integral part of job operations.

3. Every week a toolbox/tailgate meeting is held so that what the new worker hears and learns in orientation is constantly backed up and emphasized.

4. Reinforce safe performance so that the new workers and all the others realize that foremen, supervisors, and the companies back their interest in safety with recognition of those who do a good job on safety.

Your company's program should also include:

1. An introductory letter to each employee from the company president welcoming the new worker, emphasizing the importance of safety to the company and to the president, and describing the worker's responsibility to help maintain a safe working environment.

2. A Company Safety Practices handbook issued to each new worker, which spells out the particular rules and requirements of your company.

In addition, there are a number of additional methods which construction companies have used successfully such as audio-visual presentations (films, slides, videotapes) to be viewed by each worker covering company safety policy, new employees checklists which are read by the employee before the worker begins work and which require the employee's signature of the compliance on their employment application, short booklets describing company project information, and company procedures including workweek, absentee and pay procedures, rules on safety and other basic company policies.

THE COMPANY PLANS FOR JOB SUPERINTENDENT AND FOREMAN ORIENTATION

While a company orientation program developed from the elements just described is effective in reducing accidents and accident costs, even more effective is company program combined with a strong program on the project and crew level. The most effective orientation programs depend upon the key personnel directly in contact with the new worker. The superintendent and foreman are committed to orientating the new hire.

The job superintendent has two responsibilities for orientation. First, he must communicate a project-wide commitment to safety and a continuing awareness and involvement in safety performances as well as productivity and quality. Secondly, he must be certain that the foremen understand the importance of orientation and are trained to carry it our properly. The superintendent should also take an active interest in the new worker, ensuring that the necessary safety information has been provided and that the new worker is adjusting well to the job.

The foreman is typically the most closely involved with the new worker and thus is a critical person in the orientation process. The company should expect the foreman to spend sufficient time with the new worker to start the new worker out right. Foremen who save their company money and their crewmembers' personal and economic loss by orienting their new crewmembers have well-developed methods for starting a new worker. These methods can be taught successfully to other foremen. Stanford Construction Safety Management Safety and Health Project have developed a foreman pocket card listing the new worker action steps. This card reminds the foremen what to do.

IMPORTANT NOTICE: Contractor to Complete and return this form to ONLR **PRIOR** to start of work.

D

SAMPLE
(Use Company Letterhead)

CONTRACTOR/SUBCONTRACTOR'S MANPOWER PROJECTION REPORT

CONTRACTOR: _____ DATE: _____

PROJECT: _____ LOCATION: _____

ANTICIPATED START DATE: _____ END DATE: _____

CRAFT	NUMBER REQUIRED	REMARKS	CRAFT	NUMBER REQUIRED	REMARKS
Carpenter			Cement Finisher		
Electrician			Boilermaker		
Laborer			Bricklayer		
Drywall Installer/ Taper			Equipment Operator		
Pipefitter			Truck Driver		
Plumber			Ironworker		
Roofer			Painter		
Insulator			Soft Tile Setter		
Millwright			Sheet Metal Worker		

(**Note:** any special qualifications, i.e., 125-Ton Crane Operator, Testing Requirements, Journeyman or Apprenticeship/Trainee, etc.):

_____

_____

_____

Important Notice: All Contractors having subcontractors shall submit a sub-contractor listing, which shall include the name and address of each subcontractor, telephone number and contact person.

Name: _____
(Authorized Company Representative & Title) **PRINTED**

Signature: _____

Original to:
Office of Navajo Labor Relations
ATTN: John P. Wilson, LCO
Post Office Drawer 1704
Shiprock, New Mexico 87420

Copy to:
Office of Navajo Labor Relations
ATTN: Michael Armijo, CEA
Post Office Drawer 1943
Window Rock, Arizona 86515

SUBCONTRACTORS LISTING

E

Information Required:

1. Name and addresses of all subcontractors. Include telephone numbers.

2. Name and title of company representative.

3. Brief description of what type of work the subcontractor will perform.

4. A Manpower Projection is required prior to start of work. Projected start and end date should be noted.

NOTE: A pre-construction conference is required **BEFORE** any work is started. It is the subcontractor's responsibility to contact ONLR to arrange for a separate meeting before any work begins.

JOB DESCRIPTION

F

1. Brief description or narrative picture of the job that highlights its general characteristics. The job summary should provide enough information stating the major functions and activities.

2. Avoid using ambiguous words, or those that leave themselves open to a number of possible interpretations.

3. Avoid using technical words unless you are sure they will be easily understood. If you must use them anyway, explain.

4. All employers (contractors and subcontractors) shall use non-discriminatory job qualification and selection criteria in employment.

5. Job descriptions shall contain those job-related qualifications which are essential to the performance of the basic responsibilities designated for each employment position, including any essential qualification concerning education, training and job-related experience, but excluding any qualifications relating to ability or aptitude to perform responsibilities in other employment positions. Demonstrated ability to perform essential and basic responsibilities shall be deemed satisfaction of "necessary qualifications".

NOTE: A copy of a job description shall be provided to the applicants or candidates at the time they express an interest in such position (15 NNC 604.D.).

G

RADIO STATIONS

KNDN RADIO STATION
1515 West Main Street
Farmington, New Mexico 87401
Telephone: (505) 325-1996
Fax: (505) 327-2019

KTNN RADIO STATION
Post Office Box 2569
Window Rock, Arizona 86515
Telephone: (928) 871-2582
Fax: (928) 871-3479

NEWSPAPER

DAILY TIMES
Post Office Box 450
Farmington, New Mexico 87499
Telephone: (505) 325-4545
Fax: (505) 564-4567

NAVAJO TIMES
Post Office Box 310
Window Rock, Arizona 86515
Telephone: (928) 871-6641
Fax: (928) 871-6409

GALLUP INDEPENDENT
Post Office Box 1210
Gallup, New Mexico 87305
Telephone: (505) 863-6811
Fax: (505) 722-5750

NAVAJO/HOPI OBSERVER
2224 East Cedar Avenue
Flagstaff, Arizona 86004
Telephone: (928) 226-9696
Fax: (928) 226-1115

NAVAJO PREFERENCE STATEMENT

NPEA Section 4(B). Specific Requirements for Navajo Preference

1. "All employers shall include and specify a Navajo employment preference policy statement in all job announcements and advertisements and employer policies covered by this Act".

JOB SERVICE

New Mexico Dept. of Labor
2020 E. Aztec
Gallup, New Mexico 87301
(505) 863-3884/Fax: (505) 863-3493

AZ Workforce Connection
Post Office Box 3565
Window Rock, Arizona 86515
(928) 871-4131/Fax: (928) 871-4130

New Mexico Dept. of Labor
600 W. Arrington
Farmington, New Mexico 87401
(505) 327-6126/Fax: (505) 326-6006

Dept. of Economic Security Adm.
Post Office Box 130
Tuba City, Arizona 86045
(928) 283-5201/Fax: (928) 283-4435

NPEA Section 4(B)(5): "All employers shall utilize Navajo Nation employment sources and job services for employee recruitment and referrals; provided, however, that employers do not have the foregoing obligations in the event a Navajo is selected for the employment who is a current employee of the employer."

AFFIRMATIVE ACTION REGULATIONS

I. INTRODUCTION

A. Pursuant to the ***Navajo Preference in Employment Act*** ("NPEA"), "all employers doing business within the territorial jurisdiction of the Navajo Nation, or engaged in any contract with the Navajo Nation shall give preference in employment to Navajos. Preference in employment shall include specific Navajo affirmative action plans and timetables for all phases of employment to achieve the tribal goals of employing Navajos in all job classifications including supervisory and management positions."

II. POLICY STATEMENT

A. The employer's policy statement shall indicate the Owner/Chief Executive Officer's position on the subject matters; assign overall responsibility, reporting and monitoring procedure. Specific items to be mentioned, should include, but are not limited to:

1. Providing employment and training opportunities for Navajo workers, including supervisory and management positions.

2. Employment decisions and personnel actions shall be based on the principles, intent and purposes of the ***Navajo Preference in Employment Act*** ("NPEA").

III. APPOINMENT OF A MANAGEMENT OFFICIAL TO IMPLEMENT NAVAJO AFFIRMATIVE ACTION PROGRAM

A. A management official who has decision-making authority shall be appointed to implement and monitor the Affirmative Action Plan Program. His/Her responsibility will include, but are not limited to the following:

1. Developing Navajo Affirmative Action Plan Program, policy statement, goals and objectives, and internal and external communication procedures.

2. Identifying and/or assisting in the identification of problem areas in Section V.D.

3. Determining and implementing corrective solution(s) identified under Section V.D. with the assistance of line supervisors.

4. Designing and implementing audit and reporting systems that will:

   a. Measure effectiveness of the employer's program.

b. Indicate and determine the need for remedial action(s).

c. Determine the degree to which the employer's goal and objectives have been accomplished.

5. Serve as liaison between the employer and the Office of Navajo Labor Relations ("ONLR").

IV. ESTABLISHMENT OF GOALS AND TIMELINES

A. The goals and timelines developed by the employers should be attainable based on analysis of the following:

1. All positions/classifications currently held by non-Navajos.

2. Qualifications required by the positions/classifications.

3. Timelines for Navajo worker(s) to obtain qualifications for positions/classification(s) held by non-Navajos, and

4. Identification of resources internally and externally to implement the plan.

V. WORKFORCE ANALYSIS

A. The affirmative action plan should contain a workforce analysis, defined as a listing of each job title as it appears in applicable collective bargaining agreements or payroll records ranked from the lowest paid to the highest paid within each department or organizational unit including mid-management and top-management. Lines of progression for each unit or department must be identified through which employees could move upward. Where there are no formal progression lines or lines or usual promotional sequences, job titles should be listed in order of wages/salary ranges.

B. An analysis of all positions/classifications of the employer, should be included, with explanation if Navajos are currently being under-utilized in any positions/classifications, "Under-utilization" is defined as having a fewer Navajos in any position/classification than would be expected by the availability of qualified Navajo workers.

C. An in-depth analysis of the following shall be made:

1. Composition of Navajo and non-Navajo employees by positions/classifications.

2. Composition of applicant flow of Navajos and non-Navajos.

3. Selection process including recruitment, job descriptions, interview criteria, written tests and final selection.

4. Retention, promotion, transfer, reduction in force and recall.

5. Apprenticeship program/trainings.

6. Company training – formal and informal.

D. If any of the following are identified in the analysis, a plan of corrective action must be established immediately:

1. An under-utilization of Navajo employees.

2. Vertical movement of Navajos occurs at a lesser rate than that of non-Navajos.

3. The selection process eliminates a significantly higher percentage of Navajos than non-Navajos.

4. Position/job descriptions are inaccurate in relation to actual duties and function.

5. Testing and/or test forms having adverse impact at a higher rate on Navajos than non-Navajos.

6. Non-support of the company's affirmative action policy by employees' supervisors or managers.

7. No formal criteria established for evaluating the effectiveness of the affirmative action program.

VI. UNIONS AND LABOR ORGANIZATIONS

A. Where employers are signatory to collective bargaining agreements, the union organizations and the employer shall file a joint employer – union affirmative action plan to the Office of Navajo Labor Relations pursuant to NPEA, Section 4.A.2.

B. The joint employer – union affirmative action policy shall specifically include a clause that the employer and the labor organization will provide preference in employment to Navajos.

C. When providing preference in employment to Navajos, the affirmative action policy shall require the following:

1. The employer shall specifically request Navajo workers for work to be done on the Navajo Nation. The employer shall not accept referrals of non-Navajos for work on the Navajo Nation, so long as potentially qualified Navajos are available, through respective local union halls.

2. The labor organization shall first refer all Navajos on the labor organization's referral list (s), regardless of their relative position on those lists.

3. The labor organization shall take necessary steps to recruit additional Navajo members so as to meet manpower requests for work to be conducted on the Navajo Nation.

VII. ENFORCEMENT

A. The designated company management official shall be responsible for compliance with the requirements of these Rules and Regulations.

B. Employers and organizations not in compliance will be subjected to formal charges in accordance with provisions of the ***Navajo Preference in Employment Act***.

C. Failure to comply with these Rules and Regulations or failure to submit an affirmative action policy may result, in addition to formal charges, corrective action by the Office of Navajo Labor Relations, including but not limited to, compelled hiring and/or training of Navajo workers.

VIII. EFFECTIVE DATE

A. These Regulations shall become effective 180 days from the date of approval by the Humans Services Committee of the Navajo Nation Council.

B. Within 90 days of the effective date, employers must have submitted an affirmative action plan to the Office of Navajo Labor Relations.

IX. AMENDMENT

A. This regulation shall be amended from time to time as deemed necessary by the Human Services Committee of the Navajo Council.

ONLR/10-01-02

OFFICE OF NAVAJO LABOR RELATIONS
EMPLOYER INTERVIEW REPORT

Project

Location

*N = Navajo
NN= Non-Navajo

Contractor

Position

DATE	APPLICANT	N/NN	ADDRESS/TELEPHONE	INTERVIEWER	RESULTS

J

CONDITION FOR EMPLOYMENT EXPRESSED TO APPLICANT

1. Explain or inform worker what's expected of him/her. The work rules or conducts.
2. Each employee should know what their position is; rate of pay, and given a written personnel action form.
3. Thorough orientation on company/employer policies and procedures.

K

WRITTEN NOTIFICATION FOR ANY EMPLOYEE ACTION

1. "All employers shall not penalize, discipline, discharge nor take any adverse action against any Navajo employee without just cause. A written notification to the employee citing such cause for any of the above actions is required in all cases." (15 NNC 604.B.(8.))

SAMPLE
(Use Company Letterhead)

Date: _____

Office of Navajo Labor Relations
Post Office Drawer 1943
Window Rock, Arizona 86515

RE: WEEKLY MANPOWER REPORT FOR WEEK ENDING: _____

Duration of Project: Start Date: _____

Completion Date: _____

Contract Number: _____

Project Title: _____

Project Stage of Completion (%): _____

Total Work Force (*): _____

*Justification for hiring non-Navajo employee:

_____

_____

_____

Important Notice: Each Weekly Manpower shall have a corresponding Certified Payroll Report attached.

_____
Representative Name & Title (Printed)

_____
Signature

Original to:
Office of Navajo Labor Relations
Attn: John P. Wilson, LCO
Post Office Drawer 1704
Shiprock, New Mexico 87420

Copy to:
Office of Navajo Labor Relations
Attn: Michael Armijo, CEA
Post Office Drawer 1943
Window Rock, Arizona 86515

WEEKLY MANPOWER REPORT

For Week Ending: _____

	NAVAJO		NON-NAVAJO	
	Male	Female	Male	Female
Project Superintendent				
Project Foreman				
Carpenter				
Electrician				
Laborer				
Drywaller Installer/Taper				
Plumber				
Pipefitter				
Truck Driver				
Equipment Operator				
Ironworker				
Roofer				
Painter				
Soft Tilesetter				
Insulator				
Cement Mason				
Apprentice				
Others (Specify Craft)				
_____				
_____				
TOTALS:				

(List Only those Classifications Utilized During that Week)

OFFICE OF NAVAJO LABOR RELATIONS
CERTIFIED PAYROLL

M

NAME OF CONTRACTOR OR SUBCONTRACTOR:	ADDRESS/TELEPHONE:	WAGE DECISION NO.
PAYROLL NO.	FOR WEEK ENDING:	PROJECT NAME:	LOCATION:	CONTRACT NO.

(1) NAME OF EMPLOYEE	(2) *N/NN	(3) WORK CLASSIFICATION	OT/ST/O	(4) DAY AND DATE: HOURS WORKED EACH DAY S	M	T	W	T	F	S	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX	OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
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(2) * N / Navajo or NN / non-Navajo (PLEASE INDICATE)

PAYROLL STATEMENT OF COMPLIANCE

I,_____ _____
(Name of signatory party) (Title)
do hereby state:

(1) That I pay or supervise the payment of the persons employed by _____

_____ on the_____
(Contractor or subcontractor) (Building or work)

_____; that during the payroll period commencing on the _____
day of_____, 20____ and ending the_____day of_____ 20_____
all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

_____ from the full
(Contractor or subcontractor)
weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions ad defined in Regulations, Part 3 (29 CFR Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat 967; 75 Stat 357; 40 U.S.C. 267c), and described below:

_____

_____

_____

_____

(2) That any payrolls otherwise under this contract require to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with the State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

ف – In addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in Section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

ف –Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in Section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS

NAME AND TITLE	SIGNATURE

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO A CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

PROJECT STATUS REPORT
SAMPLE
(Use Company Letterhead)

Date: _____

PROJECT TITLE: _____

Duration of Project: START: _____ Completion: _____

Job Location: _____

Check Appropriate Spaces:

_____ Complete – No employees or workers on site.

_____ Near Completion, will be completed by: _____

_____ Other: _____

Additional Work Project: FROM: _____ TO: _____

Description of additional work required:

_____

_____

Company: _____

Representative Name: _____

Title: _____

IMPORTANT NOTICE

In the event contractor/subcontractor returns to perform additional work on this project, Office of Navajo Labor Relations must be contacted and a manpower projection report shall be submitted to ONLR before any work is to start. Form can be faxed to the Office of Navajo Labor Relations at:

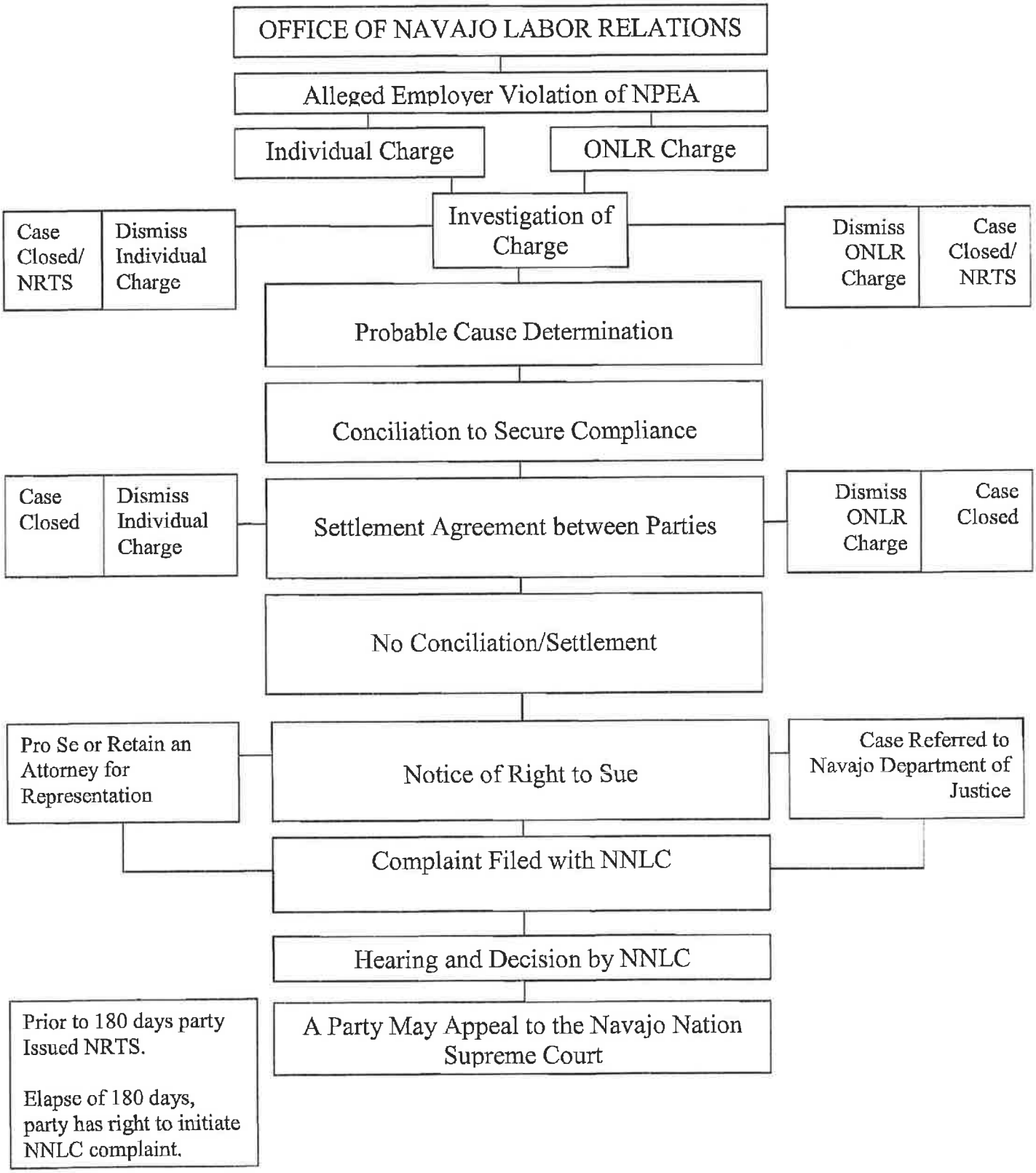
Office of Navajo Labor Relations
(505) 368-1145

NOTE: Please fill out this form within two weeks of completion of project.

Original to:
Office of Navajo Labor Relations
Attn: John P. Wilson, LCO
P. O. Drawer 1704
Shiprock, New Mexico 87420

Copy to:
Office of Navajo Labor Relations
Attn: Michael Armijo, CEA
P. O. Drawer 1943
Window Rock, Arizona 86515

INVESTIGATION PROCESS FLOW CHART



APPENDIX C

Environmental Requirements

- Navajo Nation Cultural Resources Compliance Forms (CRCF)
- Navajo Nation Biological Compliance Form (BRCF)
- Finding Of No Significant Impact (FONSI)
- Navajo Department of Agriculture Re-seeding Requirements
- Noxious Weed Containment Requirements

CULTURAL RESOURCES COMPLIANCE FORM
HISTORIC PRESERVATION DEPARTMENT
PO BOX 4950
WINDOW ROCK, ARIZONA 86515

ROUTING: COPIES TO
NM SHPO
REAL PROPERTY MGT/330
XX CASA

NNHPD NO. **HPD-06-295**
OTHER PROJECT NO.
CASA 06-43

PROJECT TITLE: **Cultural Resource Inventory, Souder Miller & Associates, Mariano Lake Waterline Project, McKinley County, New Mexico**

LEAD AGENCY: BIA/NR

SPONSOR: Andrew Robertson, Souder Miller & Associates, 3451 Candelaria Rd NE, Suite D, Albuquerque, New Mexico 87107

PROJECT DESCRIPTION: The proposed undertaking will involve 51,615-ft with a 30-ft wide construction easement of new waterlines and a 200-ft radius for a proposed water storage tank. A total of 221.6 acres was surveyed. Ground disturbance will be intensive and extensive with the use of heavy equipment.

LAND STATUS: Tribal Trust
CHAPTER: **Mariano Lake**
LOCATION: T15N, R14W, T16N, R14W - Sec. 15, 2, 9, 5, 33, 32, 11, 12, 1 & 36; Mariano Lake Quadrangle, McKinley County, New Mexico NMPM

PROJECT ARCHAEOLOGIST: **Nancy S. Hammack**
NAVAJO ANTIQUITIES PERMIT NO.: B06019
DATE INSPECTED: **March 01 to 10, 2006**
DATE OF REPORT: March 15, 2006
TOTAL ACREAGE INSPECTED: **221.6 ac**

METHOD OF INVESTIGATION: Class III pedestrian inventory with transects spaced 15 m apart.

LIST OF CULTURAL RESOURCES FOUND:	(1) Site (NM-Q-27-25, (1) Traditional Cultural Property (TCP, & (1) Isolated Occurrence (IO)
LIST OF ELIGIBLE PROPERTIES:	(1) Site (NM-Q-27-25)
LIST OF NON-ELIGIBLE PROPERTIES:	(1) TCP & (1) IO
LIST OF ARCHAEOLOGICAL RESOURCES:	(1) Site (NM-Q-27-25)

EFFECT/CONDITIONS OF COMPLIANCE: **No historic properties will be affected with the following conditions:**

Site NM-Q-27-25:
1. **Site will be flagged by a qualified archaeologist prior to ground disturbing activities.**
2. **Site will be avoided by rerouting the waterline 50-ft. to the north as shown in Figure 5.**

In the event of a discovery [*"discovery"* means any previously unidentified or incorrectly identified cultural resources including but not limited to archaeological deposits, human remains, or locations reportedly associated with Native American religious/traditional beliefs or practices], all operations in the immediate vicinity of the discovery must cease, and the Navajo Nation Historic Preservation Department must be notified at (928) 871-7132.

FORM PREPARED BY: TAMARA BILLIE
FINALIZED: April 18, 2006

Notification to Proceed Recommended: Yes XX No ____
Conditions: Yes XX No ____

Alan S. Downer, Navajo Nation Historic Preservation Officer — Date 4-21-06

Navajo Region Approval: Yes X No ____

Acting Regional Director — Date 5/1/06

CULTURAL RESOURCES COMPLIANCE FORM

THE NAVAJO NATION
HISTORIC PRESERVATION DEPARTMENT
PO BOX 4950
WINDOW ROCK, ARIZONA 86515

ROUTING: COPIES TO
NM SHPO
REAL PROPERTY MGT/330
XX DCRM

NNHPD NO. **HPD-09-834**
OTHER PROJECT NO.
DCRM 2009-64

PROJECT TITLE: A Cultural Resources Inventory of a Proposed Re-Route of the Mariano Lake Waterline Project, Mariano Lake Chapter, McKinley County, New Mexico

LEAD AGENCY: BIA/NR

SPONSOR: Andrew Robertson - Engineer, Souder, Miller & Associates, 3451 Candelaria Road NE, Suite D, Albuquerque, New Mexico 87107

PROJECT DESCRIPTION: The proposed undertaking will involve re-routing a portion of the Mariano Lake Waterline project that was originally designed in 2006. There will be a 30-ft wide construction easement for the new waterline & a 100-ft wide easement width across two wash crossings. Ground disturbing activities will include heavy vehicle traffic within the right-of-way, clearing of the ground surface, excavation of the waterline route, the placement of water pipes and backfilling the excavated areas. The area surveyed for the construction easement is 8,169.3-ft (1.55-miles) in length and a 100-ft wide right-of-way at two wash crossings at approximately 262-ft in length. The area of effect is 6.47-acres. Ground disturbance will be intensive and extensive with the use of heavy equipment.

LAND STATUS: Tribal Trust & Allotment
CHAPTER: Mariano Lake
LOCATION: T.15N R.14W - Sec. 5 & 9; T.16N, R.14W - Sec. 32 & 33; Mariano Lake Quadrangle, McKinley County, New Mexico NMPM

PROJECT ARCHAEOLOGIST: Richard M. Begay
NAVAJO ANTIQUITIES PERMIT NO.: B09411

DATE INSPECTED: 07/17/09 & 07/22/09
DATE OF REPORT: 07/23/09
TOTAL ACREAGE INSPECTED: 19.6-ac

METHOD OF INVESTIGATION: Class III pedestrian inventory with transects spaced 15 m apart.

LIST OF CULTURAL RESOURCES FOUND:	(1) Site (NM-Q-27-37)
LIST OF ELIGIBLE PROPERTIES:	(1) Site (NM-Q-27-37)
LIST OF NON-ELIGIBLE PROPERTIES:	None
LIST OF ARCHAEOLOGICAL RESOURCES:	(1) Site (NM-Q-27-37)

EFFECT/CONDITIONS OF COMPLIANCE: **No historic properties will be affected with the following conditions:**

Site NM-Q-27-37:
1. A qualified archaeologist will flag the site prior to ground disturbing activities.
2. Site will avoided by re-routing the waterline to the west avoiding the two significant features of the site.
3. All ground disturbing activities will be confined to the 30-ft right-of-way.

In the event of a discovery ["*discovery*" means any previously unidentified or incorrectly identified cultural resources including but not limited to archaeological deposits, human remains, or locations reportedly associated with Native American religious/traditional beliefs or practices], all operations in the immediate vicinity of the discovery must cease, and the Navajo Nation Historic Preservation Department must be notified at (928) 871-7148.

FORM PREPARED BY: Tamara Billie
FINALIZED: August 26, 2009

Notification to
Proceed Recommended: Yes XX No ____
Conditions: Yes XX No ____

Alan S. Downer, Navajo Nation Historic Preservation Officer — Date 8-27-09

Navajo Region Approval: Yes ✓ No ____

BIA-Regional Director — Date 9.14.09

NNDFW Review No. MAR-001-09

BIOLOGICAL RESOURCES COMPLIANCE FORM
NAVAJO NATION DEPARTMENT OF FISH AND WILDLIFE
P.O. BOX 1480, WINDOW ROCK, ARIZONA 86515-1480

It is the Department's opinion the project described below, with applicable conditions, is in compliance with Tribal and Federal laws protecting biological resources including the Navajo Endangered Species and Environmental Policy Codes, U.S. Endangered Species, Migratory Bird Treaty, Eagle Protection and National Environmental Policy Acts. This form does not preclude or replace consultation with the U.S. Fish and Wildlife Service if a Federally-listed species is affected.

PROJECT NAME & NO.: Mariano Lake Waterline Project

DESCRIPTION: The Navajo Nation Water Management Branch proposes to construct an 8.6 mile waterline around the existing Red Willow Loop Road south of Mariano Lake, New Mexico. The proposed waterline would supply water to residents living along the loop road. The road is an existing road used by the residents and is a school bus route. Construction of the waterline will begin as soon as the right-of-way permit is approved. The proposed waterline will include the construction of a booster station to pump water to a proposed 36,000 gallon storage tank. The project proposes to construct a single-phase powerline, 0.8 ± mile in length from an existing powerline to the booster pump station. The proposed waterline right-of-way will be 40 feet in width and 45,408 feet in length. The proposed powerline right-of-way will be 20 feet in width and 4,224 feet in length. Disturbed areas from construction activities will be reclaimed and reseeded.

LOCATION: BOP: Red Willow Spring, 741162E 3939453N; EOP: SE Berean Mission, 747977E 3939005N; Mariano Lake Chapter, McKinley County, New Mexico

REPRESENTATIVE: Leonard Robbins, PES

ACTION AGENCY: Navajo Nation Branch of Water Resources

B.R. REPORT TITLE / DATE / PREPARER: Biological Evaluation Mariano Lake Waterline Project/16 November 2009/Denali Environmental Services

SIGNIFICANT BIOLOGICAL RESOURCES FOUND: None. Area 3 - Low Sensitive Area

POTENTIAL IMPACTS

NESL SPECIES POTENTIALLY IMPACTED: NA

FEDERALLY-LISTED SPECIES AFFECTED: NA

OTHER SIGNIFICANT IMPACTS TO BIOLOGICAL RESOURCES: NA

AVOIDANCE / MITIGATION MEASURES: (1) The NNDFW highly recommends that the proposed power line is constructed utilizing a raptor-safe, power pole design standard (REPR); (2) Reseed and revegetate the project right-of-way to minimize impacts to foraging habitat; and (3) All project equipment and personnel will remain in the project right-of-way.

CONDITIONS OF COMPLIANCE*: NA

FORM PREPARED BY / DATE: Pamela A. Kyselka/07 December 2009

C:\Documents and Settings\Pamela\My Documents\PDF_NNHP\REVIEW_BRCF\MAR-001-09.doc

COPIES TO: (add categories as necessary)

☐ _____ ☐ _____

2 NTC § 164 Recommendation:	Signature	Date
☒Approval ☐Conditional Approval (with memo) ☐Disapproval (with memo) ☐Categorical Exclusion (with request letter) ☐None (with memo)	Gloria M. Tom, Director, Navajo Nation Department of Fish and Wildlife	12/9/09

*I understand and accept the conditions of compliance, and acknowledge that lack of signature may be grounds for the Department not recommending the above described project for approval to the Tribal Decision-maker.

Representative's signature Date

United States Department of the Interior

Bureau of Indian Affairs
Navajo Region
P. O. Box 1060
Gallup, New Mexico 87305

TAKE PRIDE IN AMERICA

MC 620: Division of Environmental, Cultural & Safety Management

AUG 0 5 2010

Jane Ann Bode
Souder Miller & Associates
3451 Candelaria NE, Suite D
Albuquerque, New Mexico 87107-1948

Dear Ms. Bode:

The Environmental Assessment (EA), EA-10-108, for the proposed Mariano Lake Water Supply Improvements Project, on a total of 54.6 acres of Indian Trust Allotment and Navajo Tribal Trust land in Mariano Lake, McKinley County, New Mexico, has been reviewed in the Division of Environmental, Cultural and Safety Management, Navajo Regional Office. The Navajo Nation Department of Water Resources, Water Management Branch, proposes to install approximately 10.6 miles of water line; one booster station; one pressure reduction valve (PRV); construct a water dispensing station at the Mariano Lake Chapter House; and a new 36,000 gallon water storage tank. A 0.7 mile long electric line within a 40-foot wide corridor will also be installed to power the booster station. The proposed project will be constructed in three phases. A Finding of No Significant Impact (FONSI) has been determined for the proposed action. It will not have a significant impact on the quality of the natural and human environment. An environmental impact statement for the proposed project is not required.

If you have questions, you may contact Ms. Harrilene J. Yazzie, Regional NEPA Coordinator, at (505) 863-8287.

Sincerely,

Acting Regional Director, Navajo

Enclosure

cc: Leonard Robbins, PES, Denali Environmental Services, P.O. Box 1127, Fort Defiance, Arizona 86504

FINDING OF NO SIGNIFICANT IMPACT
ENVIRONMENTAL ASSESSMENT DOCUMENT, EA-10-108
MARIANO LAKE WATER SUPPLY IMPROVEMENTS PROJECT

NAVAJO NATION DEPARTMENT OF WATER RESOURCES, WATER MANAGEMENT BRANCH

Location: Mariano Lake, NM, Quadrangle, USGS 7.5 Minute Series Map
Section 32, T16N, R14W, NMPM
Sections 5, 3, 15, 12, & 1, T15N, R14W, NMPM
Mariano Lake, McKinley County, New Mexico

The proposed action is approval, by the Bureau of Indian Affairs, for a right-of-way grant to The Navajo Nation Department of Water Resources, Water Management Branch, to construct approximately 10.6 miles of buried water pipeline which will cross Navajo Tribal Trust and Indian Allotment land encompassing approximately 51.4 acres. In addition, right- of-way for a single phase electric power line approximately 0.7 miles (3,450 feet) long within a 40-foot wide corridor is required to provide power to the proposed booster pump station; and will impact approximately 3.2 acres of Navajo Tribal Trust land. The proposed project will involve vehicle and heavy machinery traffic within the right-of-way (ROW); trenching along the centerline of the ROW; installation of water line (pipe); backfill and compaction of the trench, land rehabilitation, and subsequent water line operation. The proposed project will be installed in three phases within Navajo Tribal Trust and Indian Trust Allotment land. A total of 45 residential connections will be made upon completion of all three phases of work. Water will not be turned on within the homes until septic systems or sewage lagoons are constructed per Navajo Tribal Utility Authority (NTUA) guidelines (EA, Part 2.1.). The project is sponsored by the Navajo Nation Department of Water Resources, Water Management Branch, P.O. Box 678, Fort Defiance, Arizona 86504.

The project environmental assessment (EA) was reviewed in the Division of Environmental, Cultural and Safety Management, Navajo Regional Office. Based on the environmental assessment and the mitigation measures specified in the document, it is determined that the proposed action will not have a significant impact on the natural and human environment. Therefore, in accordance with the National Environmental Policy Act, Section 102 (2) (C), an environmental impact statement will not be required.

The following references, incorporated in the environmental assessment, serve as the bases for this decision:

1. Agency and public involvement was solicited. Environmental issues relative to the proposed project were identified. Alternative courses of action and mitigation measures were developed in response to environmental concerns and issues.

2. The EA disclosed the environmental consequences of the proposed, alternative 1, and "no action" alternatives.

3. In compliance with the Endangered Species Act of 1973, informal consultation was held with the Navajo Nation Department of Fish and Wildlife (NNDFW), Natural Heritage Program (NHP). The NNDFW issued a list of species of concern known to occur on or near the project site(s) and with potential to occur on the *Mariano Lake, NM,* USGS 7.5-minute Quadrangle containing the project boundaries (See Letter of September 21, 2009, from the NNDFW to Denali Environmental Services-EA, Appendix E). Denali Environmental Services (DES) conducted field surveys on September 28, 2000, October 2, 2009 and October 17, 2009. There is no federally designated critical habitat at the site. The proposed right-of-way will have no effect on ESA and NESL species, as the species are not present. The NNDFW issued Biological Resources Compliance Form (BRCF), NNDFW Review No.Mar-001-09. The BRCF indicated approval of the project. The operator shall comply with the avoidance/mitigation measures stated in the CRCF (EA, Appendix E).

4. Potential impacts to floodplains and wetlands by the proposed project have been evaluated in accordance with Executive Orders 11988 and 11990 respectively. Flood zones are not present on the site (EA, Part 3.0, Table 1). The National Wetlands Inventory (NWI) maps indicate there are no wetlands or riparian occurrences on the pipeline right-of-way (EA, Appendix E, Biological Evaluation.

5. Water Resources- there are no surface water bodies within the project area. Surface runoff in the area is primarily ephemeral and comes as runoff from spring snowmelt and storm water runoff which generally occurs during summer months (EA, Part 3.7.). Indirect effects to surface water quality are possible but would be temporary and anticipated only during construction as a result of soil disturbance during trenching for water pipe line installation. The potential for soil erosion into washes and arroyos, and eventually to surface waters, therefore exists. Indirect effects may result from wind having the potential to remove stockpiled dirt and dust into surface water sources (EA, Part 4.7.1.). Mitigation will include watering down dirt to keep fugitive dust from escaping the construction area. Project construction will adhere to requirements of the Clean Water Act Section 402(p). Required NPDES permit, Section 12 Nationwide Permit and applicable SWPPP will be obtained prior to construction activities. Best management practices such as silt fences or earth dams will be used to prevent storm water from leaving the site. Re-vegetation upon completion of construction will be implemented. The proposed project is intended to extract ground water for use by residents in the area; ground water is the existing and proposed water supply for the project (EA, Part 3.8.). No direct or indirect effects to ground water are anticipated during construction of the proposed project (EA, Part 4.8.2.).

6. In compliance with the National Historic Preservation Act of 1966, as amended, Section 106 and 36 CFR 800.9 (b), cultural resources inventories of the proposed project area were conducted by Complete Archaeological Service Associates (CASA) in 2006 and Dinétahdóó Cultural Resources Management (DCRM) in 2009. The Navajo Nation Historic Preservation Department (NNHPD) issued Cultural Resources Compliance Forms (CRCFs), NNHPD No.HPD-06-295 (CASA) and HPD-09-834 (DCRM). The CRCFs indicate that no historic properties would be affected if conditions cited in the CRCFs are followed (EA, Appendix F).

In the event of a discovery [discovery means any previously unidentified or incorrectly identified cultural resources including, but not limited to, archaeological deposits, human remains, or locations reportedly associated with Native American religious/traditional beliefs or practices] all operations in the immediate vicinity of the discovery must cease, and the Navajo Nation Historic Preservation Department must be notified.

7. RCRA, Subtitles C and D, Hazardous and Non-Hazardous Solid Waste- the proposed ROW is largely disturbed, although it is located in a natural setting; site vegetation is sparse and segments within the ROW are periodically disturbed from land owner range management or, if along existing road, has been disturbed by routine grading using heavy equipment (DES 2009). There are no RCRA Subtitle C hazardous waste sites, CERCLA, or TSCA sites on or adjoining the proposed project ROW. USGS Topographic Map information indicates mines in the area. The Natural Resources Conservation Service (NRCS) indicates that lands in the area of the ROW are uranium mined lands. Phase 1 of the proposed project travels along the Gulf Mine Road (EA, Part 3.17). Direct effects from human and solid waste exist while contractor personnel are on the site for construction of the water pipeline. Direct effects to construction workers may result if uranium mine tailings are disturbed by construction efforts. Indirect effect to nearby residents exists if uranium mine tailings are disturbed by construction efforts and material becomes airborne (EA, Part 4.17.1.). Mitigation measures will include: haulage and disposal of solid waste, and if applicable, hazardous waste on a weekly basis. Portable toilets shall be required and will be serviced weekly. Heavy equipment and trucks shall be parked within the project ROW during construction and will not be present upon project completion. Waste oil shall not be stored on the site. Any changed motor oil shall be hauled to a commercial outlet for disposal. Hazards from uranium mine tailings will be assessed prior to work. Mitigation efforts to reduce exposure to workers and residents shall be in place as applicable. No fill dirt from a contaminated site shall be allowed for use on the proposed project (EA, Part 4.17.3.).

8. Community Infrastructure – utilities in the area are provided by the NTUA, which provides drinking water, and Continental Divide Electric Cooperative (CDEC) which provides electrical power (EA, Part 3.5.).

9. Air Quality – primary pollutants in the project area include windblown dust during times of high wind or disturbed topsoil from vehicular traffic along unimproved roads (EA, Part 3.9.). Construction activities have the potential to create temporary increases in emissions due to combustion-related construction equipment. Dust associated with vehicular use and earth moving activities may also directly impact local air quality. Increases in dust emissions are not anticipated to result in non-attainment of New Mexico or National Ambient Air Quality Standards. Dust control measures such as use of water for dust suppression will be taken to minimize release of particulates that may affect air quality due to vehicular traffic or soil disturbance. The project area shall be reclaimed as required by applicable permits to avoid long-term problems with erosion or fugitive dust (EA, Parts 4.9.1 & 4.9.3).

10. Cumulative and secondary effects on soil, water, air, noise, vegetation, cultural resources, and wildlife resources (species and habitat) were considered, and the proposed mitigation measures were found to be acceptable.

11. In accordance with Executive Order 12898 on Environmental Justice, impacts to minority and low-income populations and communities have been considered by the Regional NEPA Coordinator, as have impacts to Indian Trust Resources. The proposed project will have no disproportionate negative effects on the community. Replacement of existing water line and installation of additional water supply line to the Mariano Lake area residences will directly benefit residents and will, in turn, stimulate economic growth as a result of construction activities for both water line and septic system installations. The environment will be indirectly benefitted by the presence of septic system installations which will provide primary domestic wastewater treatment. Long-term benefits to the residents of the area include a sustained supply of high quality drinking water for lower income residents (EA, Parts 4.16.1 & 4.16.3.).

The proposed action will result in the realization of the long-term plan to improve the community's water supply system and provision of dependable water supply and infrastructure services to the local residents. Quality of life for the people will be improved through elimination of water hauling; and having safe drinking water.

for Regional NEPA Coordinator

8/3/2010
Date

Prepared by: Judy R. Willeto, Range Conservationist
Navajo Department of Agriculture - Ft. Defiance A.O.
P.O. Box 308
Window Rock, Arizona 86515
Telephone (602) 871-7076
FAX (602) 871-5493
Revision Date: December 6, 1994

NAVAJO TRIBAL UTILITY AUTHORITY
VEGETATIVE RECLAMATION FOR PIPELINE AND POWERLINE R.O.W.

PIPELINE (GAS, WATER, SEWAGE, ETC.)

Site Description #1

Grasses and Grasslike: Blue Gramma, Western Wheatgrass, Needle and Thread, Bottlebrush Squirreltail, etc.
Shrubs and Trees: Pinyon Pine, Juniper, Sagebrush, Rabbitbrush
Soils: Loam, Clay Loam, Sandy Loam, Sandy Clay Loam

Preparation of Site

Prior to excavation of the pipeline trench, the top 6 inches of topsoil in right of way will be removed and saved for further use to reclaim pipeline right of way. The saved topsoil will be stockpiled far enough away from the trench and line of work so, as not be be damaged. After the topsoil has been stockpiled, trenching, ripping, etc. can begin.

Restoration

Pipeline trench will be filled with excavated material, the impacted of affected area within the right of way will be smoothed evenly with the topography of the land. The saved topsoil will then be placed over smoothed right of way. Right of way will then be reseeded with the following seed mixture; TABLE A-1

TABLE A-1

Species	Cultivar	Lbs PLS/Acre
Western Wheatgrass	Arriba	3.0
Streambank Wheatgrass		2.0
Intermediate Wheatgrass	Oahe	3.0
Indian Rice Grass	Paloma	2.0
Blue Grama		2.0
Sideoats Grama		2.0
Little Bluestem		2.0
Rocky Mountain Penstemon		1.0
TOTAL POUNDS PLS PER ACRE		16.0

* PLS - Pure Live Seed

Site Description #2

Grasses and Grasslike: Western Wheatgrass, Blue Grama
Shrubs and Trees: Ponderosa Pine, Douglas fir, Blue Spruce
Soils: Loam, Clay, Clay Loam

Preparation of Site

Prior to excavation of the pipeline trench, the top 6 inches of topsoil in in right of way will be removed and saved for further use to reclaim pipeline right of way. The saved topsoil will be stockpiled far enough away from the trench and line of work so, as not be be damaged. After the topsoil has been stockpiled, trenching, ripping, etc. can begin.

Restoration

Pipeline trench will be filled with excavated material, right of way will be smoothed evenly with the topography of the land. The saved topsoil will then be placed over smoothed right of way. Right of way will then be reseeded with the following seed mixture; TABLE A-2

TABLE A-2

Species	Cultivar	Lbs PLS/Acre
Western Wheatgrass	Arriba	3.0
Streambank Wheatgrass		2.0
Intermediate Wheatgrass	Oahe	3.0
Indian Rice Grass	Paloma	2.0
Blue Grama		2.0
Sideoats Grama		2.0
Little Bluestem		2.0
Rocky Mountain Penstemon		1.0
TOTAL POUNDS PLS PER ACRE		16.0

Desription #3 (ND-1)

Grasses and Grasslike: Alkali Sacaton, Galleta, Sand Dropseed, Threeawn
Shrubs and Trees: Fourwing Saltbush, Shadscale, Greasewood
Soils: Sand, Sandy Loam

Preparation of Site

Prior to excavation of the pipeline trench, top 6 inches of topsoil in in right of way will be removed and saved for further use to reclaim pipeline right of way. The topsoil will be stockpiled far enough away from the trench and line of work so, as not be be damaged. After the topsoil has been stockpiled, trenching, ripping, etc. can begin.

Restoration

Pipeline trench will be filled with excavated material, right of way will be smoothed evenly with the topography of the land. Topsoil will then be placed

over smoothed right of way. Right of way will then be reseeded with the following seed mixture; TABLE A-3

TABLE A-3

Species	Cultivar	Lbs PLS/Acre
Alkali Sacaton		1.5
Indian Rice Grass	Paloma	2.0
Galleta	Viva	1.5
Sand Dropseed		2.0
Fourwing Saltbush		2.0
Shadscale		2.0
Western Wheatgrass	Arriba	3.0
Penstemon	Bandera	1.0
TOTAL POUNDS PLS PER ACRE		15.0

@@@

TABLE B-1

Species		Lbs PLS/1000 sq.ft.
Western Wheatgrass	Arriba	1.0
Streambank Wheatgrass		1.0
Intermediate Wheatgrass	Oahe	1.0
Indian Rice Grass	Paloma	1.0
Blue Grama		1.0
TOTAL POUNDS PLS PER 1000 SQUARE FEET		5.0

Preparation of Site (Minimal Impact)
Prior to excavation and installation of utility posts/poles with overhead powerlines, the top (6) six inches of topsoil around post/pole location will be removed and stockpiled for later use to reclaim area. Stockpiled topsoil will be kept away from worksite, at a distance where it will not be damaged or mixed in with fill material to stabilize utility post/pole. Since reclamation will focus 10 to 30 feet in diameter around the utility post/pole this plan will be used only for minimal impacts, where a the entire right of way is not affected by construction.

Restoration
Upon installation of of the utility post/poles and overhead powerlines the affected area will be smoothed evenly to match the topography of the field. After smoothing the stockpiled topsoil will be placed evenly over affected or impacted area. The area will then hand seeded (Broadcasted) and manually raked into the soil. Do not leave seed without raking into soil, it will blow away, birds will feed on seed, etc. Specify to field staff the importance of manually raking to secure seed into the ground. Do not over rake and deep bury seed, this will result in low or no germination of the seed. Seed needs to be placed in the top one (1) inch of the soil. The following broadcast seed mixture will be used on this area; TABLE B-1

TABLE B-1

Species		Lbs PLS/100 sq.ft.
Western Wheatgrass	Arriba	1.0
Streambank Wheatgrass		1.0
Intermediate Wheatgrass	Oahe	1.0
Indian Rice Grass	Paloma	1.0
Blue Grama		1.0
TOTAL POUNDS PLS PER 1000 SQUARE FEET		5.0

Site Description #2

Grasses and Grasslike: Western Wheatgrass, Blue Grama
Shrubs and Trees: Ponderosa Pine, Douglas fir, Blue Spruce
Soils: Loam, Clay, Clay Loam

Preparation of Site (Extensive Impact)
Prior to excavation to install overhead powerlines with utility poles, the top six (6) inches of topsoil in the right of way will be removed and stockpiled for further use to reclaim area. The topsoil will be stockpiled at an adequate distance away from worksite, to prevent usage until initial reclamation begins. Stockpiled topsoil will be specifically used for reclamation purposes, at no time will the topsoil be used as fill material to stabilize utility posts/poles.

Restoration
Utility poles with overhead powerlines have been installed, poles have been stabilized securely, area will be smooth to match the surrounding topography. After area has been smoothed, topsoil will be replaced and evenly spread over the right of way. The right of way will then be mechanically drilled seeded or under close supervision an (ATV) All Terrain Vehicles with seeding mount will be used. The right of way will be reseeded with the following seed mixture; TABLE B-1

TABLE B-1

Species		Lbs PLS/1000 sq.ft.
Western Wheatgrass	Arriba	1.0
Streambank Wheatgrass		1.0
Intermediate Wheatgrass	Oahe	1.0
Indian Rice Grass	Paloma	1.0
Blue Grama		1.0
TOTAL POUNDS PLS PER 1000 SQUARE FEET		5.0

Preparation of Site (Minimal Impact)
Prior to excavation and installation of utility posts/poles with overhead powerlines, the top (6) six inches of topsoil around post/pole location will be removed and stockpiled for later use to reclaim area. Stockpiled topsoil will be kept away from worksite, at a distance where it will not be damaged or mixed in with fill material to stabilize utility post/pole. Since reclamation will focus 10 to 30 feet in diameter around the utility post/pole this plan will be used only for minimal impacts, where a the entire right of way is not affected by construction.

Restoration
Upon installation of of the utility post/poles and overhead powerlines the affected area will be smoothed evenly to match the topography of the field. After smoothing the stockpiled topsoil will be placed evenly over affected or impacted area. The area will then hand seeded (Broadcasted) and manually raked

into the soil. Do not leave seed without raking into soil, it will blow way, birds will feed on seed, etc. Specify to field staff the importance of manually raking to secure seed into the ground. Do not over rake and bury seed, this will result in low or no germination of the seed. Seed needs to be placed in the top inch of the soil. The following broadcast seed mixture will be used on this area; TABLE B-1

TABLE B-1

Species		Lbs PLS/1000 sq.ft.
Western Wheatgrass	Arriba	1.0
Streambank Wheatgrass	Sodar	1.0
Intermediate Wheatgrass	Oahe	1.0
Indian Rice Grass	Paloma	1.0
Blue Grama		1.0
TOTAL POUNDS PLS PER 1000 SQUARE FEET		5.0

<u>Desription #3</u>

Grasses and Grasslike:	Alkali Sacaton, Galleta, Sand Dropseed, Threeawn
Shrubs and Trees:	Fourwing Saltbush, Shadscale, Greasewood
Soils:	Sand, Sandy Loam

Preparation of Site (Extensive Impact)
Prior to excavation to install overhead powerlines with utility poles, the top six (6) inches of topsoil in the right of way will be removed and stockpiled for further use to reclaim area. The topsoil will be stockpiled at an adequate distance away from worksite, to prevent usage, until initial reclamation begins. Stockpiled topsoil will be specifically used for reclamation purposes, at no time will the topsoil be used as fill material to stabilize utility posts/poles.

Restoration
Utility poles with overhead powerlines have been installed, poles have been stabilized securely, area will be smooth to match the surrounding topography. After area has been smoothed, topsoil will be replaced and evenly spread over the right of way. The right of way will then be mechanically drilled seeded or under close supervision an (ATV) All Terrain Vehicles with seeding mount will be used. The right of way will be reseeded with the following seed mixture; TABLE B-2

TABLE B-2

Species		Lbs PLS/1000 sq.ft.
Alkali Sacaton		1.0
Indian Rice Grass	Paloma	1.0
Galleta	Viva	1.0
Western Wheatgrass	Arriba	2.0
TOTAL POUNDS PLS PER 1000 SQUARE FEET		5.0

Preparation of Site (Minimal Impact)
Prior to excavation and installation of utility posts/poles with overhead powerlines, the top (6) six inches of topsoil around post/pole location will be removed and stockpiled for later use to reclaim area. Stockpiled topsoil will be kept away from worksite, at a distance where it will not be damaged or mixed in with fill material to stabilize utility post/pole. Since reclamation will focus 10 to 30 feet in diameter around the utility post/pole this plan will be used only for minimal impacts, where a the entire right of way is not affected by construction.

Restoration
Upon installation of of the utility post/poles and overhead powerlines the affected area will be smoothed evenly to match the topography of the field. After smoothing the stockpiled topsoil will be placed evenly over affected or imapcted area. The area will then hand seeded (Broadcasted) and manually raked into the soil. Do not leave seed without raking into soil, it will blow way, birds will feed on seed, etc. Specify to field staff the importance of manually raking to secure seed into the ground. Do not over rake and bury seed, this will result in low or no germination of the seed. Seed needs to be placed in the top inch of the soil. The following broadcast seed mixture will be used on this area; TABLE B-2

TABLE B-2

Species		Lbs PLS/1000 sq.ft.
Alkali Sacaton		1.0
Indian Rice Grass	Paloma	1.0
Galleta	Viva	1.0
Western Wheatgrass	Arriba	3.0
TOTAL POUNDS PLS PER 1000 SQUARE FEET		5.0

Special/Other Requirements

Seed

All seed must be certified to ensure viability. Start with quality seed, to acheive quality plantings.

Seeding Dates

Seeding dates in Site Description #1 (WP-1) and Site Description #2 (AN-1) will begin June 15 to August 15. The Navajo Nation in these two sites receives high levels of precipitation after August 15. Our intention is to plant before our monsoon season so, planted seed will receive moisture for proper germination and growth.

Seeding dates for Site Description #3 (ND) will begin November 1 through December 15. Dormant seedings from November to mid December are recommended for Northern Desert, due to the extreme hot temperatures and low precipitation during the summer months. Northern Desert receives most of it's precipitation during the winter in the form of snow.

Mulch

Mulch not recommended, due to the high levels of grazing by livestock. Mulch would attract livestock to the area and possibly cause damage to the reseeding. Mulch is not quality feed for horses and sheep and could also cause them to become ill and die. To avoid livestock fatalities we advise not to mulch.

ALBUQUERQUE FIELD OFFICE WEED PREVENTION SCHEDULE

PREVENTION ACTIVITY	WHEN	STAFF
Require that all road construction and maintenance equipment be free of mud, dirt and plant parts before moving from infested areas. Gravel and fill pits should be inspected to ensure they are weed free.	All Year	Lands and Minerals & Engineering Teams
Re-establish vegetation on all areas of soil disturbance. Proper dates and the seeding mix to be used will be provided by the Albuquerque Field Office. Only certified weed free seed and mulch will be used in the re-establishment of vegetation. All reseeded sites should be monitored and permit holder notified if spot reseeding is required.	All Year	Lands and Minerals & Watershed & Engineering Teams
All Range, Watershed, and Wildlife Projects and all Land Use Permits should include a stipulation requiring monitoring for and treatment of noxious weed infestations that occur after a permit is issued. Method of treatment for any infestations must be approved by the Albuquerque Field Office.	All Year	Lands and Minerals & Watershed Teams
Environmental analysis for all Range, Watershed, Wildlife, and Recreation Projects and all Land Use Permits will include weed-risk considerations.	All Year	Lands and Minerals & Watershed Teams & Recreation
Require that supplemental feed be certified weed free. Any permit allowing livestock on the site should have a stipulation that weed free feed be used. Require that all pack and saddle stock in Wilderness Study Areas, Areas of Critical Environmental Concern, Recreation Areas or sensitive areas use only certified weed free feed. Encourage the use of weed free feed in all areas.	All Year	Lands and Minerals & Watershed Teams & Recreation
All Special Recreation Use Permits should include a stipulation requiring on-site weed control and minimization of spread to other areas. Method of treatment for any infestations must be approved by the Albuquerque Field Office.	All Year	Recreation
Sign trailheads of pack and saddle stock trails for weed awareness and weed prevention techniques.	All Year	Recreation
In allotments with infestations and weed free areas, control timing of animal movement to prevent movement from infested sites to non-infested after seed set. Avoid grazing any vegetative treatment site (brush control, sagebrush shaving, reseeded sites or prescribed burn sites) until vegetation is well established.	All Year	Watershed Team
Include weed prevention and treatment in all mining plans of operation and reclamation plans. Retain bonds for weed control until the site is	All Year	Lands and Minerals Team

PREVENTION ACTIVITY	WHEN	STAFF
returned to vegetative conditions matching the surrounding area. Method of treatment for any infestations must be approved by the Albuquerque Field Office.		
Require that all archeological site excavations greater than 1/4 acre be reclaimed. Dates of seeding and seed mix to be used will be provided by the Albuquerque Field Office. Seed must be certified weed free.	All Year	Cultural Team
Will establish weed management areas and work to expand the cooperation with other federal agencies, state and county governments, organizations and private landowners in the fight against weeds.	All Year	Watershed Team & Weed Coordinator
Distribute public information/brochures. Weed identification training for field going employees and managers. Participate in state and local workshops that deal with noxious weed management.	All Year	Watershed Team & Weed Coordinator & Public Affairs

NOXIOUS WEED STIPULATIONS FOR ALL PERMITS, EAs, & EISs

Noxious weed control Standard Operating Procedures found in Instruction Memorandum NM-010-99-01 (Weed Prevention Schedule for Albuquerque Field Office) will be followed.

- Ensure equipment involved in land disturbing actions be clean of noxious weed seeds or propagative parts prior to entry on site. When working in areas with noxious weeds, equipment should be cleaned prior to moving off site.

- Survey and inventory proposed work areas for noxious weeds; take reasonable measures to avoid spread of noxious weeds found (i.e., cleaning equipment with pressure washers, stockpiling overburden material for later treatment, avoiding driving through weed patches). The following noxious weeds have been identified as occurring on lands within the boundaries of the Albuquerque Field Office (AFO).

  1) Russian knapweed (*Centaurea repens*)
  2) musk thistle *(Carduus nutans)*
  3) bull thistle (*Cirsium vulgare)*
  4) Canada thistle (*Cirsium arvense)*
  5) Scotch thistle *(Onopordum acanthium)*
  6) hoary cress *(Cardaria draba)*
  7) perennial pepperweed *(Lepidium latifolium)*
  8) Halogeton (*Halogeton glomeratus)*
  9) spotted knapweed *(Centaurea maculosa)*
  10) Dalmation toadflax *(Linaria genistifolia)*
  11) yellow toadflax *(Linaria vulgaris)*
  12) camelthorn *(Alhagi pseudalhagi)*
  13) yellow starthistle *(Centaurea solstitialis)*
  14) saltcedar *(Tamarix spp.)*

15) diffuse knapweed (Centaurea diffusa)

- Use only certified weed free erosion control and re-vegetation materials (e.g., mulch, seed, natural fiber mats).

- If fill dirt or gravel will be required, the source needs to be noxious weed free.

- The site should be monitored for the life of the project for the presence of noxious weeds (includes maintenance & construction activities). If weeds are found, the AFO will be notified and the AFO will determine the best method for the control of the particular weed species.

- Reclamation and revegetation of the work site will use species specified by the AFO. All seed shall be certified weed free. The area will be monitored to determine the success of the revegetation, and revegetation will continue until successful.

APPENDIX D

Continental Divide Electric Cooperative
Crossing Authorization

CONTINENTAL DIVIDE ELECTRIC COOPERATIVE, INC.

200 E. High St. • P.O. Box 1087 • Grants, New Mexico 87020 • (505) 285-6656 • Fax (505) 287-2234

May 14, 2012

Souder, Miller & Associates
Tory Tadano, EIT
Engineering Intern
3451 Candelaria Rd NE, Suite D
Albuquerque, New Mexico 87107

Re: NTUA Water Line for the Mariano Lake Water Improvement Project

Dear Mr. Tadano,

Continental Divide Electric Cooperative (CDEC) hereby authorizes the Navajo Nation Water Management Branch on behalf of NTUA to cross under CDEC's electrical lines. It is specified that the line is no closer than 20' twenty feet to any of CDEC's poles or anchor guys and the line must be well marked under the lines. If any of your lines are running parallel to CDEC's power lines then these lines must be marked/located every 200' feet.

CDEC does however request a letter relieving all liability for any injury. I presume that the contractor has liability insurance. Would you please send a copy of the documents that you require of the contractor for liability.

As time gets closer for construction of the water lines, please keep me informed regarding the anticipated crossings.

If you need further assistance do not hesitate to contact our office at your convenience.

Sincerely,

Bruce L. Prichard
Engineering Services Supervisor

BLP/do

Souder, Miller & Associates ♦ 3451 Candelaria Road NE, Suite D
Albuquerque, NM 87107-1948 ♦ (505) 299-0942 ♦ (877) 299-0942 ♦ fax (505) 293-3430

May 10, 2012

Debbie Olivar
Continental Divide Electric Company (CDEC)
PO Box 1087
Grants, NM 87020

RE: Permission to Cross CDEC Power Line Easements for the Mariano Lake Water Improvent Project

Dear Ms. Olivar,

The Navajo Nation Water Management Branch on behalf of the Navajo Water Utility Authority (NTUA) is planning to construct a water distribution system to provide domestic water to supply un-served homes within the Mariano Lake Chapter. The proposed project will cross CDEC power lines and service lines. A letter of approval is requested for NTUA waterlines to encroach within CDEC easements at the locations indicated in the following summary table and the attached map.

The following table summarizes where the water distribution system will cross the CDEC power line; the legal descriptions, coordinates of the crossings, the CDEC power lines that the crossing will take place between, and which engineer's plan and profile sheet (which shows a map of the crossing) is included for your convenience.

No.	Township	Range	Section	Crossing Location		Between CDEC Poles		Engineers Sheet #
				Northing	Easting	Pole 1	Pole 2	
1	15N	14W	1	35.5655444	-108.2648660	CDEC 61559	CDEC 41082	C-5
2	15N	14W	1	35.5657085	-108.2654126	CDEC 41082	CDEC 41061	C-5
3	15N	14W	1	35.5647889	-108.2685117	CDEC 63971	CDEC 63912	C-5
4	15N	14W	12	35.5513388	-108.2779072	No Pole #	?	C-7
5	15N	14W	12	35.5491825	-108.2766722	CDEC 41223	CDEC 41222	C-8
6	15N	14W	12	35.5496402	-108.2766984	No Pole #	No Pole #	C-8
7	15N	14W	12	35.5468622	-108.2806075	CDEC 41250	CDEC 41219	C-12
8	15N	14W	12	35.5460189	-108.2806979	CDEC 41218	Service Pole	C-12
9	15N	14W	12	35.5462748	-108.2807008	CDEC 41218	CDEC 41219	C-12
10	15N	14W	11	35.5486484	-108.2828973	CDEC 41506	CDEC 41507	C-12
11	15N	14W	11	35.5471852	-108.2844060	CDEC 41513	CDEC 41505	C-13
12	15N	14W	11	35.5468138	-108.2845323	CDEC 41513	CDEC 41505	C-13
13	15N	14W	11	35.5462975	-108.2846904	CDEC 41513	CDEC 41505	C-13
14	15N	14W	11	35.5471553	-108.2843477	CDEC 41513	CDEC 41512	C-13
15	15N	14W	9	35.5502528	-108.3247164	CDEC 14053	House Service	C-21
16	15N	14W	9	35.5499431	-108.3246975	CDEC 14054	CDEC 14088	C-21
17	15N	14W	9	35.5498644	-108.3290855	CDEC 14063	CDEC 14062	C-22

No.	Township	Range	Section	Crossing Location		Between CDEC Poles		Engineers Sheet #
				Northing	Easting	Pole 1	Pole 2	
18	15N	14W	9	35.5494884	-108.3278843	CDEC 14063	CDEC 14087	C-22
19	15N	14W	9	35.5510264	-108.3312299	CDEC 14086	CDEC 14060	C-17
20	15N	14W	5	35.5587838	-108.3346613	CDEC 14015	CDEC 14031	C-19

Existing poles and guide wires will be avoided by a minimum of at least 20 feet and caution will be exercised to avoid all overhead power lines by equipment and personnel during construction. When construction is completed, the water line will be marked at each crossing.

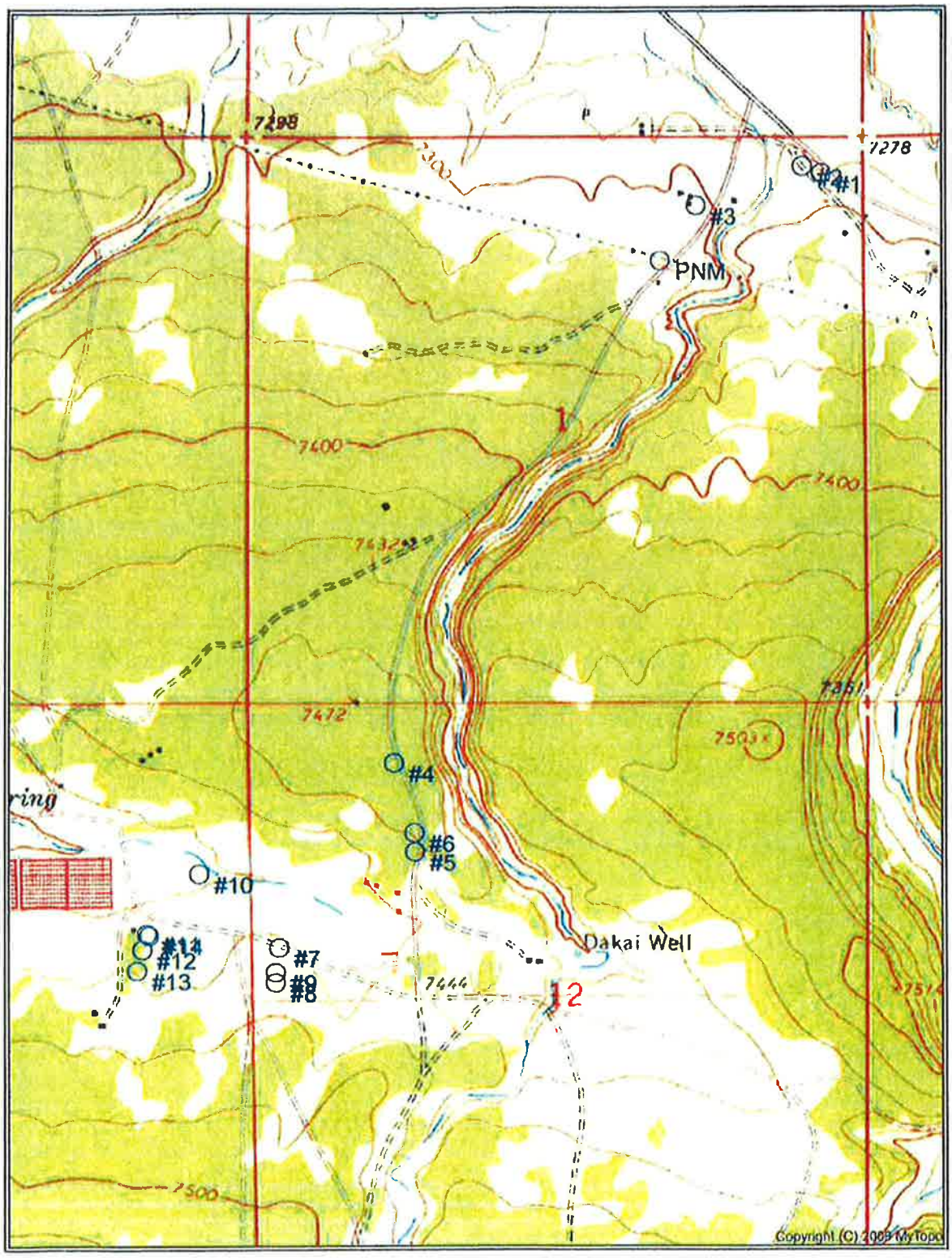
Please review the attached quad maps with GPS point locations and the engineers drawing sheets for more details about the crossings.

If you have any questions please feel free to contact me or the project manager, George Mihalik, at 505-299-0942. Thank you for your help with this project, which will bring first time water service to these residents of the Mariano Lake Chapter that they so desperately need.

Sincerely,

Tory Tadano, EIT
Engineering Intern
Souder, Miller & Associates
3451 Candelaria Rd NE, Suite D
Albuquerque, NM 87107

Attachments

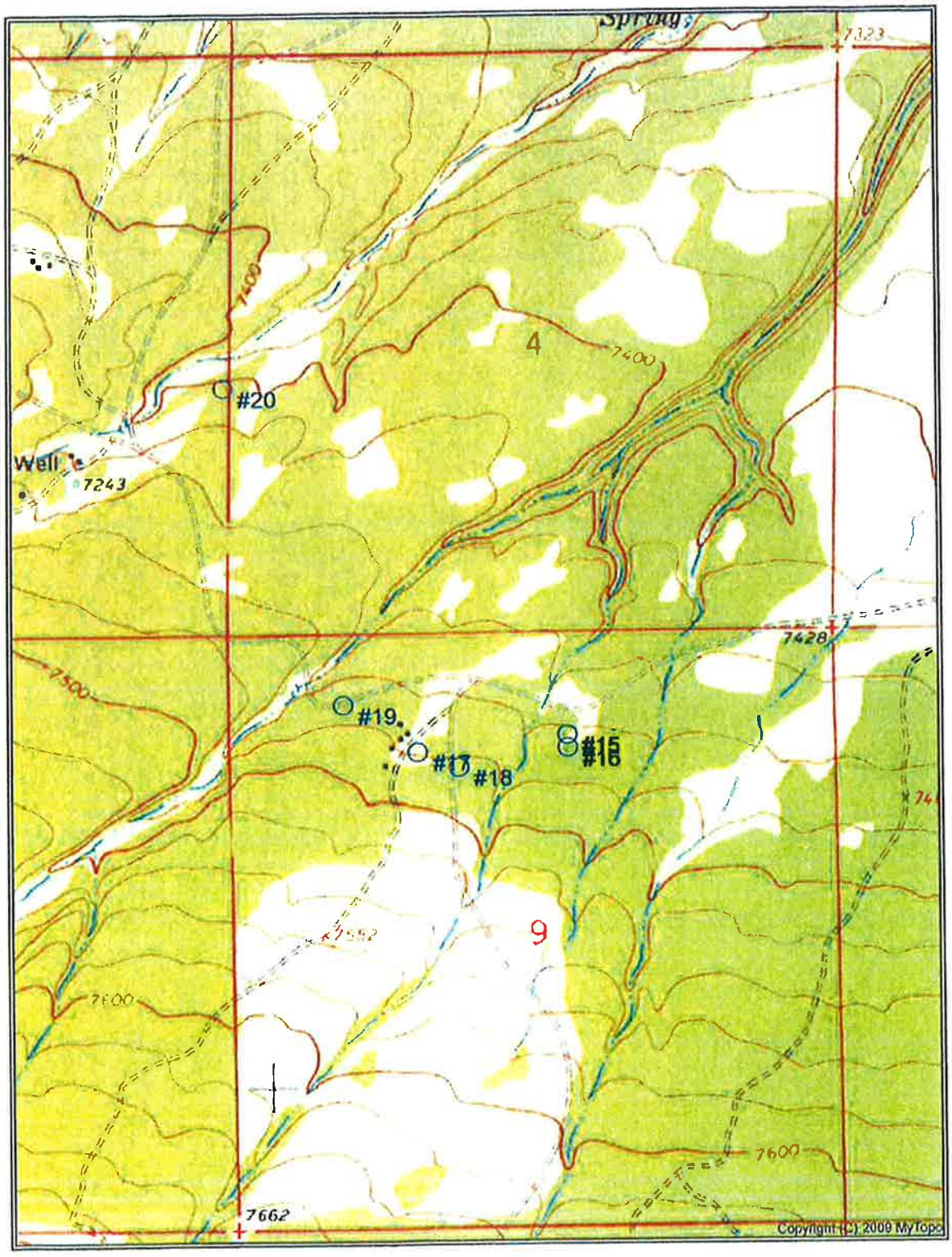


SCALE 1:15000

0 1000 2000 3000 4000

FEET

Mariano Lake GPS Points of CDEC Crossings



SCALE 1:15000

0 1000 2000 3000 4000

FEET

Mariano Lake GPS Points of CDEC Crossings

APPENDIX E

PNM Easement Encroachment Agreement

PNM ROWT NO. ~~20248~~ 20062

FILE: 510.19

RECEIVED
AUG 17 2012
By

PNM

A personal commitment to New Mexico

Alvarado Square, Albuquerque, New Mexico 87158-2101

EASEMENT ENCROACHMENT AGREEMENT

THIS INFORMATION TO BE PROVIDED BY TITLE COMPANY

This Easement Encroachment Agreement made this 21ST day of August, 2012

by and between Navajo Tribal Utility Authority (NTUA)

whose address is P.O. Box 170, Fort Defiance, Arizona 86504

(hereinafter called "First Party"), (his) (her) (their) (its) heirs, successors and assigns, and PUBLIC SERVICE COMPANY OF NEW MEXICO, a New Mexico Corporation (hereinafter called "PNM"), and all collectively hereinafter called "Parties."

WITNESSETH:

WHEREAS, PNM is the Grantee of a certain Easement within the hereinafter described property;

WHEREAS, First Party desires to encroach upon the Easement as more particularly specified hereinafter; and

WHEREAS, PNM has agreed to said encroachment;

NOW THEREFORE, for and in valuable consideration, the receipt of which is hereby acknowledged, PNM does hereby grant First Party the right to encroach upon the Easement only to the extent of, and for the purposes set forth below:

PNM USE ONLY FOR LEGAL DESCRIPTION

PNM ROWT NO. ~~20248~~ 20062 (PNM AY 115kV Transmission line File: 510.19)

Encroachment of a waterline within a 50 foot wide PNM electric transmission easement within Section 1, T. 15N., R. 14W., N.M.P.M., within Indian Allotment #1877 near Old Gulf Mine Road, McKinley County, New Mexico

Said encroachment is shown on the drawing attached hereto and made a part hereof as Exhibit "A".

STANDARD ENCROACHMENT GUIDELINES FOR ELECTRIC TRANSMISSION LINES

1. **All construction equipment must maintain fifteen (15) feet vertical and horizontal clearance from all wires and structures.**
2. **No permanent structures or landscaping over fourteen (14) feet shall be permitted within the PNM Easement.**
3. **First Party will provide a complete set of development plans to PNM for review and approval. If changes are made as a result of the review process, a final development plan will be provided by First Party to PNM before final approval is granted.**
4. **When required, First Party shall install a PNM approved barricade for structures affected and incur all costs associated with the barricade installation.**
5. **First Party shall comply with National Electrical Safety Code clearance requirements for any developments near power lines.**
6. **All personnel and equipment must maintain OSHA working clearances from the energized line.**
7. **No grading within 10 feet and no pavement within 2 feet of PNM pole structures.**
8. **No fill above 1 foot at the mid span or around the pole structures**
9. **No locked gate or fence, PNM shall have 24/7 vehicle access to facilities.**

By granting the aforesaid right to encroach PNM does not waive or relinquish any rights or benefits that it may have, either expressed or implied, under or by reason of the Easement, including, but not limited to, the right to build, rebuild, construct, reconstruct, locate, relocate, change, remove, replace, modify, renew, operate and maintain its gas lines and/or electric lines (including underground lines) and other gas and/or electric equipment, fixtures, appurtenances and structures that are now located, or may in the future be located, on, over, beneath, through and across the Easement. First Party, at its sole cost and expense, agrees to remove or relocate its encroachment upon the written request of PNM within 90 days of such written request. First Party appoints PNM as its agent to accomplish said removal or relocation at First Party's expense if First Party fails to remove or relocate such encroachment within such time period.

In consideration of PNM granting First Party the right to encroach upon the Easement, First Party hereby agrees to indemnify and hold harmless PNM, its officers, employees or agents, from any and all claims whatsoever when such claims directly or indirectly arise out of the existence, construction, maintenance, operation, repair, condition, use or presence of the encroachment upon the Easement, or are caused by, or arise out of, the acts or omissions of First Party, its officers, employees or agents; **provided, however,** that notwithstanding anything to the contrary in this paragraph, First Party shall not be required to indemnify PNM, its employees or agents against those claims for personal injuries

or damages to property caused by or resulting from, in whole or in part, the negligence, act or omission of PNM, its officers, employees or agents.

In consideration of PNM permitting First Party to encroach upon the Easement, First Party agrees that PNM shall not be responsible for any damage caused to facilities, equipment, structures or other property of First Party if damaged by reason of PNM's use of Easement.

First Party shall comply with all applicable laws, ordinances, rules and regulations enacted or promulgated by any federal, state or local governmental body having jurisdiction over First Party's encroachment.

The provisions hereof shall inure to the benefit of and bind the heirs, executors, administrators, personal representatives, mortgagees, lessees, tenants, successors and assigns of the Parties hereto; **provided, however,** that no such heir, executor, administrator, personal representative, mortgagee, lessee, tenant, successor or assign of First Party shall have the right to use, alter or modify the encroachment in a manner which will increase the burden of the encroachment on the Easement.

IN WITNESS WHEREOF, the Parties have executed this Agreement on the day and year first written above.

FIRST PARTY
Navajo Tribal Utility Authority (NTUA)
By: Bernice Tsosie
Bernice Tsosie
Title: Government Liaison/ROW Specialist

PUBLIC SERVICE COMPANY OF NEW MEXICO
By: Michelle Y. Gallegos
Michelle Gallegos, Supervisor
Land Services Department

PNM USE ONLY

STATE OF NEW MEXICO }
COUNTY OF BERNALILLO } SS
This instrument was acknowledged before me on August 21, 2012
By Michelle Gallegos, Supervisor, Land Services Dept. of the Public Service Company of New Mexico, a New Mexico corporation, on behalf of said corporation.

My commission expires:
(Seal)
OFFICIAL SEAL
Fernando Vigil
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: 4-12-14

Fernando Vigil
Notary Public

ACKNOWLEDGEMENT

STATE OF Arizona }
COUNTY OF Apache } SS
This instrument was acknowledged before me on August 16, 2012
By Bernice Tsosie

My commission expires:
(Seal)
Notary Public State of Arizona
Apache County
Theresa M Talker
My Commission Expires
08/31/2012

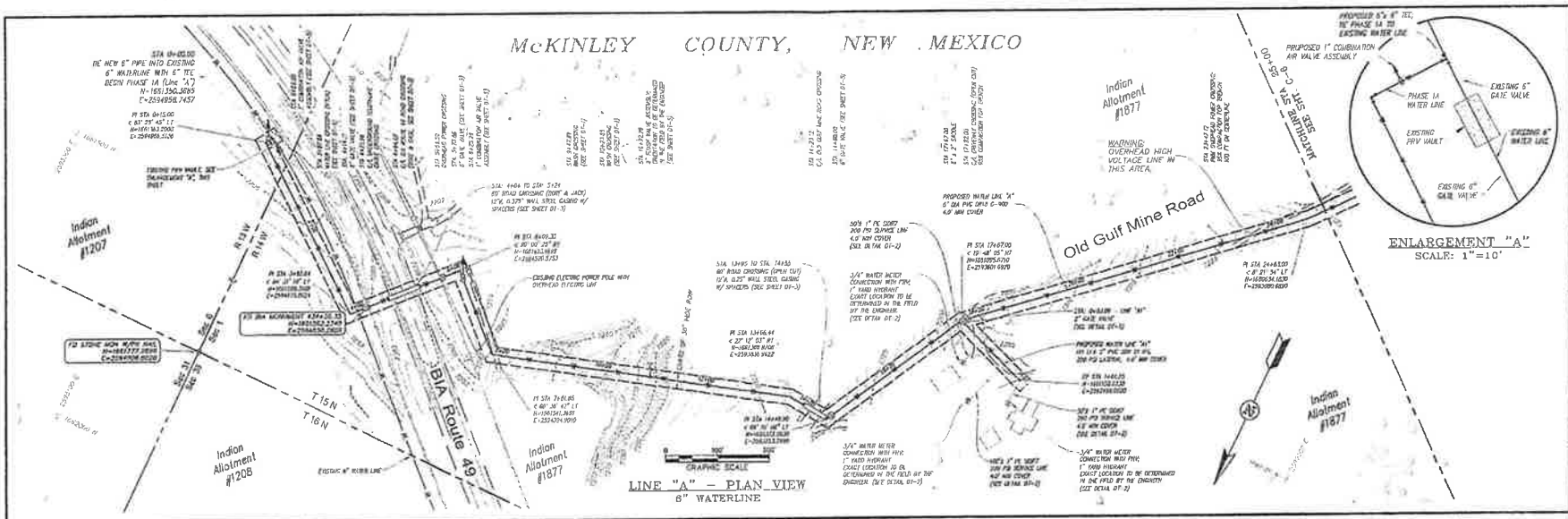
Theresa M Talker
Notary Public

ACKNOWLEDGEMENT FOR CORPORATIONS

STATE OF _____ }
COUNTY OF _____ } SS

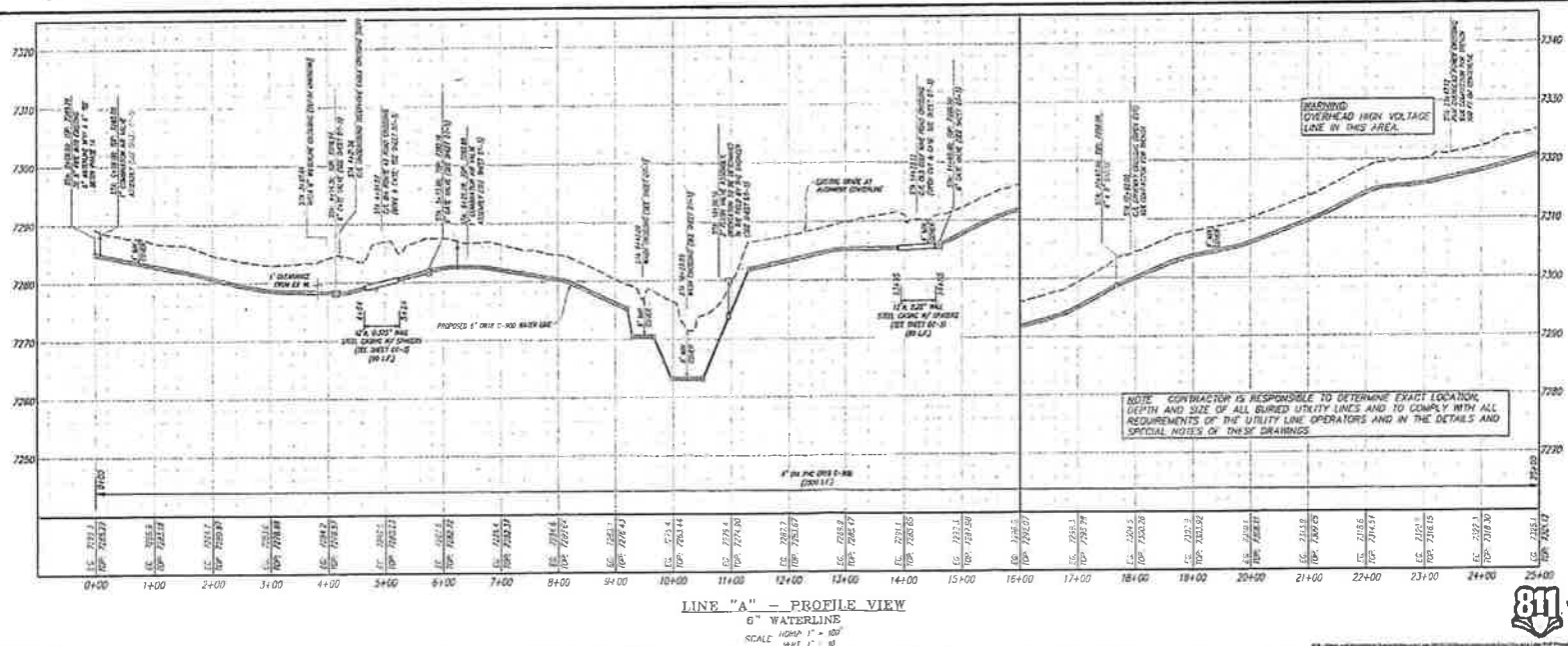
This instrument was acknowledged before me on _____, 20____.
By _____
(Name of Officer) (Title of Officer)
of _____,
(Corporation Acknowledgement)
a _____ corporation, on behalf of said corporation.
(State of Incorporation)
Said officer acknowledges s/he is the duly authorized signatory of said corporation.

My commission expires:
(Seal)
_____
Notary Public



LINE "A" – PLAN VIEW
6" WATERLINE

ENLARGEMENT "A"
SCALE: 1"=10'



LINE "A" – PROFILE VIEW
6" WATERLINE
SCALE: HORIZ 1" = 100'
VERT 1" = 10'

Know what's below. Call before you dig.

OWNER: The Navajo Nation — TOWN: Mariano Lake

PLAN & PROFILE LINE "A" STA 0+00 To 25+00, & "A1"
WATER SYSTEM - PHASES 1A & 1B
MARIANO LAKE - NAVAJO CHAPTER
McKINLEY COUNTY, NEW MEXICO

SCHUDER, MILLER & ASSOCIATES
3616 CH DE ARIA ROAD NE SUITE A
ALBUQUERQUE, NM 87111
PH: (505) 275-2940 FAX: (505) 275-2943

Designed: GMM | Drawn: JGG | Checked: AGR

DRAFT

THESE DRAWINGS & PROPOSALS ARE INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS THEY ARE SIGNED, SEALED & DATED

Date: July 10, 2012
Scale: Horiz 1" = 100'
Vert 1" = 10'
Project No. 6415735
Sheet C-5

APPENDIX F

BIA ROW Utility Crossing Permit

RECEIVED
JAN 30 2012

United States Department of The Interior
Bureau of Indian Affairs
Navajo Regional Office

Application for Permission for Utility crossing within BIA Right-of-Way
(Authorization: 23 USC Part 123, 23 CFR Part 645 Subpart A & B, 25 CFR Part 170)
Rev: 05/16/2001

Background: *to be filled out by Agency Office*
Agency: EASTERN
Route No: N49
Project No: N49(1)2,4

Date: March 29, 2012
Permit No: 4N370-49-210
(Assigned by Regional Office)

Section (A): *to be filled out by applicant*

APPLICATION is hereby made by Navajo Tribal Utility Authority, address: P.O. Box 170 Fort Defiance, AZ 86504 to construct utility crossing(s) at the following location(s) Crossing BIA Route 49 near Old Gulf Mine Road intersection NE, Sec. 1, T15N, R14W (Attach location map) adjacent to or crossing BIA Route: ~~49~~ 434+27.8 (Station/Mile Post: Street: _____ for the purpose of (*supplying service to*): / X/ residence / / Business: _____ / / School: _____ /X/ Other: Chapter House. The utility shall be constructed by the applicant on or by (*date*) Dec. 31, 2012 And shall take 180 calendar days to complete (*attach appropriate engineering sketches of each utility location)*. The applicant further agrees (at their entire expense) to comply with all the conditions, restrictions, and regulations of both the BIA Navajo Regional Division of Transportation and the Navajo Nation including the requirements of Section (B) thru (F) below including the following:

1. All under ground utility installations (on asphalt or concrete surfaced roads) shall cross the roadways by a boring method with a minimum cover depth of (1) one meter below the lowest ditch line elevation unless otherwise specified in section (E) below; All overhead utilities shall have a minimum of 5.5 meter clearance above the roadway surface.

2. A traffic control plan shall be prepared and submitted for approval as required in Section (C) below. This traffic control plan must be implemented prior to any work performed within the roadway right-of-way and shall meet the requirements of the "Manual on Uniform Traffic Control Devices" (MUTCD), latest edition;

3. The Utility Owner accepts full responsibility for the safety of the traveling public during utility installations and shall maintain at least one lane of traffic open for the public at all times.

APR - 6 2012

RECEIVED
FEB 29 2012
Navajo Region
Division of Transportation

4. All components of the above utility installation shall comply with applicable federal, state, tribal, and other local governing body laws and regulations and industry codes;

5. Any and all damages to the roadway right-of-way and appurtenances shall be repaired and/or replaced to the satisfaction of the Navajo Regional Road Engineer;

6. The applicant shall restore the lands within the roadway right-of-way to its natural conditions including drainage, re-seeding and mulching;

7. Relocate any and all utilities within the roadway right-of-way if the Regional Road Engineer determines that the utility crossing will interfere with future roadway construction and maintenance or poses a safety hazard to the traveling public;

8. Construct exposed utility lines, poles, anchors, and facility appurtenances outside the clear recovery zones of the roadway as determined by the Regional Road Engineer (*preferably next to the right-of-way lines when ever possible*);

9. All utility lines crossing the roadway shall be installed in a casing pipe per attached details. Casing pipe shall be steel, ductile iron, or reinforced concrete or other approved material. Electrical, cable TV or telephone lines may be encased in non-metallic conduit. High pressure and/or hazardous liquid utility lines may call for additional protection requirements;

10. Mark all utility crossings with approved permanent markers next to the road right-of-way lines;

11. Maintain the utility lines, and all utility appurtenances, at all times so as not to allow a condition to exist which would be a safety hazard to the traveling public and/or maintenance problem to the roadway or associated structures. Promptly repair any damages to the facilities with an emergency traffic control plan implemented in accordance with the procedures outlined in the MUTCD Manual, latest edition. Prior to any utility repairs or maintenance, the utility owner must notify the appropriate Agency Road Engineer as soon as possible after any emergency is discovered or 3 days in advance of all other routine maintenance work;

12. Upgrading of existing permitted utility lines are allowed provided the utility line does not change location with respect to the roadway. If the utility line is to be moved or the angle of the crossing with respect to the road changes substantially, the utility owner must apply for a new permit crossing;

13. Should at any time in the future the utility line(s), stated herein, no longer are to be used, these line(s) shall be removed or abandoned in place, as directed by the Agency Road Engineer. The applicant shall submit a letter, to the Agency Road Engineer, requesting that the utility owner/applicant be relieved of the requirements of this

permit. The Agency Road Engineer shall promptly forward with recommendation this request to the Regional Road Engineer for action. All overhead lines and poles shall be removed from the roadway rights-of-way limits by the owner/applicant as directed by the Regional Road Engineer;

14. On pressure lines, shut-off valves, shall be located at the roadway rights-of-way lines where such utility enters and leaves the roadway rights-of-way.

Section (B): *to be filled out by the Agency Road Engineer*

The above utility encroachment(s) shall require the following appurtenances which the applicant agrees to install in accordance with the BIA Division of Transportation design and construction standards.

The above utility encroachment(s) shall require: /X/ construction plans submitted for approval prior to construction; /X/ 46 meters of casing 203 mm diameter/size (min); / / manholes, valves, or poles offset 18 meters from roadway shoulder; /X/ markers for identification purposes; /X/ construct crossing at 90° to the roadway; /X/ As-Built drawings in accordance with BIA Division of Transportation standards . The Applicant shall further comply with the following (*please type*): INSTALLATION BY BORING METHODS.

Section (C): *to be filled out by the Navajo Regional Road Engineer*

The above described utilities require (*entirely at the applicant's expense*) a:

- /✓/ complete set of utility crossing drawings reflecting clearances, depth of cover, all pertinent dimensions of proposed facility with respect to the roadway, shoulder ditches, and road rights-of-way lines, structural cover details, etc.
- / / traffic impact analysis
- / / structural analysis
- /✓/ traffic control plan meeting the requirements of the MUTCD
- / / geotechnical analysis & utility installation requirements for special utility installations
- /✓/ archeological & environmental compliance/clearance documents

Any and all analyses shall be performed by registered professionals licensed in the field for which the analysis or documentation is required. The analysis required above shall conform to the BIA Navajo Regional Division of Transportation standards which shall be furnished upon request. The recommendations furnished in the analysis report(s) shall be implemented by the applicant at the time the utility(s) are constructed. **In no case shall the roadway surfacing be structurally less than the adjoining roadway surfacing unless specifically waived or otherwise addressed in Section (E) below when installing utilities in open cut trenches.**

Section (D): *general construction requirements*

The applicant shall (*at his/her entire expense*) install the utility(s) to the lines and grades as shown on attached details or as required in the (*approved*) utility drawings. The work shall conform to the **Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP), latest edition,** relevant national, state, tribal, or local codes approved by the Navajo Regional Division of Transportation office, and the following:

1. Open cut trenches through roadways shall be backfilled and compacted as per attached details and the FP, section 209. Boring pits and other excavations shall be backfilled and compacted as per attached details and the FP, section 209 with the compaction being 90% of maximum density.

2. The top 152mm (6 inches) of natural ground and subgrade of road crossings shall be scarified, adjusted for optimum moisture and compacted in accordance with applicable provisions of section 204 of the FP. All subgrade construction shall be in accordance with section 204 of the FP.

3. If the natural ground underneath the proposed utility crossing under the roadway prism shows unstable material, the area shall be excavated to the depths required and stabilized with structural backfill in accordance with section 704 and/or section 213 of the FP.

4. The applicant shall furnish test results, certifications for all materials, and copies of all pertinent inspection records to the Agency Road Engineer to review in the field for acceptance of the work.

5. The applicant shall notify the Agency Road Engineer at least 5 working days prior to start of work and upon completion of work within the BIA right-of-way.

6. The applicant shall be responsible for developing and implementing a Traffic Control Plan that meets the requirements of the MUTCD (*latest edition with supplements*) and properly maintain this plan for all work within the BIA road right-of-way.

7. Any buried non-metallic utility lines shall have a metallic tape or other approved method of effectively locating the lines.

The applicant shall further comply with the following (*please type*):
The applicant shall install their TCP before any work begins within the BIA N49 right-of-way.

Section (E): *to be filled in by Regional Road Engineer*

The Regional Division of Transportation hereby grants the following exception(s) to this utility crossing permit request (Please type):-

_____

_____

RRE *(initials)*: _____

Section (F): *approvals*

This permit is hereby issued to the foregoing applicant for the expressed purpose set forth in this application and upon expressed condition that every requirement herein is faithfully performed and all the work to be performed in accordance with the plans, specifications, and requirements stipulated herein.

The applicant further agrees that should the current utility owner transfer or otherwise assign ownership of the described utility crossing herein to another utility owner or assignee, the stipulations stated herein shall also be included in the transfer documents and be in full force with the new owner or assignee.

This permit shall have a term of perpetuity from the date approved below or unless item (13) of Section (A) is meet. This permit shall be canceled if installation within the road right-of-way is not completed by _____.

Signed:

Lucy Cayatineto (NTUA)
Name of Utility Owner (print)

X _____ 1/26/12
Applicant *(Owner) Signature* *Date*

Office Supervisor
Applicant Title

Recommend for Approval:

_____ 2/29/12
Agency Road Engineer *Date*

Concurred by:

_____ 3/26/12
Acting *Regional Road Engineer* *Date*

Approved By:

_____ 3/26/12
Acting *Navajo Regional Director* *Date*

be returned to the applicant for corrections, additions, or other pertinent information with a written explanation as to why the application cannot be further processed for approval. This includes a response to any analysis or other pertinent documentation as outlined in Section (C) below and as indicated by the applicant in Section (A) of the application.

The applicant can then review the package and resubmit with the appropriate information needed to complete the review and approval process.

Section (C):

Once the application package is sent into the Regional Roads office, the package will be logged in and submitted to the Planning & Design Section for further review and recommendations. It is at this level of review that the applicant may be required to submit additional information (i.e. engineering analysis, compliance documents, engineering drawings, etc) in which case the Regional office will send out a notice to the applicant requesting such information in order to complete the review.

Section (D):

Once the additional information is provided under Section (C), and accepted, the Regional Roads Office will complete this section with any additional requirements such as standard details to be used, typical sections, special provisions, and/or other pertinent stipulations necessary to insure the proper construction of the utility crossing(s) and the safety of the traveling public.

Then the Regional Planning & Design Section shall make a recommendation to the Regional Road Engineer to ***Approve/Disapprove*** *the permit application with written justification (as necessary) pointing out any extenuating circumstances to be considered by the Regional Road Engineer during his final review.*

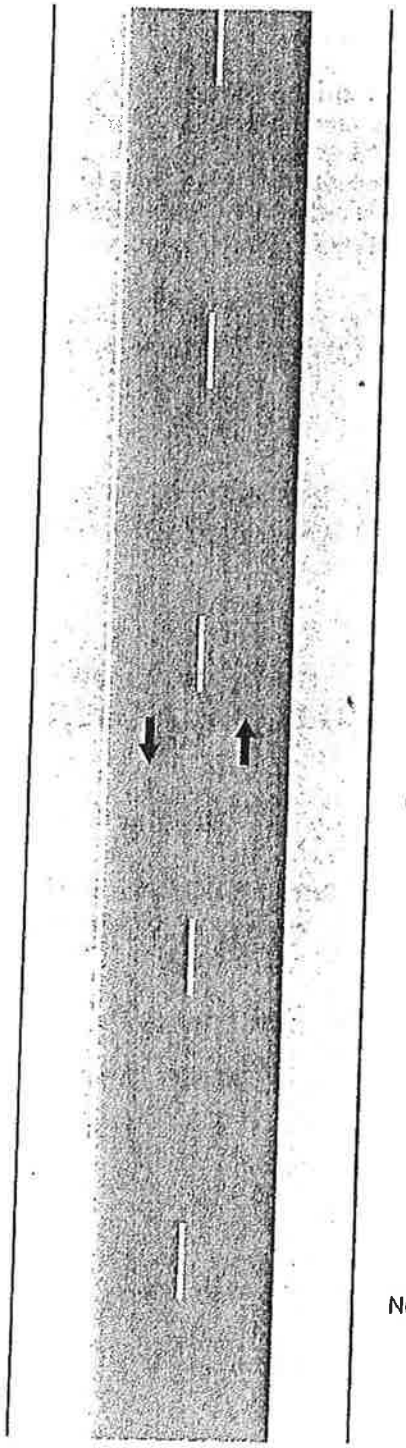
Section (E):

In reviewing the final permit package, the Regional Road Engineer will determine if portions of the permit requirements are to be waived. If so, the Regional Road Engineer shall indicate in this section and initial off on such waivers. If this section is left blank, then all requirements as shown in the permit shall apply and be enforceable (i.e. no waivers are to be allowed).

Section (F):

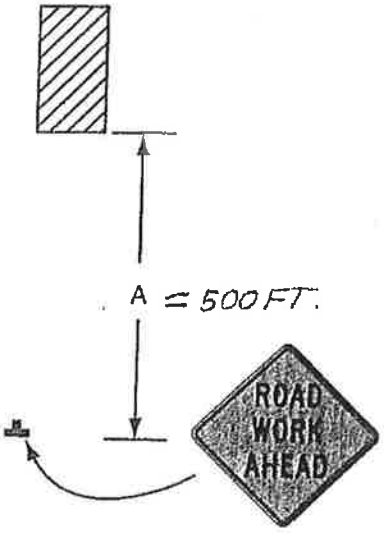
Once section (E) is completed, the Regional Road Engineer signs the permit application and forwarded the package to the Regional Director for signature.
Once the permit is approved and signed by the Regional Director, the Regional Roads office dates the permit and assigns a permit number. Then copies are distributed to the Regional office, Agency office, and Applicant by mail. ***(note: It is important that the applicant provide an accurate address)***

Figure 6H-1. Work Beyond the Shoulder (TA-1)



THIS TRAFFIC CONTROL IS FOR ANY ACTIVITY BETWEEN 5FT AND 15FT FROM THE PAVEMENT EDGE, INCLUDING PARKED VEHICLES.

NO WORK OR PARKED VEHICLES WITHIN 5FT OF THE PAVEMENT EDGE.



Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

Typical Application 1

Notes for Figure 6H-1—Typical Application 1
Work Beyond the Shoulder

Guidance:

1. If the work space is in the median of a divided highway, an advance warning sign should also be placed on the left side of the directional roadway.

Option:

2. The ROAD WORK AHEAD sign may be replaced with other appropriate signs such as the SHOULDER WORK sign. The SHOULDER WORK sign may be used for work adjacent to the shoulder.
3. The ROAD WORK AHEAD sign may be omitted where the work space is behind a barrier, more than 600 mm (24 in) behind the curb, or 4.6 m (15 ft) or more from the edge of any roadway.
4. For short-term, short-duration or mobile operation, all signs and channelizing devices may be eliminated if a vehicle with activated high-intensity rotating, flashing, oscillating, or strobe lights is used.
5. Vehicle hazard warning signals may be used to supplement high-intensity rotating, flashing, oscillating, or strobe lights.

Standard:

6. **Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.**

ALL EXCAVATIONS SHALL BE FENCED AND LIGHTED DURING NON-WORKING HOURS.

NO TRAFFIC LANE CLOSURES OR CONSTRICTIONS ALLOWED

EXCEPT FOR EMERGENCIES, NO NIGHTTIME WORK IS ALLOWED WITHIN THE BIA ROW.

NO EXCAVATIONS WITHIN 10FT. OF THE EDGE OF PAVEMENT.

APPENDIX G

NTUA Water & Wastewater Facilities
Permission to Tap

NAVAJO TRIBAL UTILITY AUTHORITY

WATER & WASTEWATER FACILITIES
PERMISSION TO TAP

NAME:_____

LOCATION:_____

DISTRICT:_____

For

_____**FACILITIES**

NTUA Project No. _____

NTUA WATER SERVICE TAP PROCEDURES

The following procedures are to be adhered to by customer(s) and/or private contractor(s) for all water and wastewater taps and line constructions involving NTUA systems.

Approval of the permission to tap form will be granted upon full compliance with NTUA's requirements. Non-compliance of these requirements and/or NTUA's construction and material standards will result in disapproval to tap and/or construction; and service will not be initiated until all discrepancies are corrected.

Listed below are the necessary steps (check list) for all concerned parties to follow. When construction is completed and all pertinent information and documents are compiled and submitted; the District Manager and Water/Wastewater Foreman will approve and submit a copy of the final transfer package to the NTUA HQ Civil Engineering Dept. NOTE: The NTUA does not accept operation and maintenance responsibilities for customer sewer service lines or septic tank systems. These will be the customer's responsibility.

1. (__) Permission to tap forms initiated at the local NTUA District office. The respective NTUA District office shall provide the necessary information and plans required to the customer/requestor; and assist the requestor in completing the forms. All the necessary information required from the customer to complete the form should be obtained at this point.

2. (__) Proposed Construction Plans and Specifications: The completed permission to tap form and the proposed construction plan(s) are to be submitted to the District Manager and Water/Wastewater Foreman for their review and approval, at least 10 working days prior to construction. Utilize the attached forms provided, WS-1d or WWS-1d, for the "Proposed Construction" plans and use the NTUA legends; with direction indicated by the North arrow. Include the location of septic systems. The forms are for residential installations only. Commercial projects shall submit three (3) sets of plans for both the water and sewer combined.

3. (__) Standard Material Listing: The respective NTUA District Office will review the standard drawings (WS-1, WS-2, WS-3, SS-1) and select the drawing(s) that apply. Please note the standard drawings are for 1" and 2" water services and 4" wastewater services only. Water service(s) over 2" and wastewater service(s) over 4", will require deviation from the standard construction drawings and material listings. Contact NTUA HQ Civil Engineering Dept. for any deviation. Note: The NTUA does not compensate customers for any donated materials.

4. (__) Rights-of-Ways: the customer and/or contractor will be responsible for obtaining Rights-of-Ways and/or clear Grants of Easements; to be submitted with the permission to tap forms.

5. (__) The customer(s) shall provide copies of home-site lease or land use permits, archeological clearances, deposits, service applications, customer meter requests, and etc.

6. (__) Pressure readings, elevations, and system as-built ties information: these are to be provided on both the proposed and the as-built drawings. Flow requirements and demand should be submitted to size the meter and/or verify wastewater system capacity. The NTUA can assist customer(s) in determining these requirements.

7. (__) Open Trench Policy: NTUA may monitor the tap and construction of water and wastewater facilities. It is important to notify one of the main contact persons at NTUA at least three working days prior to actual construction.

8. (__) Final Inspection: All discrepancies/deficiencies shall be corrected by the customer and /or contractor and verified by NTUA.

9. (__) As-built requirements and cost of plant: Very Important! The NTUA requires as-constructed as-built drawings with swing ties and all pertinent information, to be submitted upon completion. Please submit a cost of plant list up to the metering point, of the following: (The cost of plant should be attached to the TA as Exhibit "A".)

   A. MATERIALS (List of items installed.)
   B. LABOR
   C. EQUIPMENT
   * D. TOTAL

   * Total cost of plant to be included on transfer agreement.

10. (__) The customer(s) and/or contractor(s) shall provide NTUA a one-year warranty period on workmanship and materials. The Transfer Agreement will document the beginning date of the warranty period and it will authorize the NTUA to incorporate the capitalized portion of the project (see Item 9, the cost of plant) into the plant records; and to operate and maintain such facilities. (See attached Transfer Agreement.)

11. (__) Initiation of service by the NTUA.

12. (__) Submit a copy of the **Transfer Package** to NTUA HQ Civil Engineering. Provide copies to customer(s) and respective NTUA District Office.

   A. Complete Construction As-Built drawings with NTUA system tie information.
   B. R.O.W. Agreement/Grant of Easement
   C. Final Inspection Certifications
   D. Completed Transfer Agreement w/Cost of Plant

Instructions-Permission to Tap an existing NTUA Water line

This form is to be filled out and submitted to NTUA at least ten (10) working days prior to the requested date of construction of the tap. The ten (10) working days is to allow for the scheduling of an NTUA inspector and this does not imply that a full review with permission to tap being approved or disapproved will be issued in that time period.

Upon approval, a copy of the approved permission to tap form will be sent to the requestor with the local NTUA office retaining the original copy.

All addresses shall include the Zip Code. All telephone numbers shall include the Area Code.

1 a. Permanent addresses and telephone number of the requestor. In some cases this will be a contractor, if not the customer.

b. Local address and telephone number.

c. Vicinity location of the tap and/or project.

2. If the person to coordinate with NTUA is the same as item 1a, then write the appropriate number and letter in the name space. In most cases, this is the customer and not a contractor. If other than 1a, complete the information required.

3. Complete information required.

4. Self-explanatory.

5. Self-explanatory.

6. One copy of the PTT with the specifications and drawings is to remain at the local NTUA District Office. After review by the District Office, the original request form and copies of both the specifications and drawings are to be forwarded to the NTUA Headquarters Civil Engineering Department, unless this is an I.H.S./O.E.H. P.L. 86-121 project or a N.H.A. project.

   If this is a P.L. 86-121 project, the documents will be sent to the NTUA Headquarters Special Operations Department. If this is a N.H.A. project, the documents will be sent to the NTUA NHA Projects Coordinator, NTUA Headquarters, Civil Engineering Department.

   If both sewer and water taps are requested and covered in the same set of drawings and specifications, the original copy of the PTT and copies of the drawings and specifications are to be forwarded to the NTUA Headquarters Civil Engineering Department. Reproducible Mylar's or Sepias may be substituted for drawings forwarded to NTUA Headquarters since the Engineering Department can reproduce the copies required.

Under any "NO" conditions, other than P.L. 86-121 projects, attach a note of explanation.

Before forwarding the documentations to NTUA Headquarters, Civil Engineering Department, the local NTUA District Office will check the drawing(s) for:

A. The basis of elevation as given by showing the bench-mark identification, location, and elevation;

B. A description of the tap point that gives specific ties to existing facilities and drawings in the NTUA files.

C. Detail drawing of tap point and materials to be used; may require submittals.

D. The portion of the proposed system that is to be transferred to NTUA for operations and maintenance is indicated, per attached ROW and/or Grant of Easement Documentation(s). Item "D" does not apply to P.L. 86-121 projects since this is covered in detail in other documents.

7. The type of service requested such as Residential Domestic, Commercial, or Industrial and Permanent or Temporary Service, (e.g., "Permanent Residential Domestic"), will be stated plus the meter size. If questions arise contact the NTUA Civil Engineering for assistance on information required for these entries on the request forms.

8. Provide customer requested flows rates and demands required.

9. If the customer requires both domestic and fire flow services, the NTUA may require a single or dual meter set up for this purpose based on flow rates required. Flow rates required shall be submitted.

10. The hour of the day as well as the date, are expected entries in this space. Provide enough lead-time for tap approval and to schedule an inspector, a minimum of ten (10) working days.

11. Signatures of customer(s) and/or contractor(s) responsible for tap construction and acceptance by NTUA.

12. Self-explanatory.

13. The District Engineering will do a complete review of the PTT with the assistance of the District Water Department.

14. The District Water Foreman will do a complete review of the PTT with the assistance of the District Engineering Dept. Attach a list of District operational constraints and current operating problems that affect or will be caused by the approval of this permission to tap. If there are no operational constraints or problems, write "NOP" beside the date of the signature.

15. Self-explanatory

16. The District Manager will do a complete review of the permission to tap forms and related documents.

17. Self-explanatory, per the local NTUA District office schedule.

18. Self-explanatory.

19. Unless otherwise noted, a list of restrictions, recommendations, conditions, notes, and etc. on the approval will be stated.

PERMISSION TO TAP AN
EXISTING N.T.U.A. WATER LINE

1. Requester

   a. NAME :_____
   TITLE :_____
   ORGANIZATION :_____
   PERMANENT :_____
   ADDRESS _____
   TELEPHONE # :_____

   b. LOCAL ADDRESS :_____
   _____
   LOCAL PHONE # :_____

   c. VICINITY/LOCATION:_____
   OF TAP/PROJECT _____

2. Person responsible for tap construction and its acceptance by the Navajo Tribal Utility Authority.

   NAME :_____
   TITLE :_____
   ORGANIZATION :_____
   ADDRESS :_____
   _____
   TELEPHONE # :_____

3. Person responsible for paying the Navajo Tribal Utility Authority for service after the construction is completed and accepted.

   NAME :_____
   TITLE :_____
   ORGANIZATION :_____
   ADDRESS :_____
   _____
   TELEPHONE # :_____

4. Date request is submitted to the Navajo Tribal Utility Authority.

   DATE :_____

5. Submitted to:

   NAME :_____
   TITLE :_____
   NTUA OFFICE :_____

6. Specifications and Drawings of proposed construction attached? _____ (Yes/No).

7. Actual Services:

ACTUAL NUMBER : _____
METER SIZE : _____
TYPE OF SERVICE : _____
_____
REMARKS (Type of Building Served): _____
_____

8. Water demand/customer requested flow rates and minimum available pressure at the meter outlet.

NORMAL : _____ GPM
PEAK : _____ GPM
PRESSURE : _____ PSI
@ ELEVATION OF : _____ FT. above MSL

9. Fire Flow Demand is not guaranteed and is based only on what the system will provide. FOR NTUA INFORMATION: Flow rate and minimum available pressure at the meter outlet.

	Sprinkler system	Total Fire Hydrant Flow
QUANTITY	: _____	_____ GPM
DURATION	: _____	_____ MINS.
PRESSURE	: _____	_____ PSI
SIMULTANEOUS USE	_____	(YES/NO)

10. Requested Date and Time of the actual construction of the tap: _____

11. I agree to adhere to the Navajo Tribal Utility Authority (NTUA) construction methods, material standards, line test procedures, disinfections requirements, water and wastewater construction policies, As-built drawing requirements, and tariff requirements, as they pertain to tapping the existing NTUA water and wastewater facilities; and the constructed utilities to be transferred to NTUA for operations and maintenance, with services provided by the NTUA thereafter.

_____	_____	_____
Signature	Print	Date
_____	_____	_____
Signature	Print	Date
_____	_____	_____
Signature	Print	Date

12. Is this service downstream from a previous Master Metered area? _____(Yes/No).

13. Specifications and proposed construction drawings reviewed by:

_____ _____
District Engineering Dept. Date

14. Specifications and proposed construction drawings reviewed and approved by:

_____ _____
District W/WW Foreman Date *OCP? (Yes/No)

* "OC/P" = Operational constraints/problems. If YES, attach list of current operating problems that will affect PTT.

15. Assigned NTUA inspector's name.

_____
Name/Title

16. Reviewed by District Manager.

_____ _____
Signature Date

17. Approved time and date of construction of tap.

Time and Date: _____

18. Permission to Tap reviewed and approved by.

_____ _____
NTUA HQ, Civil Engineering Dept./Title Date

19. Comments / Remarks:

FINAL INSPECTION FOR INDIVIDUAL FACILITIES

Homeowner's Name: _____
Address: _____
_____

Location of Service: _____
Water System Name/Project No: _____

Description of Building Served: _____

Facilities Installed:
(__) Water line/Water tap
(__) Sewer line/Sewer tap
(__) Sewer septic system. Note: For information only.

Construction Completion Date: _____

Construction As-Built provided
To Operating Utility: Date:_____ By:_____

Final Inspection Date: _____

Attendees: NAME(S) REPRESENTING:

_____

_____

_____

_____

_____

The facilities indicated above have been completed and inspected, with all deficiencies (if any) corrected to NTUA's requirements and such facilities have been transferred to NTUA per the **"Transfer Agreement"** for normal operation and maintenance.

_____ will warranty these facilities against defects in material and workmanship for one year, beginning _____ and ending _____.

_____ _____
Customer's Signature/Date NTUA Representative/Title/Date

WATER/WASTEWATER TEST CERTIFICATIONS

DISTRICT:_____ DATE:_____

WATER SYSTEM

CUSTOMER:_____
LOCATION:_____

LOCATION OF LINE TESTED: _____
LENGTH, SIZE, & TYPE OF PIPE: _____
DATE OF TEST(s): _____ PASSED : _____ *FAILED:_____
*If FAILED, waterline must be re-tested.

PRESSURE TEST RESULTS: (Attach work sheets)

1. Test Pressure :_____ PSI..
2. Duration of Test :_____ HRS.
3. Allowable Leakage :_____ Gals.
4. Total Leakage :_____ Gals.

DATE (Water Sample to Lab) :_____ Lab no.:_____

RESULTS OF BACTEE: PASSED : _____*FAILED: _____
*If FAILED, water must be re-sampled.

TEST RESULTS CERTIFIED BY:_____
NTUA REPRESENTATIVE / TITLE DATE

WASTEWATER SYSTEM

CUSTOMER: _____
LOCATION: _____

DATE OF TEST(s):_____
LOCATION OF LINE TESTED:_____SECTION OF _____
LENGTH, SIZE, & TYPE OF PIPE:_____
SIZE, & TYPE OF MANHOLE (S):_____

WASTEWATER TESTS: (Attach work sheets)

1. Line Test* :_____ Gal/Section/2 hrs.
2. Manhole Test**:_____ Gal/MH/2 Hrs.

TEST RESULTS CERTIFIED BY: _____
NTUA REPRESENTATIVE / TITLE DATE

* Allowable Leakage: $\leq$ 1 Gal./Section/2hrs. for 8" to 12" lines, regardless of length, with 4 feet of head test pressure.

** Allowable Exfiltration: $\leq$ 5 gal/MH/2 hrs. regardless of height.

UTILITY TRANSFER AGREEMENT
for
WATER AND WASTEWATER FACILITIES

This agreement is made between _____, hereinafter called the Grantor and the **NAVAJO TRIBAL UTILITY AUTHORITY**, hereinafter called the Grantee.

WHEREAS, the Grantor has constructed or caused to have constructed water and wastewater facilities located at or near_____ as shown on the plans titled_____, designed by_____, and dated _____ and said facilities and related final as-built plans already have been inspected, accepted and approved by the Grantee, and;

WHEREAS, the Grantor wishes to convey to the Grantee all his interest in these facilities and appurtenances constructed at the above-mentioned location on or about the above-mentioned time, along with all rights, rights of way, and privileges so that the Grantee may own, operate, and maintain all such facilities and appurtenances.

NOW THEREFORE IT IS AGREED:

For consideration of $1.00 the receipt of which already has been acknowledged, the Grantor transfers, assigns, grants, and conveys to the Grantee all rights, titles, interests, easements, and rights of way in the aforementioned facilities, and;

The Grantee agrees to accept such aforementioned facilities, and further agrees to own, operate, and maintain such facilities in a reasonable and prudent manner until such facilities are determined to be no longer of any value. Further, the Grantor hereby warranties all such facilities against defects in workmanship and materials, and for design deficiencies, errors and omissions for the period of one year beginning on _____ and ending on_____.

A listing of the total inventory and Cost of Plant determined by the Grantor to be transferred to the Grantee is attached as EXHIBIT____ and made a part of this Utility Transfer Agreement. The total Cost of Plant as appears on this document is $_____.

IN WITNESS THEREOF, both parties have signed and dated this agreement.

Grantor _____

Signature Date:

_____

Print Name/Title

Navajo Tribal Utility Authority: _____

Signature Date

_____

Print Name/Title

APPENDIX H

NTUA Waterline Pressure Test Forms

EXHIBIT A OF TP-3
WATER LINE PRESSURE TEST CERTIFICATION

Location of Line Tested:
A) _____ (Vicinity/State)
B) _____ (Project's Drawing Name)
C) _____ (Project's Sheet No.)
D) _____ (Project's Drawing No.)

Date of Test: _____

Gauges Manufacturer & Model: 1) _____

2) _____

Standard Length of Pipe in Test Section: _____ Feet.

Test Section _____ (Parcel, Line No., etc.)

Length (Sta.-Sta.)	Line Size (Inch)	Pipe Pressure Rating (Psi)	Test Pressure (Psig)	Observed Pressure Range (Psig)	Total Leakage (gal./ 2hrs.)	Total Leakage (gal./ 2hrs.)

The above test information is certified by:

Signature : _____

Name, Organization : _____

Address, Telephone No. : _____

: _____

Date of this Report : _____

Certification Received by : _____ On _____
Operating Utility Engineering Date

Test Results Checked by : _____
Passed ( ) Failed ( ) _____

Copy of Approval of the test sent to: _____
On _____ By _____
Date Operating Utility Engineering

EXHIBIT A OF TP-3

Allowable Leakage: $Q = \frac{ND(P)^{1/2}}{7400}$

Q = Gallon per Hour

N = Total Length of Line Being Tested (ft) / Standard Length of Pipe (ft) = _____ = _____

D = Nominal Diameter of Pipe (inches) = _____

P = Test Pressure (psig) = _____

Allowable Leakage (2 Hour Test) = 2Q = $\frac{ND(P)^{1/2}}{7400}$ X 2 = _____ (Gal.)

Are the pressure gauges graduated at a maximum of 5 psi increments? _____

Was the line pressured to 10 psi above the test pressure so that the gauge responsiveness could be observed? _____

Is the length of the test section less than one mile? _____

Is the elevation difference between the highest and lowest points in the test section less than 57 feet? _____

Are the pipes in the test section the same pressure rating? _____

Time - Description of Activity	Gauge Reading	Amount of Water Added
Total Time: hrs.		Total: gals.

Verified By: _____
Operating Utility's Representative/Date

_____
Title

EXHIBIT A OF TP-3

Test Section: _____

(Parcel, Line No., Etc.)

Length (sta.-sta.)	Line Size (inch)	Pipe Pressure Rating (psi)	Test Pressure (psig)	Observed Pressure Range (psig)	Total Leakage (gal./ 2hrs.)	Total Leakage (gal./ 2hrs.)

ATTACHMENT A

(NOTE: This attachment is provided for informational purposes only, and is not part of the Contract Documents)

Information and Maps On Mining Reclamation Area

Provided by ARCADIS

- Figure 1 - Mariano Lake Mine Sample Locations
- Figure 2 - East Mine Area Detectable Constituents of Concern
- Figure 3 - Parking Lot Area Detectable Constituents of Concern
- Figure 4 - Western Mine Area Detectable Constituents of Concern
- Figure 5 - Northern Perimeter Road Areas Detectable Constituents of Concern
- Figure 6 - South Perimeter Road Areas Detectable Constituents of Concern
- Figure 7 - Old Gulf Mine Road Areas Detectable Constituents of Concern
- Figure 8 - Field Gamma Survey
- ARCADIS Memorandum – Interim Status of Phase 3 RSE Soil Sampling – Mariano Lake Mine
- ARCADIS Memorandum – Phase 3 RSE Soil Sampling – Work Plan Addendum Mariano Lake Mine
- Figure 2-1 – Phase 1 Gamma Survey and Background Study (Survey Transects Scan)

Unnamed Wash #1

Unnamed Wash #2

Old Gulf Mine Road

Bermed Area

Mariano Lake Mine Western Area

Mariano Lake Mine Eastern Area

Parking Lot Area

Well 16T-553 "Dakai Well"

Background Area #2

Background Area #1

PR-1 PR-2 PR-3 PR-4 PR-5 PR-6 PR-7 PR-8 PR-9 PR-10 PR-11 PR-12 PR-13 PR-14 PR-15 PR-16 PR-17 PR-18 PR-19

SO-1 SO-2 SO-3 SO-4 SO-5 SO-6 SO-7 SO-8 SO-9 SO-10 SO-11 SO-12 SO-13 SO-15 SO-16 SO-17

WCH-01 WCH-05

WFS-02 WFS-04

ECH-01 ECH-02 ECH-04 ECH-05 ECH-06

EFS-01 EFS-02 EFS-04

Corr-1

Legend

DRAFT/PRELIMINARY RESULTS

- Old Gulf Mine Road
- Perimeter Roads
- Site Features - Areas

Radium-226 (piC/g)

- Less than 2x Background
- 2x - 4x Background
- Greater than 4x Background

Note:
Highest Radium-226 concentration is used in comparison to backgorund at each location, regardless of depth.

0 500 1,000 Feet

Chevron

MARIANO LAKE MINE
MCKINLEY COUNTY, NEW MEXICO
Phase 3 RSE - Soil Sampling

Mariano Lake Mine Sample Locations and Radium-226 Results

ARCADIS

FIGURE 1

Date: 1/9/2012
Path: I:\SEMC Mariano Lake\GIS\ArcMap_MXD\Phase3_results_maps\Meeting_Posters\Draft Meeting Posters\Figure1_Site Locations and Sample Locations.mxd

MLM-ECH-02	0-6	18-24	36-48
ARSENIC	6400 J	8000 J	9300 J
Ra-226	2.92 G	1.4	4.14
URANIUM	3100	3800	6400
VANADIUM	12000 J	12000 J	9300 J

MLM-EFS-1	0-6	18-24	24-36
ARSENIC	4900 J	5500 J	5000 J
Ra-226	15.2	26.3	28.6
URANIUM	29000	44000	72000
VANADIUM	26000 J	30000 J	33000 J

MLM-EFS-2	0-6	18-24	36-48	48-54
ARSENIC	3900 J	9100 J	6200 J	6700 J
Ra-226	15.2 G	1.38 G	5.18	2.7 G
URANIUM	5200	23000	15000	9200
VANADIUM	19000 J	11000 J	19000 J	19000 J

MLM-ECH-01	0-6	18-24	36-48	60-66	72-78
ARSENIC	5600 J	6200 J	4000 J	6400 J	6300 J
Ra-226	2.27 G	1.95 G	19.9	2.64 G	2.76 G
URANIUM	2200	3100	23000	5800	3000
VANADIUM	12000 J	8300 J	27000 J	23000 J	21000 J

MLM-ECH-05	0-6	18-24	36-48
ARSENIC	6600 J	6900 J	6100 J
Ra-226	3.58 G	1.68 G	1.36 G
URANIUM	2600	2300	840
VANADIUM	20000 J	10000 J	23000 J

MLM-ECH-04	0-6	18-24	36-48
ARSENIC	8200	7900	7200
Ra-226	1.42	2.29 G	2.03
URANIUM	1600	5400	3500
VANADIUM	13000 J	14000 J	7200 J

MLM-EFS-04	0-6	18-24	36-48	60-66
ARSENIC	4600	9300	3100	4800
Ra-226	1.73	55	1.82 G	2.16 G
URANIUM	3400	420000	75000	20000
VANADIUM	12000 J	38000 J	16000 J	14000 J

MLM-ECH-06	0-6	18-24	36-48	48-54	60-66	72-78	116-120
ARSENIC	5700	4900	4600	4200	6200	5900	4300
Ra-226	2.25	30	50	49.5	66.1	66.7 M3	2.26
URANIUM	2000	81000	100000	67000	110000	120000	5600
VANADIUM	12000 J	29000 J	34000 J	34000 J	43000 J	46000 J	9200 J

DRAFT/PRELIMINARY RESULTS

Legend

- Sample Locations
- Stream Beds
- Eastern Mine Area

0 250 500 Feet

NOTES:
All Units are µg/kg unless otherwise specified
Radium-226 data units are pCi/g
ug/kg = Micrograms per Kilogram
pCi/g = pico-Curies per gram
J = The compound was positively identified. However, the associated numerical value is an estimated concentration only
U = Analyte was analyzed for but was not detected; detection limit displayed
SSL = Soil Screening Level
LCS = Laboratory Control Sample
MDC = Minimum Detectable Concentration
G = Sample Density Differs by more than 15% of LCS
M3 = The requested MDC was not met reported activity was greater than the MDC

All Units are Micrograms Per Kilogram (µg/kg), except Radium-226. Radium-226 units are picoCuries Per Gram (pCi/g)

Sample ID Definitions:

Mariano Lake Mine | Sequential Sample Number | Sample Depths - Inches Below Ground Surface

MLM ECH 01 0-6 18-24 36-48

Site Area Abbreviation and Analytical Suite

Site Background Concentrations

Analyte	Site Background
ARSENIC	1,789
RADIUM-226	0.81
URANIUM	363
VANADIUM	10,872

Radium-226 (piC/g)

- Less than 2x Background
- 2x - 4x Background
- Greater than 4x Background

Chevron

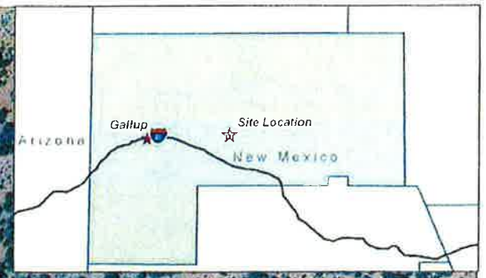
MARIANO LAKE MINE
MCKINLEY COUNTY, NEW MEXICO
Phase 3 RSE - Soil Sampling

East Mine Area
Detectable Constituents of Concern

ARCADIS

FIGURE 2

Date: 1/30/2012
Path: I:\CEMC-Mariano Lakes\GIS\ArcMap_MXD\Phase3_results_maps\Meeting_Packets\Final Meeting Packets\Figure2_analytical_east_mine.mxd



Unnamed Wash #2

MLM-PRCH-16	0-2	18-36	36-48
ARSENIC	5500	13000	4800
Ra-226	26.5	1.57 G	1.68
URANIUM	32000	24000	5000
VANADIUM	31000	8600	5900

MLM-PRCH-14	0-2	18-36	36-48	48-54
ARSENIC	5300	8200	5700	5700
Ra-226	39.1 M3 G	2.04 G	4.42 G	2.08 G
URANIUM	24000	44000	4100	1400
VANADIUM	40000	21000	12000	12000

MLM-SOCH-16	0-2	36-48
ARSENIC	6800	8600
Ra-226	15.7	2.49 G
URANIUM	83000	17000
VANADIUM	37000	16000

MLM-PRCH-19	0-2
ARSENIC	1800
Ra-226	0.22 U
URANIUM	200
VANADIUM	4100

MLM-SOCH-17	0-2	36-48
ARSENIC	6400	5900
Ra-226	8 G	1.85 G
URANIUM	5000	1900
VANADIUM	21000	17000

Well 16T-553
"Dakai Well"

MLM-SOCH-15	0-2	18-36	36-48
ARSENIC	5700	8800	3200
Ra-226	13.7	3.96 G	1.45 G
URANIUM	9000	20000	1600
VANADIUM	22000	19000	9100

DRAFT/PRELIMINARY RESULTS

Legend

- Sample Locations
- Stream Beds
- Parking Lot Area

0 250 500 Feet

NOTES:
All Units are µg/kg unless otherwise specified
µg/kg = Micrograms per Kilogram
pCi/g = pico-Curies per gram
J = Result is estimated, concentration is above detection limit, but below the reporting limit
U = Analyte was analyzed for but was not detected, detection limit displayed
SSL = Soil Screening Level
LCS = Laboratory Control Sample
MDC = Minimum Detectable Concentration
G = Sample Density Differs by more than 15% of LCS
M3 = The requested MDC was not met, reported activity was greater than the MDC

All Units are Micrograms Per Kilogram (µg/kg), except Radium-226. Radium-226 units are picoCuries Per Gram (pCi/g)

Sample ID Definitions:

MLM ECH 01 0-6 18-24 36-48

- MLM: Mariano Lake Mine
- ECH: Site Area Abbreviation and Analytical Suite
- 01: Sequential Sample Number
- 0-6, 18-24, 36-48: Sample Depths - Inches Below Ground Surface

Site Background Concentrations

Analyte	Site Background
ARSENIC	1,789
RADIUM-226	0.81
URANIUM	363
VANADIUM	10,872

Radium-226 (piC/g)

- Less than 2x Background
- 2x - 4x Background
- Greater than 4x Background

Chevron

MARIANO LAKE MINE
MCKINLEY COUNTY, NEW MEXICO
Phase 3 RSE - Soil Sampling

Parking Lot Area
Detectable Constituents of Concern

ARCADIS

FIGURE 3

Date: 1/30/2012
Path: I:\GEMC\Mariano Lake\GIS\ArcGIS\mxds_MXD\Phase3_results_maps\Meeting_Posters\Draft Meeting Posters\Figure3_analytical_parking_lot.mxd

MLM-WCH-1	0-6	18-24	36-48
ARSENIC	3400 J	4000 J	2600 J
Ra-226	2.68 G	1.13	0.63 LT
URANIUM	1600	410	320
VANADIUM	16000	16000	12000

MLM-WFS-2	0-6	18-24	36-48
ARSENIC	3400 J	5700 J	3800 J
Ra-226	[illegible]	[illegible]	1.33 G
URANIUM	7900	47000	14000
VANADIUM	17000	32000	17000

MLM-WCH-5	0-6	18-24	36-48	48-54	72-78
ARSENIC	4000 J	6500 J	4600 J	3000 J	2200 J
Ra-226	5.16 G	2.37 G	19.4 G	4.4 G	4.25 G
URANIUM	1800	4300	31000	7300	4700
VANADIUM	13000	7800	19000	660	460

MLM-WFS-4	0-6	18-24	36-48
ARSENIC	2700 J	4600 J	4500 J
Ra-226	0.74 LT	[illegible]	[illegible]
URANIUM	580	18000	27000
VANADIUM	11000	32000	21000

DRAFT/PRELIMINARY RESULTS

Legend

- Sample Locations
- Stream Beds
- Western Mine Area

0 250 500 Feet

NOTES:
All Units are µg/kg unless otherwise specified
Radium-226 data units are pCi/g
µg/kg = Micrograms per Kilogram
pCi/g = picoCuries per gram
J = The compound was positively identified; however the associated numerical value is an estimated concentration only.
U = Analyte was analyzed for but was not detected; detection limit displayed
SSL = Soil Screening Level
LCS = Laboratory Control Sample
MDC = Minimum Detectable Concentration
G = Sample Density Differs by more than 15% at LCS
MB = The requested MDC was not met, reported activity was greater than the MDC
LT = Result is less than the requested MDC but greater than the sample specific MDC

All Units are Micrograms Per Kilogram (µg/kg), except Radium-226. Radium-226 units are picoCuries Per Gram (pCi/g)

Sample ID Definitions:

Mariano Lake Mine | Sequential Sample Number | Sample Depths - Inches Below Ground Surface

MLM ECH 01 0-6 18-24 36-48

Site Area Abbreviation and Analytical Suite

Site Background Concentrations

Analyte	Site Background
ARSENIC	1,789
RADIUM-226	0.81
URANIUM	363
VANADIUM	10,872

Radium-226 (piC/g)

- Less than 2x Background
- 2x - 4x Background
- Greater than 4x Background

Chevron

MARIANO LAKE MINE
MCKINLEY COUNTY, NEW MEXICO
Phase 3 RSE - Soil Sampling

Western Mine Area
Detectable Constituents of Concern

ARCADIS

FIGURE 4

Date: 1/30/2012
Path: I:\CEMC Mariano Lake\GIS\ArcMap_MXD\Phase3_results_maps\Meeting_Posters\Draft Meeting Posters\Figure4_analytical_west_mine_area.mxd

MLM-PRCH-1	0-2	36-48
ARSENIC	2800	1600
Ra-226	0.67 LT	0.64 LT, JN
URANIUM	340	580
VANADIUM	8200	5900

MLM-PRCH-4	0-2	18-24	36-48
ARSENIC	4000	4600	3500 J
Ra-226	60.6 M3 G	67.7 G	4.17 G
URANIUM	60000 J	83000 J	7200
VANADIUM	39000 J	40000 J	16000

MLM-SOCH-3	0-2
ARSENIC	2000
Ra-226	0.66 LT,G
URANIUM	740
VANADIUM	9400

MLM-SOCH-7	0-2	36-48
ARSENIC	7000	3000
Ra-226	1.56 G	1.16 G
URANIUM	9700	500
VANADIUM	20000	16000

MLM-SOCH-09	0-2
ARSENIC	2800
Ra-226	1.31 G
URANIUM	1100
VANADIUM	8200

MLM-SOCH-11	0-2
ARSENIC	2500
Ra-226	0.68 LT,JN
URANIUM	3100
VANADIUM	6200

MLM-PRCH-12	0-2	18-24	36-48
ARSENIC	7600	6500	6300
Ra-226	37.7	122 G	2.87
URANIUM	410000 J	150000 J	4500 J
VANADIUM	36000 J	63000 J	18000 J

MLM-SOCH-5	0-2	36-48
ARSENIC	3200	12000
Ra-226	2.82 G	1.29 G
URANIUM	2900	790
VANADIUM	17000	10000

MLM-PRCH-17	0-2	12-18
ARSENIC	2800	5300
Ra-226	3.49	1.02
URANIUM	12000 J	690 J
VANADIUM	54000 J	7200 J

MLM-SOCH-1	0-2	36-48
ARSENIC	2200	2600
Ra-226	0.67 LT	0.82 LT
URANIUM	320	330
VANADIUM	7700	7200

MLM-PRCH-8	0-2	18-24	36-48
ARSENIC	6200	5900	5200
Ra-226	36.5	64	1.78 G
URANIUM	86000 J	97000 J	2100 J
VANADIUM	33000 J	47000 J	15000 J

MLM-SOCH-8	0-2	36-48
ARSENIC	6100	5400
Ra-226	1.7 G	1.61 G
URANIUM	1500	1100
VANADIUM	16000	12000

Unnamed Wash #1

Unnamed Wash #2

DRAFT/PRELIMINARY RESULTS

Legend
- Sample Locations
- Stream Beds
- Mine Areas

0 250 500 1,000 Feet

NOTES:
All Units are ug/kg unless otherwise specified
Radium-226 data units are pCi/g
ug/kg = Micrograms per Kilogram
pCi/g = pico-Curies per gram
J = Result is estimated, concentration
JN = This analyte indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
< above detection limit, but below the reporting limit
U = Analyte was analyzed for but was not detected, detection limit displayed
SSL = Soil Screening Level
LCS = Laboratory Control Sample
MDC = Minimum Detectable Concentration
G = Sample Density Differs by more than 150% of LCS
M3 = The requested MDC was not met however activity was greater than the MDC

All Units are Micrograms Per Kilogram (µg/kg), except Radium-226. Radium-226 units are picoCuries Per Gram (pCi/g)

Sample ID Definitions

Mariano Lake Mine | Sequential Sample Number | Sample Depths - Inches Below Ground Surface

MLM ECH 01 0-6 18-24 36-48

Site Area Abbreviation and Analytical Suite

Site Background Concentrations

Analyte	Site Background
ARSENIC	1,789
RADIUM-226	0.81
URANIUM	363
VANADIUM	10,872

Radium-226 (piC/g)
- Less than 2x Background
- 2x - 4x Background
- Greater than 4x Background

Chevron

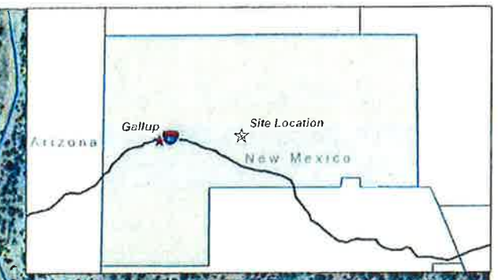
MARIANO LAKE MINE
MCKINLEY COUNTY, NEW MEXICO
Phase 3 RSE - Soil Sampling

Northern Perimeter Road Areas Detectable Constituents of Concern

ARCADIS

FIGURE 5

Date: 1/30/2012
Path: I:\CEMC Mariano Lake\GIS\ArcMap_MXD\Phase3_results_maps\Meeting_Posters\Draft Meeting Posters\Figure5_north_perimeter_road.mxd



MLM-SOCH-02	0-2	36-48
ARSENIC	2000	3100
Ra-226	1.19	0.89 LT
URANIUM	860	530
VANADIUM	11000	14000

MLM-SOCH-6	0-2	36-48
ARSENIC	2900	2900
Ra-226	0.69 LT	0.61 LT
URANIUM	420	350
VANADIUM	16000	11000

MLM-EFCH-01	0-2	36-48
ARSENIC	1700	1900
Ra-226	0.6 LT	0.53 U,G
URANIUM	430	380
VANADIUM	11000	11000

MLM-SOCH-10	0-2	36-48
ARSENIC	3500	9900
Ra-226	1.08	1.73 G
URANIUM	1000	870
VANADIUM	13000	13000

MLM-PRCH-3	0-2	36-48
ARSENIC	3500	4200
Ra-226	1.17 G	0.97 LT G
URANIUM	410	380
VANADIUM	17000	13000

MLM-SOCH-4	0-2	36-48
ARSENIC	1900	3100
Ra-226	0.79 LT G	0.56 LT G
URANIUM	440	340
VANADIUM	11000	16000

MLM-PRCH-5	0-2	36-48
ARSENIC	2900	2900
Ra-226	1.38	0.58 LT JN
URANIUM	1500	640
VANADIUM	13000	12000

MLM-PRCH-09	0-2	36-48
ARSENIC	6100	4400
Ra-226	2.07	1.11 G
URANIUM	3000	670
VANADIUM	17000	11000

MLM-SOCH-12	0-2	36-48
ARSENIC	2800	5700
Ra-226	1.54	1.44 G
URANIUM	1400	980
VANADIUM	14000	13000

MLM-PRCH-11	0-2	36-48
ARSENIC	5000	6700
Ra-226	5.42	1.76 G
URANIUM	7700	720
VANADIUM	16000	21000

MLM-SOCH-13	0-2	36-48
ARSENIC	8300	7900
Ra-226	2.08 G	1.54 G
URANIUM	880	1100
VANADIUM	21000	17000

DRAFT/PRELIMINARY RESULTS

Legend

- Eastern Mine Area - Sample Locations
- Stream Beds
- Mine Areas

0 250 500 1,000 Feet

NOTES:
All units are mg/kg unless otherwise specified
Table depths are in inches
Radium-226 data units are pCi/g
ug/kg = Micrograms per Kilogram
pCi/g = pico-Curies per gram
J = The compound was positively identified, however, the associated numerical value is an estimated concentration only.
J1 = The analysis indicates the presence of a compound for which there is presumptive evidence to make a qualitative identification. The associated numerical value is an estimated concentration only.
U = Analyte was analyzed for but was not detected - detection limit displayed
SSL = Soil Screening Level
LCS = Laboratory Control Sample
MDC = Minimum Detectable Concentration
G = Sample Density Differs by more than 15% of LCS
U3 = The reported MDC was not met

All Units are Micrograms Per Kilogram (µg/kg), except Radium-226. Radium-226 units are picoCuries Per Gram (pCi/g)

Sample ID Definitions

MLM ECH 01 0-6 18-24 36-48

- MLM: Mariano Lake Mine
- ECH 01: Sequential Sample Number
- 0-6, 18-24, 36-48: Sample Depths - Inches Below Ground Surface
- Site Area Abbreviation and Analytical Suite

Site Background Concentrations

Analyte	Site Background
ARSENIC	1,789
RADIUM-226	0.81
URANIUM	363
VANADIUM	10,872

Radium-226 (piC/g)

- Less than 2x Background
- 2x - 4x Background
- Greater than 4x Background

Chevron

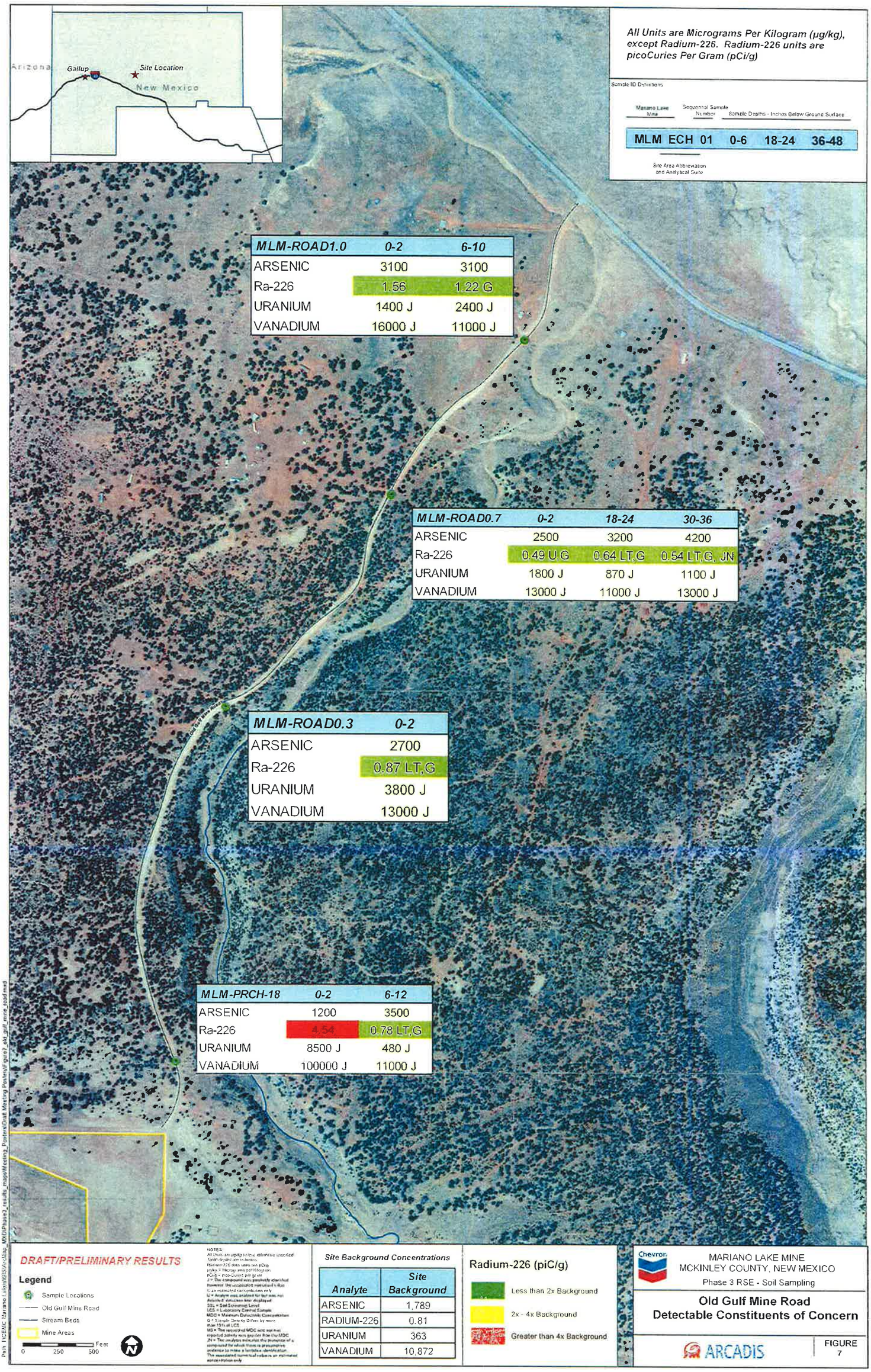
MARIANO LAKE MINE
MCKINLEY COUNTY, NEW MEXICO
Phase 3 RSE - Soil Sampling

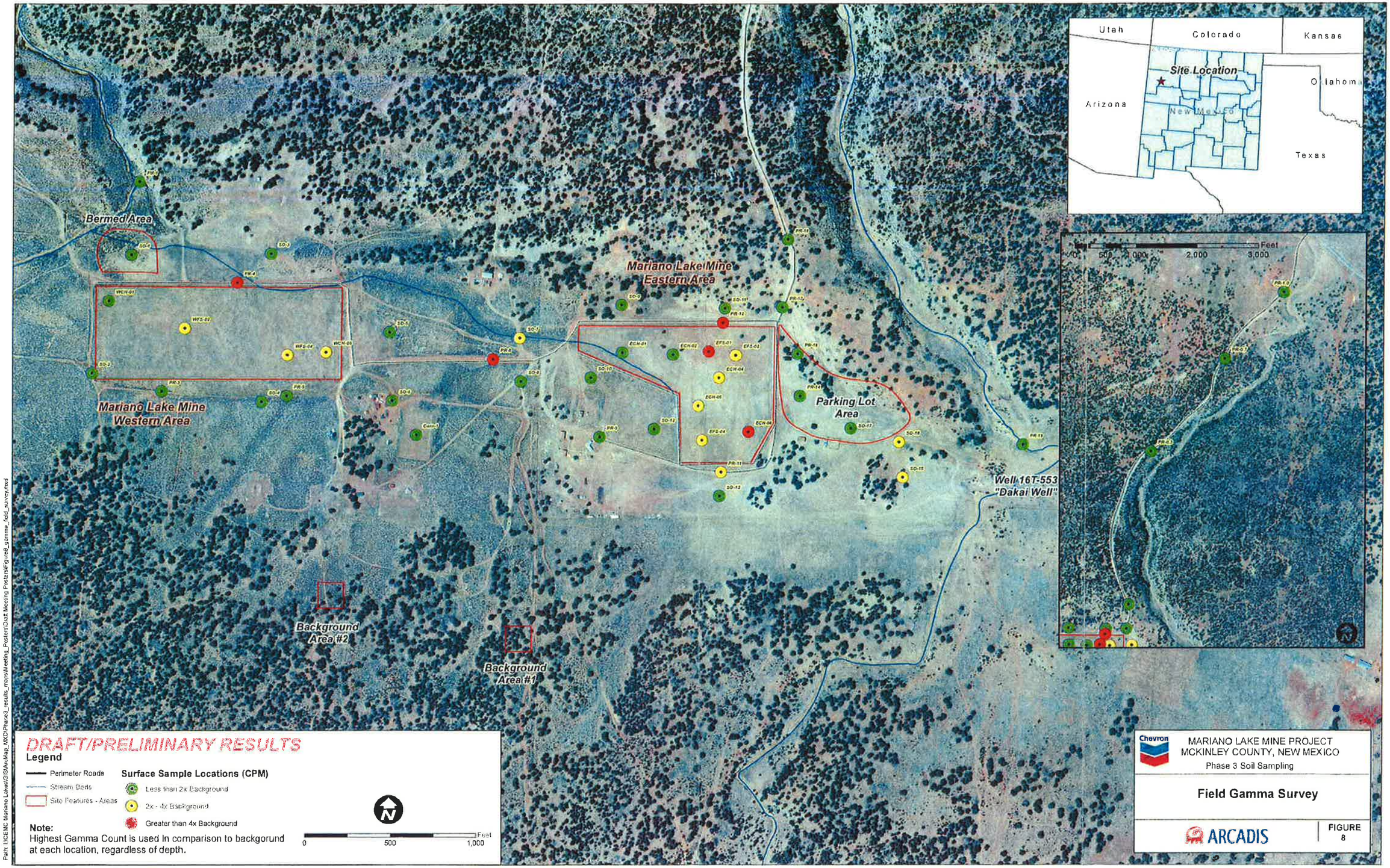
South Perimeter Road Areas Detectable Constituents of Concern

ARCADIS

FIGURE 6

Date: 1/30/2012
Path: I:\GEMC\Mariano Lake\GIS\Active_MXD\Phase3_results_maps\Meeting_Posters\Draft Meeting Posters\Figure6_south_perimeter_road.mxd


Arizona
Gallup
Site Location
New Mexico
All Units are Micrograms Per Kilogram (µg/kg), except Radium-226. Radium-226 units are picoCuries Per Gram (pCi/g)
Sample ID Definitions
Mariano Lake Mine
Sequential Sample Number
Sample Depths - Inches Below Ground Surface
MLM ECH 01 0-6 18-24 36-48
Site Area Abbreviation and Analytical Suite
MLM-ROAD1.0 0-2 6-10
ARSENIC 3100 3100
Ra-226 1.56 1.22 G
URANIUM 1400 J 2400 J
VANADIUM 16000 J 11000 J
MLM-ROAD0.7 0-2 18-24 30-36
ARSENIC 2500 3200 4200
Ra-226 0.49 U,G 0.64 LT,G 0.54 LT,G, JN
URANIUM 1800 J 870 J 1100 J
VANADIUM 13000 J 11000 J
MLM-ROAD0.3 0-2
ARSENIC 2700
Ra-226 0.87 LT,G
URANIUM 3800 J
VANADIUM 13000 J
MLM-PRCH-18 0-2 6-12
ARSENIC 1200 3500
Ra-226 4.54 0.78 LT,G
URANIUM 8500 J 480 J
VANADIUM 100000 J 11000 J
DRAFT/PRELIMINARY RESULTS
Legend
Sample Locations
Old Gulf Mine Road
Stream Beds
Mine Areas
Feet
0 250 500
N
NOTES:
Site Background Concentrations
Analyte Site Background
ARSENIC 1,789
RADIUM-226 0.81
URANIUM 363
VANADIUM 10,872
Radium-226 (piC/g)
Less than 2x Background
2x - 4x Background
Greater than 4x Background
Chevron
MARIANO LAKE MINE
MCKINLEY COUNTY, NEW MEXICO
Phase 3 RSE - Soil Sampling
Old Gulf Mine Road
Detectable Constituents of Concern
ARCADIS
FIGURE 7
Date: 10/2012
Path: I:\ENIC Mariano Lake\MXD\Phase3_results_mapsMeeting_Posters\Draft Meeting Posters\Figure3_old_gulf_mine_road.mxd


Utah
Colorado
Kansas
Site Location
Arizona
New Mexico
Oklahoma
Texas
Bermed Area
Mariano Lake Mine
Eastern Area
Mariano Lake Mine
Western Area
Parking Lot
Area
Well 16T-553
"Dakai Well"
Background
Area #2
Background
Area #1
0
500
1,000
2,000
3,000
Feet
DRAFT/PRELIMINARY RESULTS
Legend
Perimeter Roads
Stream Beds
Site Features - Areas
Surface Sample Locations (CPM)
Less than 2x Background
2x - 4x Background
Greater than 4x Background
Note:
Highest Gamma Count is used in comparison to backgorund
at each location, regardless of depth.
0
500
1,000
Feet
Chevron
MARIANO LAKE MINE PROJECT
MCKINLEY COUNTY, NEW MEXICO
Phase 3 Soil Sampling
Field Gamma Survey
ARCADIS
FIGURE
8
Date: 1/30/2012
Path: \\CEMC Mariano Lakes\GIS\ArcMap_MXD\Phase3_results_morsMeeting_Posters\Draft Meeting Posters\Figure8_gamma_fold_survey.mxd

ARCADIS

ARCADIS U.S., Inc.
630 Plaza Drive
Suite 200
Highlands Ranch
Colorado 80129
Tel 720 344 3500
Fax 720 344 3535

MEMORANDUM

To:
Mr. Mark Ripperda (U.S. EPA)

Copies:
Satya Sinha (CEMC)
Michelle Dineyazhe (Navajo EPA)

From:
Tim Cox (ARCADIS)
Joe Gilbert (ARCADIS)

Date:
January 30, 2012

ARCADIS Project No.:
B0047379.0001

Subject:
Interim Status of Phase 3 RSE Soil Sampling – Mariano Lake Mine

---

Introduction

This Memorandum summarizes soil sample results from the Phase 3 Removal Site Evaluation (RSE) at Mariano Lake Mine (MLM) Site (Site) in McKinley County, New Mexico. The soil sampling investigation was described in the Interim Removal Action Draft Phase 3 Work Plan prepared by ARCADIS, dated September 20, 2011.This Memorandum also identifies additional proposed soil sampling to be conducted at the Site. Because of weather and time limitations, the planned Phase 3 sampling event was terminated prior to the collection of all samples. Termination of the sampling was authorized by U.S. EPA and, based on field gamma scanning during the soil sampling, it was agreed that additional soil sampling would be necessary. Additional sampling at the Site extends the due date for the Phase 3 RSE Completion Report of January 31, 2012, as defined in the Administrative Order on Consent Scope of Work. Therefore, this Memorandum and accompanying figures document the interim status of the Site and summarizes additional sampling necessary to complete the Phase 3 RSE. ARCADIS is submitting this memorandum on behalf of Chevron Environmental Management Company. It has been agreed by EPA that this memorandum satisfies interim reporting requirements for the Phase 3 RSE.

Phase 3 RSE Soil Sampling Summary

Soil sampling at the Site was performed October 31 through November 4, 2011. Soil samples were collected at 115 sampling locations and/or depths within the East and West mine areas (fenced-in mine

areas), along surrounding perimeter roads, at step-out locations, along Old Gulf Mine Road, unnamed washes #1 and #2, and the bermed area.

Figures 1 through 8 present select metals and Radium-226 results from soil samples, and the field gamma screening results performed during the sampling.

Samples were analyzed for two analytical groups, "characterization" and "full suite." Characterization sample groups were analyzed at all locations. Full suite samples were collected at select locations within the East and West mine site areas, areas where former mine operations were suspected. Specific sample analytes are as follows:

- Characterization Suite - Total uranium and stable metals including: arsenic, mercury, molybdenum, selenium, vanadium. Radium-226 was also included in the characterization suite.

- Full Suite – Total uranium and stable metals including: arsenic, molybdenum, selenium, vanadium, and mercury, Radium-226, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), total petroleum hydrocarbons (TPH – GRO/TPH-DRO), explosives, and perchlorates.

Raw laboratory data, data validation reports, and a complete technical summary will be presented after the completion of additional sampling in the Phase 3 RSE Completion Report. This report will be submitted after the completion of all field activities, data validation, and evaluation of the data.

Constituent Detections

VOC and TPH-GRO

2-butanone was detected in two samples: MLM-WFS-2 (36-48) and MLM-WFS-4 (18-24). 2-butanone is chemically related to Acetone – these chemicals are commonly used as laboratory solvents and are not likely representative of site conditions, but are rather a laboratory contaminant.

Acetone was detected in two samples: MLM-WFS-2 (36-48) and MLM-WFS-4 (18-24). Acetone is chemically related to 2-Butanone – these are commonly used as laboratory solvents and are not likely representative of site conditions, but are rather a laboratory contaminant.

Chloroform was detected in four of the rinsate blanks and in two trip blanks. Chloroform is a common laboratory contaminant and is not likely representative of site conditions. Because of the relative rarity of chloroform in the natural environment, and the likely laboratory source, these results are also not indicative of a failure in field decontamination, or in sample transport.

Methylene chloride was detected in four samples and in a trip blank. All methylene chloride detections were flagged with a laboratory qualifier "B" indicating that this compound was also detected in a laboratory method blank, indicating that detections are likely a result of laboratory contamination and not representative of site conditions.

There were no other VOC detections.

TPH-GRO (total petroleum hydrocarbon - gasoline range organics) was not detected in any sample from the site.

SVOC and TPH-DRO

Twelve samples contained detections for TPH-DRO (diesel range organics). All detections were below the practical reporting limit (PRL) but above the method detection limit (MDL). Of the 12 samples, five samples were flagged by the laboratory as having a detection pattern resembling motor oil. Four of the samples were detected in the West Mine area, and eight of the samples were detected in the East Mine area. The highest detected concentration was 24 milligrams per kilogram (mg/kg) and the lowest detected concentration was 1.8J mg/kg.

No SVOC analytes were detected at the site.

Metals

The primary metals analyzed were arsenic, mercury, molybdenum, selenium, uranium, and vanadium. There were 583 detections for metals. Arsenic, uranium, and vanadium results are presented on Figures 2 through 7.

Arsenic was detected in all samples at concentrations ranging from 1,200 to 13,000 micro grams per kilogram (µg/kg). Site background for arsenic is 1,789 µg/kg.

Only three samples had detections for mercury; MKM-EFS-1 (18-24), MLM-SOCH-15 (36-48), MLM-EFS-2 (0-6). Values ranged from 37 µg/kg to 60 µg/kg. Site background for mercury is 48 µg/kg.

Molybdenum was detected in all samples at concentrations ranging from 190 to 32,000 µg/kg. Site background for molybdenum is 261 µg/kg.

Selenium was detected in all samples at concentrations ranging from 120 to 19,000 µg/kg. Site background for selenium is 262 µg/kg.

Uranium was detected in all samples at concentrations ranging from 200 to 420,000 µg/kg. Site background for uranium is 363 µg/kg (Figures 2 through 7).

Vanadium was detected in all samples at concentrations ranging from 460 to 100,000 µg/kg. Site background for Vanadium is 10,872 µg/kg.

Radium-226

Radium-226 was detected in 111 samples at concentrations ranging from 0.54 to 95 pico curries per gram (piC/g). Site background for Radium-226 is 0.81 piC/g.

PCB

No PCBs were detected at the site.

Perchlorate

Perchlorate was detected in 11 samples. Of these 11 samples, only three samples were above the PRL; MLM-EFS-2 (48-54), MLM-EFS-04 (18-24), MLM-EFS-04 (0-6). Concentrations of perchlorates ranged from 0.15J µg/kg to 0.73 µg/kg.

Explosives

No explosives were detected at the site.

Proposed Additional Soil Sampling

As previously mentioned, conditions at the site were not conducive to complete the original soil sampling due to inclement weather that truncated sampling activities. The preliminary results presented above and summarized in Figures 1 through 8 give rise to a need for additional soil sampling within the following locations:

- The West Mine area
- The East Mine area
- The northern perimeter road
- The parking lot area

A large portion of the sample locations outside the East and West mine areas had primarily non-detections or constituent detections at or near background concentrations. These same locations had gamma field

screening counts that were also at similar levels to background. Therefore, it is not necessary to further sample the south perimeter road areas, step-out locations, unnamed washes #1 and #2, the bermed area, and private properties. Based on our discussions on January 15th, 2012, a Work Plan Addendum detailing the additional sampling will be provided to U.S. EPA in mid-February, 2012.

ARCADIS

ARCADIS U.S., Inc.
630 Plaza Drive
Suite 200
Highlands Ranch
Colorado 80129
Tel 720 344 3500
Fax 720 344 3535

MEMORANDUM

To:
Mark Ripperda (USEPA)

Copies:
Satya Sinha (CEMC)

From:
Tim Cox (ARCADIS)
Joe Gilbert (ARCADIS)
Les Skoski (ARCADIS)

Date:
March 16, 2012

ARCADIS Project No.:
B0047379.0001

Subject:
Phase 3 RSE Soil Sampling – Work Plan Addendum
Mariano Lake Mine, McKinley County, NM

Introduction

This Memorandum presents a Draft Addendum to the Interim Removal Action Phase 3 Draft Work Plan for the Mariano Lake Mine (MLM) Site (Site) in McKinley County, New Mexico. The Draft Work Plan was prepared by ARCADIS, dated September 20, 2011, and outlined soil sampling activities for the Removal Site Evaluation (RSE). These activities were executed in October 2011; however, due to weather and time limitations, the planned Phase 3 sampling event was terminated prior to the collection of all samples. Discontinuation of the sampling was authorized by U.S. Environmental Protection Agency (USEPA) and, based on subsurface gamma scanning which indicated elevated radiological material at depth, it was agreed that additional soil sampling would be necessary.

The objective of Phase 3 RSE work is to better characterize the surface and subsurface soils at the East and West Mine Areas to sufficient depth to confirm the absence of impacts (radium 226 and stable metals above background levels) as evidence by field scanning or until bedrock or native soil is reached. The specific objectives of this Work Plan Addendum include:

- Complete sampling of previously identified locations as outlined in the Phase 3 RSE Draft Work Plan.

- Identify additional locations for sampling as a result of field screening and analytical results obtained during initial Phase 3 RSE activities.
- Outline sampling procedures and analytical testing for the additional soil sampling and document the analytical results.
- Outline procedures for sampling of temporarily ponded runoff.
- Describe additional, limited gamma scanning.

Proposed Soil Sampling Locations

Figure 1 presents the proposed soil sampling locations, including locations that were identified during the initial Phase 3 RSE Draft Work Plan but were not collected. Figure 1 also includes proposed locations that were identified after review of initial Phase 3 RSE sampling results, and locations identified by Navajo Nation EPA as data gaps during a March 8, 2012 project conference call. These additional sampling locations will provide additional characterization, particularly at depth, and increase data density in areas where select analytes have been detected.

The West Mine area includes five sample locations identified in the Phase 3 RSE Draft Work Plan and four additional locations identified in this Addendum to increase sampling density (Figure 1). North of the West Mine Area, a topographic low point exists that may have collected surface runoff water; this area is located just north of the Bermed Area (Figure 1). Limited gamma scanning will be performed in this area, if surface gamma scanning results are greater than two times background, an additional sample will be collected. If gamma readings are not above two times background levels then a confirmation sample will be collected. The East Mine area includes two sample locations identified in the Phase 3 RSE Draft Work Plan and five additional locations identified in this Addendum (Figure 1). Locations are concentrated in the southeast portion of the East Mine area, as this area was found to contain subsurface gamma at concentrations two times above background to a depth of 10 feet. Three additional locations are identified in this Addendum to provide further characterization. All sampling locations in the parking lot area were collected during the initial Phase 3 RSE sampling, though three additional locations will be collected to increase the data density (Figure 1). Along the north perimeter roads, elevated concentrations of radium 226 were present to a depth of 36 inches below ground surface (bgs). For this reason, it will only be necessary to complete the remaining samples identified in the Phase 3 RSE Draft Work Plan (Figure 1). In addition, limited gamma scans will assist in delineating surficial elevated gamma southeast of the parking lot area (Figure 1). Up to three additional soil sample locations may be identified based on survey results.

According to communications between USEPA and nearby residents, it has been claimed that an ore truck may have spilled ore along a portion of the Gulf Mine Road during mine operations. The accident

and spill presumably occurred near the northernmost cattle guard that crosses Gulf Mine Road (Figure 1). In order to investigate the possibility of mine waste in this area, the area will be gamma scanned to delineate the area affected by the spill and sampled according to sampling protocol (ARCADIS 2011b).

Sampling of Runoff

Precipitation runoff temporarily pools in a depression immediately southeast of the East Mine area. A water sample will be collected from this area if pooled water is encountered during site activities (Figure 1). Sampling will follow the procedures outlined in Appendix A. Because surface water sampling nomenclature was not established in the Phase 3 RSE Draft Work Plan, the sample will be identified as MLM-PRSW-01.

Limited Gamma Scanning

Initial sampling at the Site has revealed some areas where surficial radium 226 concentrations exceed background concentrations. Consequently, limited surficial gamma scans will be performed to assess areas that may need additional sampling (Figure 1). If the surficial gamma scan reveals surficial gamma detections at more than two times the background levels, samples will be taken at field determined locations following the same sampling protocols outlined in the Phase 3 RSE Work Plan (ARCADIS 2011b). Additionally, gamma scanning will be performed around a proposed sampling point approximately 500 feet south of the Parking Lot Area (Figure 1). If gamma scanning results are greater than two times background, additional soil samples will be collected.

At the request of the USEPA, up to two additional soil samples will be collected where suspected mine features have been identified by the community. These locations will be field determined and confirmed prior to sampling. If determined to be mine features, the area surrounding these features will be scanned with a gamma detector. If these areas exceed more than two times the background levels, they will be sampled using the sampling protocols outlined in the Phase 3 RSE Draft Work Plan (ARCADIS 2011b).

Sampling Methods

All samples will be collected using the same sampling protocol detailed in the Phase 3 RSE Draft Work Plan, though subsurface sampling will be completed with a direct-push drill rig rather than a back-hoe (ARCADIS 2011b).

Direct-push drilling is an industry standard method that consists of using a small truck-mounted drill rig to advance a 2-inch diameter, hollow, continuous-core sampler to required depths. This method allows a core of sample to be retrieved while leaving drive rods in the ground to maintain the integrity of the borehole. The core will be logged and scanned by a field geologist using a pancake Geiger-Mueller detector.

After the core is removed, a 1-inch polyvinyl chloride (PVC) riser pipe is inserted into the borehole and a 0.5-inch by 1-inch long gamma probe is lowered into the PVC pipe. At the required depth, the probe measures gamma radiation counts, which reflect the radioactive material in the immediate surrounding volume of soil. After sampling and measuring, PVC and drive rods are removed from the borehole, and the borehole is backfilled. All installation of boreholes will adhere to this methodology using the detailed method Standard Operating Procedure provided in Appendix A.

The procedure for collecting soil samples will be the same as in the Phase 3 RSE Draft Work Plan, as the following summarizes. All soil will be sampled to a sufficient depth to confirm the absence of impacts. Because the gamma instrument is light gamma scanning, data are typically recorded every 6 inches (a 30-second count is statistically sufficient). The required intervals include 0 to 6 inches, 1.5 to 2 ft, and 2.5 to 3 ft from the surface, or until native soils (undisturbed regolith) or bedrock (hard rock sandstone) are encountered or the extent of impacts is reached, as determined by a field gamma meter and confirmatory soil sampling. The actual depth intervals will be determined in the field and may vary based on site conditions.

Analytical Methods and Quality Assurance

Previous Phase 3 RSE sampling revealed the following constituents were detected at the Site in concentrations that warrant further characterization: arsenic, molybdenum, selenium, uranium, vanadium, and radium 226.

All soil and water samples will be analyzed for:

- Total Metals using methods USEPA 6020 and USEPA 200.1 for arsenic, molybdenum, selenium, uranium, and vanadium.
- Radium 226 using method USEPA 901.1

Samples will be labeled, handled, and shipped in accordance with Phase 3 RSE Quality Assurance Project Plan (QAPP). Water samples will be subject to the same sampling quality protocol as soil samples as outlined in the QAPP. Field quality assurance samples will be collected in accordance with the QAPP. All analytical data received from the contract laboratory will be validated according to the QAPP (ARCADIS 2011b).

Data Evaluation

After the data have been received and validated, the data will be combined with the initial Phase 3 RSE sample results from October 2011. All metals data will be tabulated, and maps of constituent concentrations in the surficial and subsurface soil samples will be created. Additional gamma scanning

will also be illustrated on maps. The non-detected and detected constituents will be assessed to provide spatial context to the extent and nature of soils at the Site.

Schedule and Deliverables

The additional soil sampling will require subcontracting of a drilling company. Soil sampling will begin within 1 month of securing a subcontractor. Because field operations are anticipated to commence in early spring, the actual field schedule may be subject to weather conditions. Soil sampling is expected to take approximately 5 field days to complete.

According to the Administrative Order on Consent, non-validated laboratory data will be transmitted to USEPA within 5 days after receiving the data from the laboratory. These data will be transmitted using the contracted laboratory Electronic Data Deliverable (EDD).

Analytical data will be validated within 3 weeks of receipt from the contract laboratory according to the Phase 3 RSE Draft Work Plan QAPP (ARCADIS 2011b).

The soil data will be evaluated after validation. A Phase 3 RSE Completion Report will be completed 60 days after all analytic results have been received and validated. The report will integrate all data collected, analyzed, and validated into a single characterization report deliverable.

Project Team

The project team will be the same as that outlined in the Phase 3 RSE Draft Work Plan. Additionally, the project structure, roles, and responsibilities will be the same for this Addendum and subsequent work as in the Phase 3 RSE Draft Work Plan. Joe Gilbert, P.G., will be in charge of the field activities, data evaluation, and report preparation, under the supervision of the Project Manger, Tim Cox, P.G., CGWP. Les Skoski, Ph.D., will provide radiological support for field activities and will assist in data interpretation.

Health and Safety

All project activities will follow the Chevron approved health and safety plan (HASP) in Appendix D of the Phase 1 Work Plan (ARCADIS 2011a).

Prior to the initiation of work, the all site personnel will be provided with a health and safety and environment briefing, an introduction to the HASP, and an orientation, particularly regarding the Site background issues and current conditions. The topics will include potential exposure to radiation, management of hazardous or dangerous substances, and potential exposure to sharp or jagged metal debris.

References

ARCADIS. 2011a. Mariano Lake Mine Site Draft Interim Removal Action Phase 1 Work Plan. Prepared for Chevron Environmental Management Company, Revision 1, July 20, 2011 27 p.

ARCADIS. 2011b. Mariano Lake Mine Site Draft Interim Removal Action Phase 3 Work Plan Removal Site Evaluation. Prepared for Chevron Environmental Management Company, Revision 0, September 30, 2011 30 p.

Figures

Figure 1 – Proposed Additional Sampling Locations

Appendices

A – Standard Operating Procedures

SOP #9 Downhole Gamma Logging and Soil Sampling
SOP #10 Surface Water Sampling

Unnamed Wash #1

Bermed Area

Mariano Lake Mine
West Area

Old Gulf Mine Road

Unnamed Wash #2

Mariano Lake Mine
East Area

Parking Lot
Area

Old Gulf Mine Road

0 500 1,000 Feet

Legend

Proposed Phase 3 RSE Sample Locations

- Proposed Additional Soil Sample Locations
- Proposed Surface Water Sample Location
- Location Not Previously Sampled And Proposed For Sampling
- Previously Sampled Location
- Site Features - Areas
- Additional Field Gamma Scan Areas
- Old Gulf Mine Road
- Perimeter Roads

0 500 1,000 2,000 Feet

Utah
Colorado
Kansas
Arizona
New Mexico
Texas
Site Location

Chevron

MARIANO LAKE MINE
MCKINLEY COUNTY, NEW MEXICO
Phase 3 RSE Work Plan Addendum

Proposed Additional Sample Locations

ARCADIS

FIGURE 1

Date: 3/12/2012
Path: D:\AProject\CEMC Mariano Lake\GIS\GIS\ArcMap_MXDs\Phase3_additional_work\Figure1_additional_sample_locations.mxd

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SOP #9

Downhole Gamma Logging and Soil Sampling

Rev. #: 1

Rev Date: February 2, 2012

ARCADIS

SOP #9

Downhole Gamma Logging and Soil Sampling

Approval Signatures

Prepared by: Les Skoski Date: February 2, 2012

Les Skoski

Reviewed by: Date: March 9, 2012

Joe Gilbert, PG

1.0 SCOPE **1**

1.1 Purpose 1

2.0 Definitions **2**

3.0 Equipment **3**

4.0 General Guidelines and Requirements **4**

5.0 BOREHOLE INSTALLATION AND MEASUREMENT **5**

5.1 Installation with a Geoprobe 5

5.2 Borehole Measurement 5

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1.0 SCOPE

1.1 Purpose

The purpose of this standard operating procedure (SOP) is to provide reference information for collecting gamma radiation count rates within a borehole, locate regions of elevated subsurface gamma-emitting radionuclides (primarily radium-226) at the Mariano Lake Mine Site, and collect soil samples from these regions.

2.0 DEFINITIONS

Count Rate: The number of pulses recorded in a specific period, corresponding either to an ionization event or to an extraneous disturbance (spurious count).

Delineation Gamma Surveys – Gamma surveys performed to investigate the potential for contamination with gamma ray emitting radionuclides.

Downhole Gamma Logging. A series of measurements collected at six-inch intervals within a manually or mechanically driven borehole to quantify the presence of subsurface gamma ray emitting radionuclides.

Frisking: Scanning of field personnel and equipment using a Geiger-Mueller (G-M) detector ("pancake" style) coupled to a scaler/ratemeter to identify the presence of contaminants (primarily alpha and beta emitters)

Grab Sample. A discrete soil sample representative of a specific location at a given point in time.

Soil Samples. Environmental samples of potentially contaminated soil, where soil is defined as a layer of weathered, unconsolidated material; often defined as containing organic matter and being capable of supporting plant growth.

Transfer Device. Any instrument or vessel that contacts the sample during collection or transport (*e.g.*, stainless steel trowel).

3.0 EQUIPMENT

Ludlum® 44-62 1/2 x 1-inch Sodium Iodide (NaI) detector and/or
Ludlum® 44-10 2 x 2-inch NaI detector both coupled with a
Ludlum® Model 2221 ratemeter/scaler or Ludlum Model 2350 data logger

Ludlum® 44-9 Pancake G-M detector ("frisker") coupled with a
Ludlum® Model 12 ratemeter or equivalent

Gamma Check Source

IMPORTANT NOTE-
The 1x1/2 inch probe and ratemeter/scaler/data logger will herein be called the "weiner probe". Similarly the 2x2 inch probe/ratemeter/data logger will hereinafter be referred to as the "2x2 inch probe".

The Ludlum® 44-9 Pancake G-M detector (frisker) coupled with a Ludlum® Model 12 ratemeter or equivalent will hereinafter be referred to as the "frisker"

Geoprobe® Rig or equivalent
Geoprobe® Large Bore Soil Sampler ("Macrocore")
One-inch inner diameter PVC or stainless steel pipe
Standard Geoprobe Acetate Liners
Digital camera

Acetate liner cutter
Disposable gloves
Plastic sheeting
Disposable sample collection equipment e.g. bowls
trowels, scoops, and spatulas

Map(s) of site being surveyed
Global positioning system (GPS) - (typically a Trimble® GeoXH)
Tape measures and/or compass

4.0 GENERAL GUIDELINES AND REQUIREMENTS

1. Downhole count rate measurements will be made with a weiner probe.

2. In the field office, prior to commencing work each day, perform a response check, battery check, and background check for the radiological instruments. Record data on quality control forms.

3. Prior to installing any boreholes ensure that the proper Buried Utility calls were made. Installation cannot be conducted unless all utilities are properly marked out.

4. Field review the boring locations prior to beginning the exploration and relocate borings as required or if delineation gamma surveys are conducted in selected areas.

5. Personnel performing measurements will take the necessary precautions to maintain their exposures as low as reasonably achievable. The following precautionary measures should be considered.

    A. Perform a review of previous surveys (if available) and operations performed in the area to determine the expected radiation exposure rates which will be encountered.

    B. A clean pair of new, disposable gloves will be worn each time a sleeve is removed from a boring.

    C. Ensure instrument operability and necessary support equipment is available (*e.g.*, recording equipment, watch, bags for contamination control if applicable) prior to entering the area to be logged.

6. Frisk out all field personnel and field instruments with a frisker prior to leaving the borehole location. If radiological contamination is detected on field personnel and/or field instruments, decontamination procedures, as outlined in SOP #3 will be followed.

5.0 BOREHOLE INSTALLATION AND MEASUREMENT

5.1 Installation with a Geoprobe®

Using all proper procedures the driller will complete steps 1 through 3

1. Place a 4' x 4' sheet of plywood or polythene sheeting adjacent to proposed sampling location. Maneuver Geoprobe® rig or equivalent on top of plywood sheeting. Place the Geoprobe® drive assembly into a vertical position over the sample location.

2. For the initial sample section (*i.e.*, 0-4 feet), remove the Piston Stop Pin and drive the Cutting Shoe to a depth of 4 feet below ground surface (bgs). Retract the Geoprobe® drive assembly to the surface.

3. Remove the filled standard acetate sample liner from the Large Bore Soil Sampler and place the acetate liner on dedicated polyethylene sheeting.

4. Repeat the above steps for additional depths to the selected maximum depth.

5.2 Borehole Measurement

Six-Inch Increment Method (this method surveys the entire borehole)

1. Attach a string to the detector, clearly marked with black indelible ink at six-inch intervals. Alternatively, the detectors connection cable can be marked at six-inch intervals with tape (the string is preferred as least stressful on the connection to the probe).

2. Conduct an initial scan of hole by slowly lowering the detector probe and make notes of the depth at which any significant jumps (deflections) of the meter dial are observed.

3. Starting at the surface, directly over the borehole, collect a 30-second count reading and record the number of counts. Lower the detector into the hole, stopping when the center of the NaI crystal is six inches below the ground surface. Collect a 30-second count reading and record the number of counts on a data sheet.

4. Continue to collect and record 30-second count measurements at six-inch intervals until reaching the bottom of the borehole.

5. If the number of counts are increasing or do not drop off at the bottom of the borehole, the borehole may be extended. The decision to extend the borehole will be made by the Field Team Leader (FTL) based on whether or not the elevated readings are due to naturally occurring materials (*e.g.*, clay).

6. Log all required survey and instrument information on field sampling sheets. Take a photograph of the borehole location.

7. When done, remove the temporary casing and lay on plastic sheeting. Restore the borehole location to its pre-boring condition prior to leaving the borehole location.

8. Decontaminate all re-useable equipment and dispose of disposable equipment properly.

Borehole Measurement Method (this method by-passes non-elevated areas)

1. Attach a string to the weiner probe, clearly marked with black indelible ink at six-inch intervals. Alternatively, the probes connection cable can be marked at six-inch intervals with tape.

2. Starting at the surface of the borehole, slowly lower the probe down the hole, stopping if a jump of 600 counts per minute (cpm) or more is observed or if a reading greater than 1,600 cpm is observed. Raise the detector six-inches above the area where the jump occurred and start collecting 30-second count measurements. Continue to collect 30-second count measurements at six-inch intervals until readings are less than 900 cpm, Be sure to collect a 30-second count measurement at the depth from which the jump was observed.

3. Record all information on field sampling sheet.

4. If other jumps of 600 cpm or more are observed during the remaining scan of the borehole, repeat the above steps.

5. If the number of counts are increasing or do not drop off at the bottom of the borehole, the borehole may be extended. The decision to extend the borehole will be made by the Field Team Leader based on whether the elevated readings are due to naturally occurring materials (*e.g.*, clay).

6. Log all required survey and instrument information on the field application. A boring log should be filled out for all non-manual borings. Take a photograph of the borehole location.

7. When done, remove the temporary casing and lay on plastic sheeting. Restore the borehole location to its pre-boring condition prior to leaving the borehole location.

8. Decontaminate all equipment used for radiological investigations as outlined in SOP 3.

5.3 Borehole Soil Sampling

1. Review the downhole gamma logging results to determine the depths with elevated materials which are the proposed sampling locations. The four-foot section that bridges the highest subsurface downhole gamma activity level will be selected for sampling.

2. The soil sample will be collected from the gamma logging interval that displays the highest screening level of gross radioactivity. If all intervals have background readings, the sample will be collected from the interval that spans the highest downhole gamma logging measurement. .

3. Use the frisker or 2x2 to scan the soil in the opened sleeve to get a sense of the soil interval that corresponds to the interval with the highest downhole gamma readings.

4. For the four-foot section identified, divide the contents into foot long sub-sections unless the soil is compressed. Divide the soil in the sleeve into four equal intervals. For example, a 40 inch recovery would be divided into four 10 inch intervals. Each 10 inch interval then "represents" one foot. Transfer the homogenized fraction into the appropriate sample container(s) using the same trowel or spoon used throughout this entire procedure. The amount of soil required will be determined by the contract laboratory; however, one 8-oz. jar is usually sufficient. Log the soil core using Unified Soil Classification System Procedures. Take a photograph of the sample collection activities

5. For some boreholes, the elevated downhole gamma logging readings will obviously be associated with a thin layer of soil in the sleeve that is visually distinct from the rest of the soil. If the soils in the acetate sleeve exhibit stratification, the soil will be scanned while still in the sleeve to determine if the elevated readings are associated with a particular stratigraphic layer. If so, the specific layer will be separated from the rest of the soil and placed in a jar (and not homogenized since there is often limited volume and the sample will be diluted that way) for analysis.

6. In an indelible marker, record the sampling information on the sample bottles.

7. Decontaminate the exterior of all sample containers.

8. The driller will restore the void created by sample collection prior to leaving the sampling location. Bentonite pellets will be used to fill the boring from bottom of bore hole to a depth of 2 feet bgs. The top 2 feet of the boring will be filled with local soil, or commercially available potting or topsoil.

9. When leaving the sample location, frisk all equipment and personnel with the frisker. If contamination is found, decontaminate according to SOP 3.

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SOP #10

Surface Water Sampling

Rev. #: 1

Rev Date: February 2, 2012

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SOP #10

Surface Water Sampling

Approval Signatures

Prepared by: Date: 02/02/2012

Joe Gilbert, PG

Reviewed by: Date: 03/09/2012

Timothy J. Cox, PG, CGWP

Table of Contents

1.0 SCOPE **1**

1.1 Purpose 1

2.0 Equipment **1**

3.0 Procedure **1**

1.0 SCOPE

1.1 Purpose

The purpose of this standard operating procedure (SOP) is to provide reference information for collecting surface water samples at the Mariano Lake Mine Site.

2.0 EQUIPMENT

- Level D personal protective equipment - safety glasses, nitrile or latex gloves, high visibility clothing, steel toe boots, hard hat (if required in area of sampling). Additional equipment may include waterproof boots and/or waders.
- Field sampling forms and/or log book
- Properly Preserved and Labeled Sampling Containers – Lab Provided
- Disposable polypropylene graduated beakers or additional sample bottles

3.0 PROCEDURE

1. Assemble all necessary sample collection equipment (see list above).
2. Assemble bottles for sampling. Make sure that the sample bottle labels have been filled out for the sampling location. Use a waterproof, permanent marker for labeling with the following:
    - Company Name
    - Sample Name (location)
    - Date and time of sample collection
    - Analyses required
    - Preservative
    - Sampler's Initials

3. Don a fresh pair of latex or nitrile gloves and ensure that all field staff are wearing appropriate PPE.

4. Sample bottles should be filled by submerging the bottle in the surface water body until completely full unless otherwise specified by the quality assurance project plan. Samples requiring preservatives should be sampled using a clean disposable graduated cylinder or another disposable laboratory bottle and then transferred to sample bottle containing required preservative. Sample bottles are sterile and no rinsing is required prior to sampling. Avoid any contact with the inside of the bottle or the inside of the bottle cap. If the cap is set down during sampling, the cap should be placed on its top, with the threads facing upwards.

5. Allow container to fill to desired volume and remove from stream. Place cap on container and tighten. Decontaminate the containers outside surface.

6. Cover and tighten caps. Store samples on ice in a cooler until ready for shipment to lab.

7. Take a picture of the sampling location for reference and confirmation of completed sample.

8. Complete field data sheet:

   - Sample Name (location)
   - Date and time of sampling
   - Person(s) performing the sampling
   - Analyses performed

9. Complete Chain of Custody Form (COC)

   - Company Name and information
   - Sample Name (location)

- Date and Time sample was collected
- Number of bottles submitted per sample
- Parameters requested for analyses
- Note any special instructions or requests
- Signature of sampler upon release of samples for shipment

10. Keep a copy of the COC.

11. After all samples have been collected store samples on ice in a cooler until ready for shipment to lab. It helps to keep the bottles inside a separate bag in the cooler so if the ice melts the sample bottles do not get wet. Double bag all ice bags in the cooler to ensure that no water leaks during shipment.

12. After the COC is filled out and the samples are on ice at 4°C in a cooler, all samples should be shipped to the laboratory with fresh double bagged ice, keeping in mind all hold-time limitations on the samples. Care should be taken to apply a custody seal across two sides of the cooler lid. Field samplers who sign the Chain of Custody should sign and ensure the proper placement of custody seals on all coolers.

2587000 2587500 2588000 2588500 2589000 2589500 2590000 2590500 2591000 2591500 2592000 2592500

1656500 1656000 1655500 1655000 1654500 1654000 1653500

N

WASH #1

IN USE SITE #3 (IUS-3)

V1 V2 V3 V4 V5 V6 V7 V8 V9 V10 V11 V12

H1 H2 H3 H4 H5 H6 H7 H8 H9 H10 H11 H12 H13

V13 V14 V15 V16 V17 V18 V19 V20 V21 V22 V23 V24 V25 V26 V27 V28 V29 V30 V31 V32 V33 V34 V35 V36 V37

Western Mine Area

Eastern Mine Area

WASH #2

V: North-South Transects
H: East-West Transects

Legend

Gamma Counts:

- Background
- >Background to <2xBackground
- 2xBackground to <3xBackground
- 3xBackground to <4xBackground
- 4xBackground and Greater
- Mine Areas

0 250 500 1,000 1,500 2,000 Feet

MARIANO LAKE MINE PROJECT
MCKINLEY COUNTY, NEW MEXICO

PHASE 1 GAMMA SURVEY AND BACKGROUND STUDY

SURVEY TRANSECTS SCAN

ARCADIS

FIGURE 2-1

Draft

Background Aerial: Digital Globe, dated May 2009.
Horizontal Datum refer to US State Plane NAD 1983 NM West

ATTACHMENT B

Navajo Nation Sovereign Immunity Act And Arbitration Act (rev. 2007)

NOTE: Copies of Navajo Nation laws are provided to the Bidder/Contractor as a courtesy only. The copies are current as of the date listed on the copies. The Bidder/Contractor is responsible for seeking legal advice and for ensuring it has the current versions of these laws. Copies of Navajo Nation laws are not part of the contract.

Navajo Nation
Sovereign Immunity Act

TITLE 1. GENERAL PROVISIONS
CHAPTER 5. NAVAJO NATION
SUBCHAPTER 2. NAVAJO SOVEREIGN IMMUNITY ACT

§ 551. Establishment

There is established the Navajo Sovereign Immunity Act.

HISTORICAL NOTES

HISTORY

CMY-42-80, May 6, 1980.

Revision note. Slightly reworded for purposes of statutory form.

ANNOTATIONS

1. Construction and application

"We hold that private individuals, such as the Petitioners, may not raise sovereign immunity as a defense against suits." Owens, et al. v. Honorable Allen Sloan, 7 Nav. R. 215, (Nav. Sup. Ct. 1996).

Formerly §§ 351-355. "Whether the Act applies is not determined by who the plaintiffs are, but by who the defendants are and in what capacity the defendants are acting." MacDonald v. Yazzie, 6 Nav. R. 95, 96 (Nav. Sup. Ct. 1989).

Re: previous sov. Imm. Act at 7 N.T.C. §§ 851-855. "The 1980 Navajo Sovereign Immunity Act, 7 N.T.C. §§ 851 to 855, does not allow implied waivers of the Navajo Nation's immunity from suit. Only an unequivocally expressed waiver is allowed by the 1980 Navajo Sovereign Immunity Act. [....] Therefore, the filing of a compulsory counterclaim by the Navajo Nation does not waive its immunity from suit." TBI Contractors v. Navajo Tribe, 6 Nav. R. 57, 61 (Nav. Sup. Ct. 1988).

§ 552. Definitions

For the purposes of this Subchapter, "Navajo Nation" means:

A. The Navajo Nation Council;

B. The President, Navajo Nation;

C. The Vice-President, Navajo Nation;

D. The Delegates to the Navajo Nation Council;

E. The Certified Chapters of the Navajo Nation;

F. The Grazing Committees of the Navajo Nation;

G. The Land Boards of the Navajo Nation;

H. The Executive Branch of the Navajo Nation government;

I. The Judicial Branch of the Navajo Nation government;

J. The Commissions of the Navajo Nation government;

K. The Committees of the Navajo Nation Council;

L. The Legislative Branch of the Navajo Nation government;

M. The Enterprises of the Navajo Nation;

N. Navajo Community College;

O. The Kayenta Township and the Kayenta Township Commission;

P. Navajo Housing Authority.

HISTORICAL NOTES

HISTORY

CO-55-04, October 19, 2004.

CAU-47-03, August 29, 2003.

CJY-42-03, July 25, 2003.

CMY-28-88, May 6, 1988.

CMY-42-80, May 6, 1980.

REFERENCES

LIBRARY REFERENCES

Indians K27(1), 32(7).
Westlaw Topic No. 209.
C.J.S. Indians §§ 13 to 15, 19, 42, 53, 55, 60 to 62, 68, 89, 91 to 92, 94 to 95, 97, 139 to 143, 152.

ANNOTATIONS

1. Construction and application

"NHA is not considered the 'Navajo Nation' in the act, but instead its immunity is covered by a separate Section of the Navajo Nation Code directly related to NHA, 6 N.N.C. § 616(b)(1)." NHA v. Bluffview Resident Management Corporation, Board of Directors, et al., No. SC-CV-35-00, slip op. at 9 (Nav. Sup. Ct. December 17, 2003).

"For the reasons stated, CIT was not covered by the Sovereign Immunity Act's umbrella of "enterprises of the Navajo Nation" in April 1995." Blaze Construction, Inc. v. Crownpoint Institute of Technology, 7 Nav. R. 296, 299 (Nav. Sup. Ct. 1997).

"We hold that private individuals, such as the Petitioners, may not raise sovereign immunity as a defense against suits." Owens, et al. v. Honorable Allen Sloan, 7 Nav. R. 215, (Nav. Sup. Ct. 1996).

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§ 553. General principles of sovereign immunity

A. The Navajo Nation is a sovereign nation which is immune from suit.

B. Sovereign immunity is an inherent attribute of the Navajo Nation as a sovereign nation and is neither judicially created by any court, including the Courts of the Navajo Nation, nor derived from nor bestowed upon the Navajo Nation by any other nation or government.

C. The Courts of the Navajo Nation are created by the Navajo Nation Council within the government of the Navajo Nation and the jurisdiction and powers of the courts of the Navajo Nation, particularly with regard to suits against the Navajo Nation, are derived from and limited by the Navajo Nation Council as the governing body of the Navajo Nation.

D. The special authority of the Congress of the United States relating to Indian affairs derives from and is consistent with the recognition and fulfillment of its unique trust obligations to protect and preserve the inherent attributes of Indian tribal self-government.

E. The Navajo Nation Council has enacted the Navajo Nation Bill of Rights in recognition of the interests and rights of the People of the Navajo Nation, from whom the sovereignty of the Navajo Nation derives, as express self-limitations upon the exercise of its sovereign powers and has provided herein for specific remedies and redress for individuals from the government of the Navajo Nation as only the governing body of the Navajo Nation is empowered and responsible to determine on behalf of the People of the Navajo Nation.

F. Neither the President, Navajo Nation, the Vice-President, Navajo Nation, nor the delegates to the Navajo Nation Council may be subpoenaed or otherwise compelled to appear or testify in the courts of the Navajo Nation or any proceeding which is under the jurisdiction of the courts of the Navajo Nation concerning any matter involving such official's actions pursuant to his/her official duties.

HISTORICAL NOTES

HISTORY

CMY-28-88, May 6, 1988.

CMY-42-80, May 6, 1980.

REFERENCES

LIBRARY REFERENCES

Indians K27(1), 32(7).

Westlaw Topic No. 209.
C.J.S. Indians §§ 13 to 15, 19, 42, 53, 55, 60 to 62, 68, 89, 91 to 92, 94 to 95, 97, 139 to 143, 152.

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"We hold that private individuals, such as the Petitioners, may not raise sovereign immunity as a defense against suits." Owens, et al. v. Honorable Allen Sloan, 7 Nav. R. 215, (Nav. Sup. Ct. 1996).

Formerly §§ 351-355. "Whether the Act applies is not determined by who the plaintiffs are, but by who the defendants are and in what capacity the defendants are acting." MacDonald v. Yazzie, 6 Nav. R. 95, 96 (Nav. Sup. Ct. 1989).

Re: previous sov. Imm. Act at 7 N.T.C. §§ 851-855. "The 1980 Navajo Sovereign Immunity Act, 7 N.T.C. §§ 851 to 855, does not allow implied waivers of the Navajo Nation's immunity from suit. Only an unequivocally expressed waiver is allowed by the 1980 Navajo Sovereign Immunity Act. [....] Therefore, the filing of a compulsory counterclaim by the Navajo Nation does not waive its immunity from suit." TBI Contractors v. Navajo Tribe, 6 Nav. R. 57, 61 (Nav. Sup. Ct. 1988).

2. Immunity

"Under the Navajo Sovereign Immunity Act, the Navajo Nation is immune from suit. This immunity from suit is an inherent attribute of Navajo sovereignty and not judicially created by any court, including the Navajo courts, and is not bestowed upon the Nation by the United States government, or any other government." Raymond v. Navajo Agricultural Products Industry, et al., 7 Nav. R. 142, 143 (Nav. Sup. Ct. 1995).

Re: Sov. Imm. Act definition of Navajo Nation: "The suit challenges certain resolutions passed by the Navajo Tribal Council. When the Navajo Tribal Council and the delegates to that body are performing legislative functions they fall within the definition of Navajo Nation and the [Navajo Sovereign Immunity] Act applies." Plummer v. Brown II, 6 Nav. R. 88, 91 (Nav. Sup. Ct. 1989).

3. Powers of council

"The Navajo Nation Council, as the governing body of the sovereign Navajo Nation, has the power to limit the jurisdiction of the Navajo courts, especially in suits against the Nation." Raymond v. Navajo Agricultural Products Industry, et al., 7 Nav. R. 142, 143 (Nav. Sup. Ct. 1995).

4. Remedies

"The Act recognizes that the People of the Nation have rights and interests (as enacted in the Navajo Nation Bill of Rights), and that these rights and interests are limitations of the Nation's sovereign powers. Thus, the Act provides individuals with

specific remedies and redress from governmental actions which are violative of the people's rights." Raymond v. Navajo Agricultural Products Industry, et al., 7 Nav. R. 142, 143 (Nav. Sup. Ct. 1995).

5. Jurisdiction

Formerly 1 N.T.C. §§ 353 & 354. "We will not adopt Chairman MacDonald's argument that, because this is a unique case where the Navajo Nation has sued itself, we must ignore the express tribal code law on suits against the Navajo Nation. If we ignore the provisions in the Act, in effect the Navajo courts would be creating their own jurisdiction--a power Navajo courts do not have. Navajo code law expressly provides that the Navajo courts can exercise jurisdiction over suits against the Navajo Nation only when authorized by the Navajo Tribal Council." Plummer v. Brown II, 6 Nav. R. 88, 92 (Nav. Sup. Ct. 1989).

§ 554. Exceptions to the general principles of sovereign immunity; purpose and intent

A. The purpose and intent of the Navajo Sovereign Immunity Act is to balance the interest of the individual parties in obtaining the benefits and just redress to which they are entitled under the law in accordance with orderly process of the Navajo government, while at the same time protecting the legitimate public interest in securing the purpose and benefits of their public funds and assets, and the ability of their government to function without undue interference in furtherance of the general welfare and the greatest good of all people. All of the provisions of this Act shall be applied as hereinafter set forth in order to carry out this stated purpose and intent of the Navajo Nation Council, as the governing body of the Navajo Nation.

B. The Navajo Nation may be sued in the courts of the Navajo Nation when explicitly authorized by applicable federal law.

C. The Navajo Nation may be sued only in the courts of the Navajo Nation when explicitly authorized by Resolution of the Navajo Nation Council.

D. Any exception to the immunity of the Navajo Nation and assumption of liability pursuant to this Act does not apply in circumstances in which such liability has been or is hereafter assumed by third parties, including any other governmental body or agency, nor for which the Navajo Nation has been or is hereafter indemnified or held harmless by such parties, to the extent of such assumption or indemnification of liability. Nor does any liability assumed by the Navajo Nation pursuant to this Act extend to any party or parties as third party beneficiary or otherwise, other than the party or parties to whom such liability is expressly assumed, and then only to the extent, circumstances and conditions specified thereby.

E. Any liability of a public entity or public officer, employee or agent assumed pursuant to this Act is subject to any other immunity of that public entity or person and is

subject to any defense which would be available to the public entity or person if they were private entities and/or persons.

1. A public entity is not liable for any injury or damage resulting from an act or omission of any public officer, employee or agent if that party is not liable; nor for the actions or omissions of public officers, employees or agents which are determined to be contrary to or without authorization or otherwise outside or beyond the course and scope of such officer's, employee's or agent's authority.

2. This Section does not immunize a public officer, employee or agent from individual liability, not within Navajo Nation insurance coverage, for the full measure of the recovery applicable to a person in the private sector, if it is established that such conduct was outside the scope of his or her employment and/or authority.

3. Volunteers duly authorized by the Navajo Nation or any political subdivision thereof, in performing any of their authorized functions or duties or training for such functions or duties, shall have the same degree of responsibility for their actions and enjoy the same immunities as officers and employees of the Navajo Nation and its governmental entities performing similar work.

F. The Navajo Nation may be sued only in the courts of the Navajo Nation with respect to any claim which is within the express coverage and not excluded by either commercial liability insurance carried by the Navajo Nation or an established Navajo Nation self-insured and/or other claims program of the Navajo Nation government, approved and adopted pursuant to the laws of the Navajo Nation and further, subject to the following provisions and limitation:

1. No judgment, order or award pertaining to any claims permitted hereunder shall be for more than the limits of valid and collectable liability insurance policies carried by the Navajo Nation covering each such claim and in force at the time of such judgment, including deductible amounts to the extent appropriated by the Navajo Nation Council; nor for more than the amount of coverage provided for each such claim under established claim reserves as appropriated by the Navajo Nation Council, or otherwise established pursuant to any self-insured liability and/or other Navajo Nation government claims program, approved and adopted pursuant to the laws of the Navajo Nation;

2. Any such judgment, order or award may only be satisfied pursuant to the express provisions of the policy(ies) of liability insurance and/or established self-insured or government claims program of the Navajo Nation which are in effect at the time of each such judgment, order or award. Regardless of the existence of applicable and collectible commercial insurance coverage at the time any cause of action arises or suit is filed against the Navajo Nation, in no event shall any funds or other property of the Navajo Nation be liable for satisfaction of any judgment against the Navajo Nation and/or other insureds thereunder, beyond the limits of any amounts specifically appropriated and/or reserved therefor at the time of judgment, which shall be modified by law in accordance with such limitation of funds. This limitation shall apply to any deductible or retained liability or otherwise resulting from any inability or insolvency occurring any time prior to entry of such judgment;

3. No cause of action shall lie and no judgment may be entered or awarded on any claim for punitive or exemplary damages against the Navajo Nation; nor against any officer, employee or agent of the Navajo Nation acting within the course and scope of the authority of such office, employment or agency;

4. Notwithstanding any provisions of this Subsection (F), there shall be no exception to the sovereign immunity of public entities, officials, employees or agents of the Navajo Nation from claims for injury or damage alleged to have been sustained by:

a. Policy decisions or the exercise of discretion made by a public official, employee or agent in the exercise or judgment or discretion vested in the entity or individual;

b. A decision made in good faith and without gross negligence in carrying out the law, except that this provision does not immunize a public entity, officer, employee or agent from liability for false arrest, false imprisonment or malicious prosecution;

c. Legislative or judicial action or inaction or administrative action or inaction of a legislative or judicial nature, such as adopting or failure to adopt a law or by failing to enforce a law;

d. Issuance, denial, suspension or revocation of, or the failure or refusal to issue, deny, suspend or revoke, any permit, license, certificate, approval, order or similar authorization, nor by the termination or reduction of benefits under a public assistance program; if the public entity, officer, employee or agent of the Navajo Nation is authorized by law to determine whether or not such authorization or benefits should be issued, denied, suspended or revoked;

e. Probation, parole, furlough or release from confinement of a prisoner or other detainee or from the terms and conditions or the revocation thereof, except upon a showing of gross negligence;

f. Any injury or damage caused by an escaping or escaped person or prisoner, a person resisting arrest or by a prisoner to himself or herself, or to any other prisoner, except upon showing of gross negligence;

g. The enumeration of the above immunities shall not be construed to waive any other immunities, nor to assume any liability except as explicitly provided in this Act.

5. Subject to all other provisions of this Act, the express coverage of any commercial liability policy insuring the Navajo Nation or of any self-insurance program established by the Navajo Nation, for sums which the Navajo Nation as insured shall become legally obligated to pay as damage because of personal injury and/or property damages shall include liability for such actual monetary loss and damage which is established by clear and convincing evidence, to be the direct and proximate result of the wrongful deprivation or impairment of civil rights as set forth in Chapter 1 of Title 1 of the Navajo Nation Code, the Bill of Rights of the Navajo Nation. In the sound exercise of judicial discretion, the courts of the Navajo Nation may, to the extent deemed proper and appropriate in any action for damages for wrongful deprivation or impairment of civil rights as provided herein, award necessary costs of suit and/or reasonable fees; based upon time and value, incurred for legal representation; or require each or any party thereto, to bear their own respective costs and/or legal fees incurred therein.

G. Any officer, employee or agent of the Navajo Nation may be sued in the courts of the Navajo Nation to compel him/her to perform his/her responsibility under the expressly applicable laws of the United States and of the Navajo Nation, which shall include the Bill of Rights of the Navajo Nation, as set forth in Chapter 1, Title 1, Navajo Nation Code.

1. Relief awarded by the courts of the Navajo Nation under this Subsection (G) shall be limited to declaratory or prospective mandamus or injunctive relief and in accordance with the express provisions of the laws of the United States and the Navajo Nation establishing the responsibility for such performance. The courts may further, in the exercise of judicial discretion, award necessary costs of suit and/or reasonable fees for legal representation, in the same manner and to the same extent provided in Paragraph (5) Subsection (F) hereof.

2. No relief as provided under this Subsection (G) may be awarded by the courts of the Navajo Nation without actual notice to the defendant(s), nor before the time provided in this Act for answering complaints, motions or orders to show cause, nor without opportunity for full hearing of all defenses and objection thereto, in accordance with all provisions of this Act all other applicable law(s).

3. This Subsection (G) shall not apply to the President of the Navajo Nation, the Vice-President of the Navajo Nation, or the delegates to the Navajo Nation Council.

H. Contracted or otherwise retained counsel and other attorneys employed by the Navajo Nation may be sued for malpractice when authorized by the Government Services Committee of the Navajo Nation Council.

I. The Navajo Nation may be sued by Navajo contractors and/or their sureties on construction development or reclamation contracts, provided:

1. The contractor's contract is properly approved by the appropriate Committee of the Navajo Nation Council.

2. The contract is to be performed by a Navajo contractor as defined herein and is performed within the territorial jurisdiction of the Navajo Nation.

3. Damages against the Navajo Nation under the consent to suit granted by the Navajo Nation to Navajo contractors and/or their sureties shall be limited to damages claimed under applicable principles of contract damage law, including damages necessary to compensate for fulfilling the obligations under the bond, which shall include properly authorized change orders and properly authorized performance under owner directives to proceed done under protest, but shall not include:

a. Punitive damages;

b. Damages from claims arising in tort;

c. Damages caused by delays in performance due to governmental review and approval procedures of the Navajo Nation or other governmental entity having the right to review and/or approve the contract or project; or

d. Damages caused by delay, contract modification, or contract termination, due to delay in or failure to receive matching funds for the contract or project.

4. Damages against the Navajo Nation claimed above shall be limited to the dollar amount of the contract including properly approved change orders.

5. The Navajo Nation shall be subject to suit under this Subsection (I) only in the courts of the Navajo Nation. In determining the Navajo Nation's obligations under this Subsection (I), the courts of the Navajo Nation shall not give any preclusive effect against the Navajo Nation of any determination by any judicial or quasi-judicial body except the Courts of the Navajo Nation.

6. Navajo Contractor shall mean any contractor entitled to a priority number one, number two or number three pursuant to the Navajo Nation Business Opportunity Act.

J. The Navajo Nation may be ordered to proceed with arbitration, provided:

1. The agreement is properly approved and executed on behalf of the Navajo Nation according to all applicable laws of the Navajo Nation;

2. All agreements entered into under the Navajo Nation Arbitration Act shall be approved by the Navajo Nation Department of Justice; and

3. The arbitration process shall be conducted in accordance with the Navajo Nation Arbitration Act, 7 N.N.C. §§1101 *et. seq.*.

K. The Courts of the Navajo Nation shall have original and exclusive jurisdiction to enforce an arbitral award against the Navajo Nation when such suit is specifically provided for in an agreement containing an arbitration clause that is entered in accordance with the Navajo Nation Arbitration Act. The Navajo Nation shall be subject to suit under this Subsection (K) provided that:

1. The agreement is properly approved and executed on behalf of the Navajo Nation according to all applicable laws of the Navajo Nation;

2. All agreements entered into under the Navajo Nation Arbitration Act shall be approved by the Navajo Nation Department of Justice;

3. The award of damages shall be compensatory damages only, and shall not exceed the dollar amount of the contract including properly approved amendments, but shall not include:

a. Punitive or exemplary damages;

b. Damages from claims arising in tort;

c. Damages caused by delays in performance due to governmental review and approval procedures of the Navajo Nation or other governmental entity having the right to review and/or approve the contract; or

d. Damages incurred by those not a party to the contract, including third party beneficiaries or others who receive direct or indirect benefits from the agreement.

4. The courts may, in the exercise of judicial discretion, award necessary costs of suit and/or reasonable fees for legal representation, in the same manner and to the same extent provided in Paragraph (5) Subsection (F) hereof;

5. In determining the Navajo Nation's obligations under this Subsection (K), the courts of the Navajo Nation shall not give any preclusive effect against the Navajo Nation of any determination by any judicial or quasi-judicial body except the Courts of the Navajo Nation; and

6. The arbitration process shall be conducted in accordance with the Navajo Nation Arbitration Act, 7 N.N.C. §§1101 *et. seq.*

HISTORICAL NOTES

HISTORY

CJA-05-07, January 24, 2007

CJY-40-92, July 24, 1992.

CMY-28-88, May 6, 1988.

CD-60-86, December 11, 1986.

CJY-55-85, July 25, 1985.

CMY-42-80, May 6, 1980.

Revision note. § 554(I)(6), Navajo Nation Business Preference Law was amended to Navajo Nation Business Opportunity Act. CAP-37-02, April 19, 2002.

REFERENCES

LIBRARY REFERENCES

Indians K27(1), 32(7).
Westlaw Topic No. 209.
C.J.S. Indians §§ 13 to 15, 19, 42, 53, 55, 60 to 62, 68, 89, 91 to 92, 94 to 95, 97, 139 to 143, 152.

ANNOTATIONS

1. Construction and application

"Section 554(G) of the Act permits suit against any officer, employee or agent of the Navajo Nation to compel him or her to perform responsibilities under the expressly applicable laws of the United States and the Navajo Nation." Judy v. White, No. SC-CV-35-02, slip op. at 15 (Nav. Sup. Ct. August 2, 2004).

"The Act explicitly denies any liability on the part of the Nation for 'the actions or omissions of public officers, employees or agents which are determined to be contrary to or without authorization or otherwise outside or beyond the course and scope of such officer's, employee's or agent's authority." Chapo, et al. v. Navajo Nation, et al., No. SC-CV-68-00, slip op. at 8 (Nav. Sup. Ct. March 11, 2004).

"A personal capacity suit seeks compensation from the individuals themselves, not from the Navajo Nation." Chapo, et al. v. Navajo Nation, et al., No. SC-CV-68-00, slip op. at 8 (Nav. Sup. Ct. March 11, 2004).

"Official capacity suits are suits naming individual officials or employees, but in reality seeking compensation from the Navajo Nation." Chapo, et al. v. Navajo Nation, et al., No. SC-CV-68-00, slip op. at 8 (Nav. Sup. Ct. March 11, 2004).

"One purpose of the Act is for the Navajo Nation to assume, under certain circumstances, responsibility for the actions of its officials and employees." Chapo, et al. v. Navajo Nation, et al., No. SC-CV-68-00, slip op. at 6 (Nav. Sup. Ct. March 11, 2004).

"We hold that private individuals, such as the Petitioners, may not raise sovereign immunity as a defense against suits." Owens, et al. v. Honorable Allen Sloan, 7 Nav. R. 215, (Nav. Sup. Ct. 1996).

"The Navajo Nation may be sued when "explicitly authorized by applicable federal law." Raymond v. Navajo Agricultural Products Industry, et al., 7 Nav. R. 142, 143 (Nav. Sup. Ct. 1995).

Formerly § 354. "Neither can the Navajo Tribal Council nor its delegates be sued based upon their actions in performing legislative functions." Plummer v. Brown II, 6 Nav. R. 88, 93 (Nav. Sup. Ct. 1989).

Formerly §§ 351-355. "Whether the Act applies is not determined by who the plaintiffs are, but by who the defendants are and in what capacity the defendants are acting." MacDonald v. Yazzie, 6 Nav. R. 95, 96 (Nav. Sup. Ct. 1989).

Re: previous Sov. Imm. Act at 7 N.T.C. § 854. "The relief under this Section of the Navajo Tribal Code is limited to declaratory or injunctive relief. TBI prays for money damages in its complaint, therefore, this Section is inapplicable to the case at bar. We hold that, as this is a breach of contract action for money damages, the suit may not proceed under 7 N.T.C. § 854(d)." TBI Contractors v. Navajo Tribe, 6 Nav. R. 57, 61 (Nav. Sup. Ct. 1988).

" ... [T]he ICRA does not explicitly authorize suit against the Navajo Nation in Navajo courts ... " Johnson v. The Navajo Nation, 5Nav. R. 192, 199 (Nav. Sup. Ct. 1987).

2. Construction with federal law

"It is the finding of this Court that the ICRA is not an applicable federal law under the meaning of Section 354(b) of the Act. In addition, the ICRA does not explicitly waive the Nation's immunity from suit as required by the Act." Raymond v. Navajo Agricultural Products Industry, et al., 7 Nav. R. 142, 143 (Nav. Sup. Ct. 1995).

3. Exceptions to immunity

"In a legal malpractice action, whether there is insurance coverage is not a justifiable issue until after the plaintiff has satisfied the legal malpractice subsection at Section 354(h)." Navajo Nation, et al. v. Cleveland, et al., 7 Nav. R. 185, 187 (Nav. Sup. Ct. 1995).

"The Council reenacted the legal malpractice language in 1988 and it is still Navajo Nation law." Navajo Nation, et al. v. Cleveland, et al., 7 Nav. R. 185, 186 (Nav. Sup. Ct. 1995).

"The final exception to the Nation's immunity from suit under the Act states that '[a]ny officer, employee or agent of the Navajo Nation may be sued in the [c]ourts of the Navajo Nation to compel him/her to perform his/her responsibility under the expressly applicable laws of the United States and of the Navajo Nation, which shall include the Bill of Rights of the Navajo Nation. 1 N.N.C. § 354(g)(1).' " Raymond v. Navajo Agricultural Products Industry, et al., 7 Nav. R. 142, 145 (Nav. Sup. Ct. 1995).

"The third exception is for claims within the express coverage and not excluded by the commercial liability insurance carried by the Nation. 1 N.N.C. § 354(f)." Raymond v. Navajo Agricultural Products Industry, et al., 7 Nav. R. 142, 144 (Nav. Sup. Ct. 1995).

"The second exception to the Nation's immunity from suit under the Sovereign Immunity Act is when the Navajo Nation Council explicitly authorizes suit by resolution. 1 N.N.C. § 354(c)." Raymond v. Navajo Agricultural Products Industry, et al., 7 Nav. R. 142, 144 (Nav. Sup. Ct. 1995).

Formerly 1 N.T.C. §§ 353 & 354. "We will not adopt Chairman MacDonald's argument that, because this is a unique case where the Navajo Nation has sued itself, we must ignore the express tribal code law on suits against the Navajo Nation. If we ignore the provisions in the Act, in effect the Navajo courts would be creating their own jurisdiction--a power Navajo courts do not have. Navajo code law expressly provides that the Navajo courts can exercise jurisdiction over suits against the Navajo Nation only when authorized by the Navajo Tribal Council." Plummer v. Brown II, 6 Nav. R. 88, 92 (Nav. Sup. Ct. 1989).

"Once the court has obtained jurisdiction under the insurance exception, that jurisdiction cannot be defeated by a later insolvency of the insurance company." Johnson v. The Navajo Nation, 5 Nav. R. 192, 197 (Nav. Sup. Ct. 1987).

Referring to previous Sov. Imm. Act at 7 N.T.C. § 854(c) re: insurance exception. "The law requires that the plaintiff's claim be covered under the insurance

policy before the court can assert jurisdiction over the Navajo Nation." Johnson v. The Navajo Nation, 5 Nav. R. 192, 197 (Nav. Sup. Ct. 1987).

4. Civil rights

"A person seeking redress of civil rights violations must establish that Navajo Nation courts have jurisdiction to hear her claims. If the claimant is suing the Nation, the claimant must, as a jurisdictional predicate, establish that the Nation's immunity from suit has been waived." Raymond v. Navajo Agricultural Products Industry, et al., 7 Nav. R. 142, 145 (Nav. Sup. Ct. 1995).

"The Nation does not attempt to hide behind sovereign immunity for civil rights claims. The Act itself mandates that commercial liability policies must contain a provision regarding civil rights violations. Under Section 354(f)(5) of the Act, the Nation's commercial liability policies must contain a provision covering damages resulting from 'wrongful deprivation of civil rights.' " Raymond v. Navajo Agricultural Products Industry, et al, 7 Nav. R. 142, 145 (Nav. Sup. Ct. 1995).

5. Waivers of immunity

"It is without question that our government cannot be sued except by its expressed consent. The Navajo Sovereign Immunity Act is the expression of that consent. It provides the means and manner by which suit will be brought against the sovereign." Judy v. White, No. SC-CV-35-02, slip op. at 11 (Nav. Sup. Ct. August 2, 2004).

"Whether the official or employee acted in their official or personal capacity also controls whether the defenses under the Act are available. The Act waives the Navajo Nation's immunity from certain types of suits, including civil rights claims." Chapo, et al. v. Navajo Nation, et al., No. SC-CV-68-00, slip op. at 8-9 (Nav. Sup. Ct. March 11, 2004).

"Raymond is not seeking prospective mandamus or injunctive relief, but is specifically seeking an amount equal to 'a sum calculated to reimburse her or her damage,' i.e., retrospective monetary relief. Accordingly, this Court holds that Raymond's claims do not constitute a waiver of the Nation's immunity from suit under Section 354(g) of the Act." Raymond v. Navajo Agricultural Products Industry, et al., 7 Nav. R. 142, 145 (Nav. Sup. Ct. 1995).

Re: previous 7 N.T.C. § 854(c): "The ICRA is federal law, which is applicable to the Navajo Nation, but it does not expressly waive the Navajo Nation's immunity from suit as required by our statute. Our statute requires the federal law or regulation relied upon to explicitly state that the Navajo Nation may be sued." TBI Contractors v. Navajo Tribe, 6 Nav. R. 57, 60 (Nav. Sup. Ct. 1988).

Re: previous sov. Imm. Act at 7 N.T.C. §§ 851-855. "The 1980 Navajo Sovereign Immunity Act, 7 N.T.C. §§ 851 to 855, does not allow implied waivers of the Navajo Nation's immunity from suit. Only an unequivocally expressed waiver is allowed by the 1980 Navajo Sovereign Immunity Act. [....] Therefore, the filing of a compulsory counterclaim by the Navajo Nation does not waive its immunity from suit." TBI Contractors v. Navajo Tribe, 6 Nav. R. 57, 61 (Nav. Sup. Ct. 1988).

6. Special prosecutor

"The [Special Prosecutor] Act blends well with the Sovereign Immunity Act because it provides a remedy for the Navajo Nation against officers or employees who exceeded their authority." MacDonald, Sr. v. Navajo Nation ex rel. Rothstein, 6 Nav. R. 290, 296 (Nav. Sup. Ct. 1990).

§ 555. Procedure with respect to actions authorized by this subchapter

A. Any person or party desiring to institute suit against the Navajo Nation or any officer, employee or agent of the Navajo Nation as authorized by this Subchapter shall, as a jurisdictional condition precedent provide notice to the President of the Navajo Nation and the Attorney General of the Navajo Nation, as provided herein.

1. Such notices shall be sent by registered mail, addressed to the main administrative offices of the President of the Navajo Nation and of the Attorney General of the Navajo Nation, return receipts requested. The time of such notice shall commence to run only from the date following actual delivery of both notices as evidenced upon such receipts, and filed together with such notices with the court in which such action is subsequently to be commenced. The President of the Navajo Nation and the Attorney General of the Navajo Nation shall, ensure the availability, during all regular office hours, of office staff personnel duly authorized to accept and receipt for delivery of such notices provided herein and their receipt thereof shall not waive the assertion of any appropriate defense pertaining to the validity of such notice or service.

2. Such notices shall state the name of each prospective plaintiff, the identity of each prospective defendant; the nature of all claims and relief which will be sought, and the correct address, name and telephone number of each prospective plaintiff's attorney or counselor (if any).

3. No action shall be accepted for filing against the Navajo Nation or any officer, employee or agent of the Navajo Nation unless the plaintiff has filed proof of compliance with this Subsection by service of the notices as required by this Subsection at least 30 days prior to the date on which the complaint or any other action is proposed to be filed with such Court.

B. In any action against the Navajo Nation or any officer, employee or agent of the Navajo Nation, the time for responding to valid service of any summons and complaint shall be 60 days; to valid service of any order to show cause not less than 30 days; and to valid service of any motion, not less than 20 days. Any claim against the Navajo Nation or any public entity, officer, employee or agent thereof, which is filed

pursuant to this Act, is deemed generally denied 60 days after valid service of the complaint, unless the claimant or claimant's attorney or counsel filing the complaint is advised of acceptance or of a specific or otherwise limited denial in writing or by responsive pleading filed before the expiration of 60 days; and any such claim shall otherwise proceed in the same manner as upon the filing of such general denial thereof. These time periods may not be shortened by rule of court or judicial order, but shall be extended by any longer period provided by other applicable law, rule or order of court.

C. Any person or party filing a complaint against the Navajo Nation or any officer, employee or agent of the Navajo Nation shall serve by registered mail, return receipt requested, a copy of this complaint together with summons duly issued, upon the President of the Navajo Nation and the Attorney General of the Navajo Nation. Service of summons and complaint against any officer, employee or agent of the Navajo Nation shall be made by any means authorized under the rules of the courts of the Navajo Nation, provided that the time for response thereto shall be as provided herein and service upon such parties shall not be affected by such required service upon the President of the Navajo Nation and the Attorney General of the Navajo Nation.

D. In any action in which any claim is asserted against the Navajo Nation or any public entity thereof, upon written demand of the Navajo Nation Department of Justice, made at or before the time of answering, served upon the opposing party and filed with the court where the action is pending, the place of trial of such action shall be changed to Window Rock, Navajo Nation (Arizona).

HISTORICAL NOTES

HISTORY

CJY-55-85, July 25, 1985.

CMY-42-80, May 6, 1980.

REFERENCES

LIBRARY REFERENCES

Indians K27(5, 6), 32(7).
Westlaw Topic No. 209.
C.J.S. Indians §§ 13, 16, 18, 42 to 43, 60 to 62, 95, 139 to 143, 146, 152.

ANNOTATIONS

1. Notice

"Before a district court may take jurisdiction over a suit against the Navajo Nation, a plaintiff must give notice to the Nation of his or her intended suit." Chapo, et al. v. Navajo Nation, et al., No. SC-CV-68-00, slip op. at 5 (Nav. Sup. Ct. March 11, 2004).

" ... Appellants send a Notice of Desire to Institute Suit to the President and Attorney General prior to filing their complaint." Chapo, et al. v. Navajo Nation, et al., No. SC-CV-68-00, slip op. at 3 (Nav. Sup. Ct. March 11, 2004).

"We therefore hold that in cases where the Nation is sued as vicariously liable for the conduct of its officials or employees, the Nation itself does not need to be named." Chapo, et al. v. Navajo Nation, et al., No. SC-CV-68-00, slip op. at 7 (Nav. Sup. Ct. March 11, 2004).

"The notice requirements of the Navajo Sovereign Immunity Act, 1 N.N.C. § 551et seq., are jurisdictional, 1 N.N.C. § 555(A), and whether a plaintiff complied with them is a question of law." Chapo, et al. v. Navajo Nation, et al., No. SC-CV-68-00, slip op. at 4-5 (Nav. Sup. Ct. March 11, 2004).

"For the reasons stated, CIT was not covered by the Sovereign Immunity Act's umbrella of 'enterprises of the Navajo Nation' in April 1995." Blaze Construction, Inc. v. Crownpoint Institute of Technology, 7 Nav. R. 296, 299 (Nav. Sup. Ct. 1997).

2. Enforcement of orders

"Under the plain language of the NPEA, the only restriction on enforcement of a post-judgment order applies to enforcement against the Navajo Nation, which must proceed under the procedural guidelines of the Navajo Sovereign Immunity Act, 1 N.N.C. § 551 et seq." Tso v. Navajo Housing Authority, No. SC-CV-10-02, slip op. at 7 (Nav. Sup. Ct. August 26, 2004).

3. Jurisdiction

"We believe that if the Council had intended to make Section 555(D) a jurisdictional condition that all trials against the sovereign be heard in Window Rock, it would have said so. It could have used the same 'jurisdictional condition precedent' language but it did not, and we therefore decline to extend the jurisdictional language of § 555(A) to § 555(D)." Judy v. White, No. SC-CV-35-02, slip op. at 11-12 (Nav. Sup. Ct. August 2, 2004).

"Therefore, as a 'jurisdictional condition precedent,' 1 N.N.C. § 555(A), the plaintiff is required to name each defendant and the claim against that defendant."

Chapo, et al. v. Navajo Nation, et al., No. SC-CV-68-00, slip op. at 5 (Nav. Sup. Ct. March 11, 2004).

"The Ramah District Court transferred the case to the Window Rock District Court at the request of the Navajo Nation Department of Justice, pursuant to 1 N.N.C. § 555(D)." Chapo, et al. v. Navajo Nation, et al., No. SC-CV-68-00, slip op. at 3 (Nav. Sup. Ct. March 11, 2004).

Formerly § 355. "As a jurisdictional condition precedent to suit against the Navajo Nation, the plaintiff must comply with the provisions of 1 N.T.C. § 355." Plummer v. Brown II, 6 Nav. R. 88, 92 (Nav. Sup. Ct. 1989).

4. Procedures, generally

"The transfer to Window Rock pursuant to 1 N.N.C. § 555(D) may be demanded at any time at or before the time of answering. In this case, White's identity as a protected entity was not settled until disposition of the motions for failure to state a claim, at which time White could have made a second demand to transfer pursuant to § 555(D)." Judy v. White, No. SC-CV-35-02, slip op. at 14 (Nav. Sup. Ct. August 2, 2004).

"In a suit against the Navajo Nation, where a timely demand to transfer is made by the Department of Justice pursuant to Section 555(D), the trial court is obligated to transfer the case and the failure to do so may lead to a mandamus action compelling transfer." Judy v. White, No. SC-CV-35-02, slip op. at 12 (Nav. Sup. Ct. August 2, 2004).

"When the Department of Justice makes proper and timely demand for transfer, the Court is without discretion to deny it. The authority to request a transfer pursuant to 1 N.N.C. § 555(D) is limited to the Department of Justice, however, and no other party or entity, including the Court, may raise it. If suit is brought in a district other than Window Rock, and the Department of Justice fails to make a proper and timely request for transfer, then the trial will remain in the initial district." Judy v. White, No. SC-CV-35-02, slip op. at 12 (Nav. Sup. Ct. August 2, 2004).

" ... [W]hile Loley has submitted his sum certain damages, a damages hearing is always necessary for the Navajo Nation to defend its treasury." Loley v. Department of Employment and Training, 7 Nav. R. 406, 412 (Nav. Sup. Ct. 1999).

"While a Navajo Nation government agency need not file an answer to a complaint under 1 N.N.C. § 555(B), it is not free to extend that privilege to ignore the valid orders of the [Labor] Commission (or a court for that matter). Once the Navajo Nation has been afforded its sovereign protection, it will be held to the same standards and responsibilities of any litigant." Loley v. Department of Employment and Training, 7 Nav. R. 406, 409 (Nav. Sup. Ct. 1999).

Formerly §§ 351-355. "Whether the Act applies is not determined by who the plaintiffs are, but by who the defendants are and in what capacity the defendants are acting." MacDonald v. Yazzie, 6 Nav. R. 95, 96 (Nav. Sup. Ct. 1989).

5. Immunity

"We hold that private individuals, such as the Petitioners, may not raise sovereign immunity as a defense against suits." Owens, et al. v. Honorable Allen Sloan, 7 Nav. R. 215, (Nav. Sup. Ct. 1996).

Navajo Nation
Arbitration Act (rev. 2007)

NAVAJO NATION CODE ANNOTATED
TITLE 7. COURTS AND PROCEDURE
CHAPTER 7. NAVAJO NATION ARBITRATION ACT

§ 1101. Short title

This Act may be cited as the Navajo Nation Arbitration Act.

HISTORICAL NOTES

HISTORY

CJY-26-04, July 20, 2004.

§ 1102. Jurisdiction

An agreement providing for arbitration in the Navajo Nation may be enforced by the Navajo Nation district court in the judicial district where the parties to the controversy reside or may be personally served.

HISTORICAL NOTES

HISTORY

CJY-26-04, July 20, 2004.

§ 1103. Written agreement to submit controversy to arbitration is valid

A written agreement to submit any existing or future controversy to arbitration is valid, enforceable and irrevocable, save upon such grounds as exist at law or in equity for the revocation of the contract.

HISTORICAL NOTES

HISTORY

CJY-26-04, July 20, 2004.

§ 1104. Duty of court on application of party to arbitrate

A. On application of a party showing an arbitration agreement and the opposing party's refusal to arbitrate, the court shall order the parties to proceed with arbitration. If the opposing party denies the existence of the agreement to arbitrate, the court shall proceed summarily to determine the issue raised and shall order or deny arbitration accordingly.

B. If an issue referable to arbitration under the alleged agreement is involved in an action or proceeding pending in a court having jurisdiction to hear applications to compel arbitration, the application shall be made therein. Otherwise, the application shall be made in the court of proper venue.

C. Any action or proceeding involving an issue subject to arbitration shall be stayed if an order for arbitration or an application therefor has been made or, if the issue is severable, the stay may be with respect thereto only. When the application is made in such action or proceeding, the order for arbitration shall include such stay.

D. An order for arbitration shall not be refused on the ground that the claim in issue lacks merit or because any fault or grounds for the claim sought to be arbitrated has not been shown.

HISTORICAL NOTES

HISTORY

CJY-26-04, July 20, 2004.

§ 1105. When court may appoint arbitrators

If the arbitration agreement provides a method of appointment of arbitrators this method shall be followed. In the absence thereof, or if the agreed method fails or cannot be followed, or when an arbitrator fails or is unable to act and his successor has not been appointed, the court on application of a party shall appoint one or more arbitrators. An arbitrator so appointed has all the powers of one specifically named in the agreement.

HISTORICAL NOTES

HISTORY

CJY-26-04, July 20, 2004.

§ 1106. Qualification of arbitrators

The qualifications of a person allowed to serve as an arbitrator, under this Act shall be set by the Navajo Nation Judicial Branch.

HISTORICAL NOTES

HISTORY

CJY-26-04, July 20, 2004.

§ 1107. Powers of arbitrators

The powers of the arbitrators may be exercised by a majority unless otherwise provided by the agreement or by law.

HISTORICAL NOTES

HISTORY

CJY-26-04, July 20, 2004.

§ 1108. Notice and hearing

A. Whenever the Navajo Nation is a party to an arbitration agreement, notice of intent to invoke arbitration shall be filed in compliance with 1 N.N.C. §555.

B. The arbitrators shall appoint a time and place for the hearing and serve the parties with notice either personally or by registered mail not less than 10 days before the hearing. Appearance at the hearing waives the notice. The arbitrators may adjourn the hearing from time to time as necessary, and on request of a party or upon their own motion may postpone the hearing to a time not later than the date fixed by the agreement for making the award, unless the parties consent to a later date. The arbitrators may hear and determine the controversy upon the evidence produced notwithstanding the failure of a party duly notified to appear. The court on application may direct the arbitrators to proceed promptly with the hearing and determination of the controversy.

C. The parties are entitled to be heard, to present evidence material to the controversy and to cross-examine witnesses appearing at the hearing.

D. The hearing shall be conducted by all the arbitrators but a majority may determine any question and render a final award. If during the course of the hearing an

arbitrator for any reason ceases to act, the remaining arbitrator or arbitrators may continue with the hearing and determination of the controversy.

HISTORICAL NOTES

HISTORY

CJY-05-07, January 24, 2007.

CJY-26-04, July 20, 2004.

§ 1109. Right to be represented by attorney or Navajo tribal court advocate; effect of waiver

A party may be represented by a member in good standing of the Navajo Nation Bar Association at any arbitration proceeding or hearing. A waiver of representation at an arbitration proceeding made prior to the proceeding is ineffective.

HISTORICAL NOTES

HISTORY

CJY-26-04, July 20, 2004.

§ 1110. Authority of arbitrators to issue subpoenas and administer oaths; service of subpoenas; depositions; compelling person to testify

A. The arbitrators may issue subpoenas for the attendance of witnesses, for the production of books, records, documents and other evidence and may administer oaths. Subpoenas shall be served, and upon application to the court by a party or the arbitrators, enforced in the manner provided by law for the service and enforcement of subpoenas in a civil action.

B. On application of a party and for use as evidence, the arbitrators may permit a deposition to be taken of a witness who cannot be subpoenaed or is unable to attend the hearing, in the manner designated by the arbitrators.

C. All provisions of law compelling a person under subpoena to testify are applicable.

HISTORICAL NOTES

HISTORY

CJY-26-04, July 20, 2004.

§ 1111. Award of arbitrators

A. The award shall be in writing and signed by the arbitrators joining in the decision. A copy shall be delivered to each party personally, or by registered mail or as provided in the agreement.

B. An award shall be made within the time fixed by the agreement, or if not so fixed, within such time as the court orders on application of a party. The parties may extend the time in writing either before or after the expiration thereof. A party waives the objection that an award was not made within the time required unless he notifies the arbitrators of his objection prior to the delivery of the award to him.

C. An award against the Navajo Nation shall be in conformance with the provisions of 1 N.N.C. §554(K).

HISTORICAL NOTES

HISTORY

CJA-05-07, January 24, 2007.

CJY-26-04, July 20, 2004.

§ 1112. Modification of award

A. On application of a party or an order of the court, the arbitrators may modify the award:

1. When there was an evident miscalculation of figures or description of a person or property referred to in the award;
2. When the award is imperfect as to form not affecting the merits of the controversy; or
3. For the purpose of clarifying the award.

B. The application shall be made within 20 days after delivery of the award to the applicant. Written notice shall be given promptly to the opposing party, stating he must serve his objections within 10 days from receipt of the notice.

HISTORICAL NOTES

HISTORY

CJY-26-04, July 20, 2004.

§ 1113. Expenses and fees for arbitrators

A. The arbitrators' fees shall be set by regulation adopted by the Navajo Nation Supreme Court in accord with 7 N.N.C. § 601.

B. The arbitrators' expenses, fees and other costs, not including counsel fees, incurred in the arbitration shall be paid as provided in the award, unless otherwise provided in the arbitration agreement.

HISTORICAL NOTES

HISTORY

CJY-26-04, July 20, 2004.

§ 1114. Confirmation of an arbitration award by court

Upon application of a party the court shall confirm the award unless within the time limits allowed grounds are urged for vacating or modifying the award.

HISTORICAL NOTES

HISTORY

CJY-26-04, July 20, 2004.

§ 1115. When court may vacate award

A. Upon application of a party the court shall vacate an award where:

1. The award was procured by corruption, fraud or other undue means;
2. There was evident partiality by an arbitrator appointed as a neutral, or corruption of any of the arbitrators or misconduct prejudicing the rights of any party;
3. The arbitrators exceeded their powers;

4. The arbitrators refused to postpone the hearing upon sufficient cause being shown, or refused to hear evidence material to the controversy or otherwise conducted the hearing as to substantially prejudice the rights of a party; or

5. There was no arbitration agreement, the issue was not adversely determined by a court as provided by law and the applicant did not participate in the arbitration hearing without raising the objection. The fact that the relief was such that it could not or would not be granted by a court of law or equity is not a ground for vacating or refusing to confirm the award.

B. An application for vacating an award shall be made within 90 days after delivery of a copy of the award to the applicant, or if predicated upon corruption, fraud or other undue means it shall be made within 90 days after the grounds are known or should have been known.

C. In vacating the award on grounds other than stated in Subsection (A)(5) the court may order a rehearing before new arbitrators chosen as provided in the agreement or by the court. If the award is vacated on grounds set forth in Paragraph (A)(3) or (4) of this Section the court may order a rehearing before the arbitrators who made the award or their successors appointed. The time within which the agreement requires the award to be made is applicable to the rehearing and commences from the date of the order.

D. If the application to vacate is denied and no motion to modify or correct the award is pending, the court shall confirm the award.

HISTORICAL NOTES

HISTORY

CJY-26-04, July 20, 2004.

§ 1116. When court may modify or correct award

A. Upon application made within 90 days after delivery of a copy of the award to the applicant, the court shall modify or correct the award where:

1. There was an evident miscalculation of figures or an evident mistake in the description of any person or property referred to in the award;

2. The arbitrators awarded upon a matter not submitted to them and the award may be corrected without affecting the merits of the decision upon the issues submitted; or

3. The award is imperfect in a matter of form, not affecting the merits of the controversy.

B. If the application is granted, the court shall modify and correct the award as to intent and shall confirm the award as so modified and corrected. Otherwise the court shall confirm the award as made.

C. An application to modify or correct an award may be joined in the alternative with an application to vacate the award.

HISTORICAL NOTES

HISTORY

CJY-26-04, July 20, 2004.

§ 1117. Judgment upon granting order confirming, modifying or correcting award; costs and disbursements

Upon the granting of an order confirming, modifying or correcting an award, the judgment shall conform and be enforced as any other judgment. Costs of the application, proceedings and disbursements may be awarded by the court.

HISTORICAL NOTES

HISTORY

CJY-26-04, July 20, 2004.

§ 1118. Application to court to be by motion; notice and hearing to be in manner provided by law

An application to the court for relief shall be by motion and shall be heard in the manner provided by law or rule of court. Notice of an initial application for an order shall be served in the manner provided by law for the service of a summons in a civil action unless otherwise specified by the parties.

HISTORICAL NOTES

HISTORY

CJY-26-04, July 20, 2004.

§ 1119. Appeals

An appeal to the Navajo Nation Supreme Court may be taken from:

A. An order denying the application to compel arbitration;

B. An order granting an application to stay arbitration;

C. An order confirming or denying confirmation of an award;

D. An order modifying or correcting an award;

E. An order vacating an award without directing a rehearing; or

F. A final judgment or decree entered by the court.

HISTORICAL NOTES

HISTORY

CJY-26-04, July 20, 2004.

TECHNICAL SPECIFICATIONS

SECTION 01 00 00

BASIC REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Summary:
- 1.2: Contract description.
- 1.3: Special considerations.
- 1.4: Work by Owner.
- 1.5: Contractor's use of premises.
- 1.6: Specification conventions.
- 1.7: Minimum wage rate determination.

B. Price and Payment Procedures:
- 1.8: Testing and inspection allowances.
- 1.9: Schedule of values.
- 1.10: Applications for payment.
- 1.11: Change procedures.
- 1.12: Unit prices.
- 1.13: Alternates.

C. Administrative Requirements:
- 1.14: Coordination.
- 1.15: Suspension of Work.
- 1.16: Field engineering.
- 1.17: Pre-Construction Conference.
- 1.18: Progress meetings.
- 1.19: Cutting and patching.

D. Submittals:
- 1.20: Submittal procedures.
- 1.21: Construction progress schedules.
- 1.22: Proposed products list.
- 1.23: Product data.
- 1.24: Shop drawings.
- 1.25: Test results.
- 1.26: Manufacturer's instructions and certificates.

E. Quality Requirements:
- 1.27: Quality control.
- 1.28: Tolerances.
- 1.29: References.
- 1.30: Manufacturer's field services and reports.
- 1.31: Examination.

F. Temporary Facilities and Controls:
- 1.32: Temporary services.
- 1.33: Access roads.
- 1.34: Progress cleaning and waste removal.
- 1.35: Project identification.
- 1.36: Barriers and fencing.
- 1.37: Protection of installed work.
- 1.38: Security.
- 1.39: Water control.
- 1.40: Pollution and environmental control.
- 1.41: Removal of utilities, facilities, and controls.

G. Product Requirements:
- 1.42: Products.
- 1.43: Delivery, handling, storage, and protection.
- 1.44: Substitutions.

H. Execution Requirements:
- 1.45: Closeout procedures.
- 1.46: Final cleaning.
- 1.47: Starting of systems.
- 1.48: Demonstration and instructions.
- 1.49: Testing, adjusting and balancing.
- 1.50: Protecting installed construction.
- 1.51: Project record documents.
- 1.52: Operation and maintenance data.
- 1.53: Spare parts and maintenance materials.
- 1.54: Warranties.

1.2 CONTRACT DESCRIPTION

A. The project consists of construction of approximately 34,800 LF of 6-inch, 7,400 LF of 4-inch, 5,200 LF of 2-inch waterlines and 32 water services with associated appurtenances.

B. Perform Work of Contract on a unit cost basis with Owner in accordance with Conditions of Contract.

1.3 SPECIAL CONSIDERATIONS

A. Mining Reclamation Areas: Contractor is advised portions of the project traverse areas known as a "Mining Reclamation Areas".

1. These "Mining Reclamation Areas" are labeled on the construction drawings. The Mining Reclamation Areas contain and/or surround a former uranium mine currently under control of the Chevron company.

2. Testing of radiation levels has been performed within and around the Mining Reclamation Areas by the Arcadis company (an environmental subcontractor hired by Chevron) with involvement and oversight by the U.S. Environmental Protection Agency (EPA) and Navajo Nation EPA (NNEPA).

3. Services of Arcadis will be provided at no cost to the Contractor.

4. Maps of radiation readings within the Mining Reclamation Areas and a memorandum summarizing soil sample results, created by Arcadis, are provided in Attachment A of the bid documents. Delineated limits of the Mining Reclamation Areas are labeled in the site plan and plan and profile sheets of the plans. A fenced disposal site (eastern fenced area) for contaminated soil and rock has been established near the Mining Reclamation Areas; the location of this fenced disposal site is also indicated on the plans. There is also another fenced site (western fenced area) which Arcadis has indicated will not be used for any disposal.

5. Arcadis shall measure radiation levels of all material being excavated by Contractor within the Mining Reclamation Areas. Contractor shall not perform any excavation or other earthmoving work within the Mining Reclamation Areas without Arcadis being present on-site. Contractor shall notify Engineer and any other parties designated at the pre-construction conference at least fifteen (15) working days prior to performing any work within the Mining Reclamation Areas (Refer to Article 1.14 of this Section)

6. Contractor shall be required to remove all contaminated excavated material within the Mining Reclamation Areas, as determined and directed in field by Arcadis, and place the contaminated material inside the fenced disposal area located near the project site or other location as directed by Arcadis. Contractor shall backfill trenches with uncontaminated material meeting specifications. Uncontaminated backfill material may be borrowed from within the project ROW, if available, provided all specifications for material borrow are met. Refer to Section 31 23 17 – Trenching and Section 31 23 23 – Backfill.

7. Contractor is wholly responsible to ascertain and comply with all special safety and special environmental requirements related to handling of contaminated material and working within Mining Reclamation Areas. An Environmental Health and Safety Plan has been provided by Chevron for the site.

   Contractor must abide by all the terms and conditions of the Environmental Health and Safety Plan referenced in SC-4.06.A.1.b.

8. Separate Bid items are provided for excavation, disposal and replacement of contaminated rock and contaminated soil. Payment for contaminated material shall only be made for material specifically designated for disposal by Arcadis. Note that some material may be designated as contaminated and other material as uncontaminated within the same trench. Quantities of all special excavations for which additional payment is sought must be measured and recorded by the Engineer in order to qualify for payment. Refer to Section 01 22 00 – Measurement and Payment, Section 31 23 17 – Trenching, and Section 31 23 23- Backfill.

B. Obtained Permits/Agreements: Contractor shall abide by all permit stipulations and requirements, including but not necessarily limited to BIA and Navajo Nation environmental, biological and archaeological stipulations, existing utility pipeline encroachment agreements and BIA NRO-DOT highway permits, regardless of whether such permits are obtained by the Owner, Engineer or Contractor.

C. Other Permits: It is the Contractor's responsibility to apply for and obtain all permits required for the Work that have not already been obtained by the Owner or Engineer.

D. Traffic Control: Contractor shall provide a traffic control plan, for approval by the Engineer, following the latest version of the Manual on Uniform Traffic Control Devices (MUTCD). Contractor shall abide by all traffic control requirements, whether issued by Bureau of Indian Affairs Navajo Regional Office Department of Transportation (BIA NRO-DOT), the Owner, or the Engineer. Contractor shall provide schedule and locations of proposed lane closures for Engineer's approval prior to commencing work. All work within the Navajo Nation Route Right of Way shall meet the requirements of the "Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects" (FP-03) and the Navajo Regional Office Approved Utility Permit. In the event of a conflict between any of the documents listed above and other requirements contained in these plans and/or specifications, the more stringent shall apply.

1. All existing signs, markers, delineators, etc. within the construction limits shall be removed, stored, and reset.

2. Subject to the approved Traffic Control Plan, at least one lane shall be open to traffic at all times. Provide proper signage to maintain the traffic lane in such a manner as to assure proper safety to the traveling public on all affected roads. Provide access to all private and public property at all times except when grading, excavation and backfill operations are being conducted immediately in front of the property, in which case access will not be denied for more than 4 hours without approval from the Engineer.

3. Traffic lanes provided during construction shall be maintained under all weather conditions, so as to permit the reasonable passage of passenger vehicles. Lanes shall be kept graded and smooth and watered several times daily, as needed, to control dust.

E. Overhead Electric Line Crossings: Encroachment agreements from the power line companies, regarding crossing of their right-of-way, are included in the appendix of the Contract Documents. Contractor is responsible for compliance, including notifying Owner, Engineer and the power line company prior to crossings. Contractor shall adhere to all requirements of electrical power line crossing agreement, including notification requirements. The locations of existing utility lines are only approximations and the Contractor shall be responsible to verify such information.

F. Storm Water Pollution Prevention Plan (SWPPP): Contractor shall be wholly responsible for providing and implementing a SWPPP and any practices described therein. A copy of the SWPPP shall be submitted to the Engineer. Refer to Article 1.39 of this Section for additional information.

1. It is noted that the project traverses Mining Reclamation Areas which may contain soils with elevated radiation levels. Contractor is wholly responsible to address any special requirements related to potential erosion of contaminated soils in his/her SWPPP.

G. Culturally Sensitive Areas: Contractor is advised of the presence of designated "Culturally Sensitive Areas" in the project area, which are indicated on the Plans. Contractor shall notify the Engineer at least 5 working days prior to any ground

disturbing activity within 100 feet of any designated "culturally sensitive area" to allow time for the Owner to have a permitted archaeologist flag the boundaries of the sensitive area. No ground disturbing activities shall be allowed within the flagged site boundaries. Ground disturbing activities include equipment mobilization/ storage, vehicular traffic and vegetation removal. The archaeological flagging will be provided by the Owner at no cost to the Contractor.

H. Archaeological Discovery: In the event of discovery of human remains, funerary or sacred items, items of cultural patrimony or other cultural resource items as defined under the Native American Graves Protection and Repatriation Act (NAGRPA) and/or identified by the Owner, the Contractor shall immediately notify the Owner and the Engineer and shall suspend all work within 100 feet of the discovery. The Contractor shall maintain the integrity of the trench and spoils piles until otherwise notified by the Engineer and allow archaeologist and/or Owner's representative to have access to the project site for examination of cultural resources. Contractor shall not request additional compensation for any delays caused by archaeological examinations. However, such delays may be considered excused delays and not count toward Contractor's deadline for substantial completion, provided Contractor requests additional time within one (1) week of the delay. All operations in the immediate vicinity of the discovery must cease and the Navajo Nation Historic Preservation Department must be notified at (928)-871-7139 or (928) 871-7148. Refer to appendix for additional information and site-specific requirements.

In the event that human remains or grave-related items are discovered, the Contractor shall follow the Owner's instructions regarding their disposition. Under no circumstances shall the Contractor or any employee thereof, remove any human remains, cultural items or any other cultural material from the site. The Contractor should be aware of his/ her responsibilities under the National Historic Preservation Act of 1966.

I. Construction Water: Contractor is solely responsible for providing all water for the construction of the project and no guarantees are made by the Owner or Engineer as to the availability of any particular water sources. No additional payment will be made for associated costs. Information on possible construction water sources will be provided during the pre-bid meeting.

J. NTUA Water Use: Contractor must coordinate use of NTUA potable water for filling and flushing the pipeline, with NTUA and Engineer, at least two (2) weeks prior to using NTUA water. Contractor must provide NTUA and Engineer with key information, such as desired maximum instantaneous flow rate (gpm), desired maximum daily flow rate (gpd), desired schedule of water use, and other information as required by NTUA. Contractor must not infringe on NTUA's ability to serve its existing customers by excessive water use. NTUA water shall not be used for compaction, dust abatement or similar activities without express written permission by NTUA. Note that NTUA and/or Engineer may limit the maximum allowable instantaneous flow rate, daily flow rate, water usage days, etc. NTUA will not charge for water going into the pipeline. Contractor must provide water for construction at the Contractor's expense.

K. Surface Restoration: Ground surfaces will be restored to their original condition by grading, and seeding with native plant species as described in the specifications. Contractor shall restore all open-cut driving surfaces, including roads and driveways to original condition or better, including replacement of base course, gravel or chip seal as

needed. Dirt roads and driveways shall be restored with compacted backfill as indicated in the drawings and specifications, plus surface material as specified. All restoration work for which no bid item is given shall be considered incidental.

L. Tree Clearing: Contractor is advised that tree clearing will be required to install piping. No additional pay item is provided. Contractor will include this in the cost of pipeline installation. Trees removed during the clearing and grubbing of the ROW shall be chipped and spread on ROW by the Contractor or, in the case of suitable firewood, stacked within the ROW. Any contaminated vegetable material shall be disposed of within the fenced disposal area.

M. Construction Limits: Contractor shall confine all construction operations to the limits of the easements indicated on the plans.

1. All areas disturbed during construction shall be reclaimed in accordance with the Contract Documents.

N. Trench Widths: Contractor is advised that the trench widths shown in the Drawings are minimum widths only. In the event that the Contractor is unable to meet pipe embedment and compaction specifications using the minimum trench width and needs to increase trench width in order to meet these specifications, such increase in trench width shall be provided at no additional cost to the Owner.

O. Rock: Separate Bid items for uncontaminated rock and contaminated rock are provided. Rock will be measured by the linear vertical foot. All rock quantities must be measured in the field by Engineer in order for payment to be made. Refer to Section 01 22 00 – Measurement and Payment, Section 31 23 17 – Trenching, and Section 31 23 23 – Backfill.

P. Fences: Contractor shall restore fences to original condition.

Q. Testing: Contractor shall submit a Testing and Disinfection schedule to the Engineer for approval prior to performing the respective activities. Hydrostatic testing of the waterline, disinfection and bacteriological testing shall follow specifications outlined in Section 33 11 00 Water Utility Distribution Piping, 33 13 00 Disinfection of Water Distribution, AWWA C600, AWWA C605, AWWA C651 and New Mexico Standard Specifications for Public Works Construction.

R. Site Video: Prior to beginning construction, the Contractor must furnish full-coverage video documentation of the entire construction site prior to beginning construction activities. The video must include coverage of all areas and adjacent features that may potentially be impacted by the impending construction work. Contractor must submit two (2) copies of the video documentation on DVD format as part of the submittal process.

S. Record Drawings: Contractor shall prepare record drawing information. Refer to Article 1.51 Project Record Documents below and General Notes on the Drawings for specific requirements related to As-Built Drawings.

T. Connection to Existing Waterline: Contractor shall coordinate with NTUA for tie-in to existing water system. Contractor shall notify Engineer and NTUA at least three (3) weeks prior to tie-in work. See the appendix of contract documents for Permission to Tap Form.

U. Notification of Residents: Contractor shall be responsible for notifying residents of construction activities.

1.4 WORK BY OWNER

A. NTUA shall furnish water meters and will provide archeologist to flag cultural areas.

1.5 CONTRACTOR'S USE OF PREMISES

A. No work shall be done before 7:00 A.M. or after 7:00 P.M., local time on a working day, on Saturdays or Sundays, on legal holidays, or on Navajo Nation holidays except as necessary for the proper care and protection of work already performed, or during emergencies, unless otherwise approved by Engineer.

B. Contractor is permitted, with prior approval of the Engineer of the location, to use areas within the approved right-of-way for staging and storage, provided such use does not disturb other land users or areas outside the ROW and that the staging areas are restored to their original condition prior to final completion. These areas shall be shown on the SWPPP.

C. The Contractor shall make every effort to minimize noise caused by his operations. Equipment shall be equipped with silencers or mufflers designed to operate with the least possible noise.

D. The Contractor shall restrict his operations as nearly as possible to the immediate site. Unnecessary cutting of vegetation adjacent to the site is prohibited. Every effort shall be made to minimize erosion during and after construction and the site shall be returned to its original condition, except where improvements are indicated or required.

E. The Contractor shall take preventive action to prevent the misuse of the natural environment, wasting of natural resources, or destruction of natural values.

F. The Contractor shall conform to all requirements set forth in the latest edition of the New Mexico Standard Specifications for Public Works Construction with latest revision, and Occupational Safety and Health Administration Regulations for trenching, shoring and excavation, and all other activities where such regulations apply, including within the "Mining Reclamation Areas". The Contractor and all subcontractors shall conduct all activities in conformance with federal and state laws and regulations relating to occupational health and safety. Authorized inspectors from NMED's Occupational Health and Safety Bureau shall have unobstructed access to project sites and shall not be impeded in any way from performance of their duties.

1.6 SPECIFICATION CONVENTIONS

A. These specifications are written in imperative mood and streamlined form. This imperative language is directed to the Contractor, unless specifically noted otherwise. The words "shall be" are included by inference where a colon (:) is used within sentences or phrases.

B. The Contractor shall furnish all materials, labor, plant and equipment necessary to complete the contract work as called for by the Technical Specifications and as indicated on the Drawings. Material and work, either expressed or implied, necessary for the

satisfactory completion of the contract work shall be considered an integral part thereof.

C. All standards incorporated herein by reference shall be the latest edition, unless otherwise specified. The abbreviations and applicable standards are described below:

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AIA	American Institute of Architects
ANSI	American National Standards Institute, Inc.
ASTM	American Society for Testing and Materials
AWS	American Welding Society
AWWA	American Water Works Association
CID	Construction Industries Division of the NM Regulation and Licensing Department
EJCDC	Engineers Joint Contract Documents Committee
EPA	Environmental Protection Agency
IBC	International Building Code
ISO	International Organization for Standardization
MSJC	Masonry Standards Joint Committee
NACE	National Association of Corrosion Engineers
NMDOT	New Mexico Department of Transportation
NMED	New Mexico Department of Environment
NSF	National Sanitation Foundation
OSHA	Occupational Safety and Health Administration
SAE	Society of Automotive Engineers
SSPC	Steel Structure Painting Council
UL	Underwriters Laboratories, Inc.

1.7 MINIMUM WAGE RATE DETERMINATION

A. Article 13-4-11, NMSA, 1978, requires that prevailing local wages be determined by labor category, and that this prevailing wage be the minimum acceptable pay rate. The Public Works Minimum Wage Act covers all public works construction, alteration, demolition, or repair projects when the project cost is $60,000 or more, and when the state or any political subdivision is a party. The wage rate determination provided by the New Mexico Department of Workforce Solutions for the present project can be found in an appendix to the Contract Documents.

B. This project will also entail a minimum wage rate determination on the part of the Navajo Nation Office of Labor Relations (NNOLR). The wage rate determination by the NNOLR for the present project can also be found in the same appendix to the Contract Documents.

C. The higher wage rate for each classification as identified in the minimum wage rate determinations provided by the New Mexico Department of Workforce Solutions and Navajo Nation Office of Labor Relations will apply. The Davis-Bacon Act does not apply to this project.

D. The Contractor warrants and agrees that he and all subcontractors shall comply with all applicable provisions of the New Mexico Public Works Minimum Wage Act and other statutes pertaining to public works in New Mexico; and the Navajo Nation Wage Rate Determination. The Minimum Wage Rate Determinations can be found in an appendix to the Contract Documents.

1.8 TESTING AND INSPECTION ALLOWANCES

A. Testing Allowance: The bid schedule includes a predetermined sum to cover the cost of testing and inspection services as required in the Contract Documents.

B. Costs Included in Allowance: Cost of engaging testing or inspection firm, execution of tests or inspection, and reporting of results.

C. Costs Not Included in Allowance:

1. Incidental labor and facilities required to assist testing or inspection firm.

2. Cost of disinfection of waterlines, if applicable.

3. Costs of hydrostatic pressure testing or testing of material welds as called for in the Contract Documents.

4. Costs of re-testing upon failure of previous tests as determined by Engineer.

D. Costs will be drawn from testing allowance and paid based on invoice(s) submitted to Contractor by testing or inspection firm(s). Contractor shall submit appropriate NTTC form to testing firm to assure tax is not included on invoices.

1.9 SCHEDULE OF VALUES

A. Submit schedule of values on the Progress Estimate sheet within the Application for Payment forms (EJCDC Form C-620, 2007 Edition), or on other form acceptable to the Engineer. Contractor's standard form or electronic media printout will be considered.

B. Base structure of Schedule of Values on Bid Schedule with identical item numbering, quantities, and values.

C. Submit Schedule of Values in duplicate at least 15 days prior to first Progress Meeting.

1.10 APPLICATIONS FOR PAYMENT

A. Application for Payment is synonymous with Partial Payment Estimate.

B. Submit five [5] copies of each application on the Partial Payment Estimate form provided in the Contract Documents, together with updated Schedule of Values identifying fully the list of items in the Application for Payment.

C. The Partial Payment Estimate forms consist of four sections: Cover Sheet, Construction Progress spreadsheet, Materials-On-Hand form, and Monthly Construction Progress Certificate. The purpose of the Monthly Construction Progress Certificate is to provide a complete account of all change orders/claims for the corresponding contract period, and all outstanding change orders/claims from previous contract periods, and waives any rights to further adjustments in contract times or price for any change orders/claims that originated in the current contract period.

D. Payment Period: Monthly.

1.11 CHANGE PROCEDURES

A. All Change Orders shall be prepared on the form provided in these Contract Documents.

B. Unit Price Change Order: For pre-determined unit prices and quantities, Change Order will be executed on fixed unit price basis. For unit costs or quantities of units of work not pre-determined, refer to Article 12 - Change of Contract Price; Change of Contract Times, of the Standard General Conditions (EJCDC C-700 Standard General Conditions of the Construction Contract).

1.12 UNIT PRICES

A. Contractor shall take measurements and compute quantities accordingly. The Engineer will verify measurements of work completed prior to approval of corresponding Application for Payment.

1.13 ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option.

B. Coordinate related Work and modify surrounding Work as required.

C. Schedule of Alternates:

1. Additive Alternate Bid Items 27-46: Phase 1B.

a. Based on budget available after committing to completion of Phase 1A, work associated with Phase 1B (Items 27 through 46 from the Bid Form) will be added to the Contract.

1.14 COORDINATION

A. Coordinate scheduling, submittals, and Work of various sections of specifications to ensure efficient and orderly sequence of installation of interdependent construction elements.

B. Verify utility requirement characteristics of operating equipment are compatible with building utilities.

C. Contractor shall coordinate all activities within "Mining Reclamation Areas" with Engineer, Chevron, EPA, NNEPA, Arcadis, and others, as required. Points of contact for these entities shall be designated at the pre-construction conference. Refer to Section 31 23 17 – Trenching for additional coordination requirements related to Mining Reclamation Areas.

D. Contractor shall notify Engineer when rock is encountered. Payment for rock excavation shall not be made without prior acknowledgement that material meets definition of rock and measurement of quantities in field by Engineer.

E. Contractor shall notify Engineer at least five (5) working days prior to performing any work within 100 feet of any culturally sensitive area designated on the Drawings and described in Article 1.3 of this Section.

F. Contractor shall submit a Traffic Control Plan, which shall be approved by the Engineer prior to any activities on the project site.

G. Contractor must coordinate use of NTUA potable water, such as for filling and flushing the pipeline, with NTUA at least two (2) weeks prior to using NTUA water. Contractor

must provide NTUA with key information, such as maximum instantaneous flow rate (gpm), maximum daily flow rate (gpd), schedule of water use, and other information as required by NTUA. Contractor must not infringe on NTUA's ability to serve its existing customers by excessive water use.

The tie-ins to the existing NTUA waterlines at the beginning and end of the project shall be cut-in tees, not wet taps.

Contractor must also notify NTUA at least three (3) weeks prior to tapping any existing NTUA water facility or crossing existing NTUA waterlines with proposed waterlines.

H. The Contractor is responsible for obtaining all applicable local, county and state building and development permits not previously obtained by Engineer or Owner.

I. Contractor is responsible for timely scheduling of any pertinent inspections with local, county and state agencies with jurisdiction, and as required by the permits.

J. Coordinate space requirements and installation of mechanical and electrical work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable.

K. All notices, demands, requests, instructions, approvals, proposals and claims must be in writing.

1. Any notice to or demand upon the Contractor shall be sufficiently given if delivered at the office of the Contractor stated on the signature page of the Agreement.

2. All papers required to be delivered to the Owner shall, unless otherwise specified in writing to the Contractor, be delivered to the Owner at the address stated on the signature page of the Agreement.

3. Any such notice shall be deemed to have been given as of the time of actual delivery, in the case of mailing, when the same should have been received in due course of post, or in the case of telegrams, certified mail, or telephone facsimiles, at the time of actual receipt as the case may be.

1.15 SUSPENSION OF WORK

A. The Owner may order suspension of work due to seasonal or other conditions unsuitable for construction work.

B. Maintenance during suspension: Prior to suspension for any cause, the Contractor shall take necessary precautions to protect the work during the period of suspension from any factors which would contribute to its deterioration.

C. Time elapsed during suspension of the work shall not count as contract time. The Contractor shall make no claim for damages due to delay, additional mobilization charges, nor any additional costs that may be incurred solely due to suspension of work.

D. Requests for additional time to be added after the "contract completion date" due to delays or extra work shall be made to the Owner in writing by the Contractor within ten (10) days after the time of the occurrence of the delay or receipt of a Change Order for extra work. Such requests shall set forth the justification for the additional time.

E. Upon approval, the additional contract time shall then be in full force and effect, the same as though it were the original date for completion, and will be shown as the completion date plus an amount of additional working days. Any time required to complete the work beyond the contract time or additional contract time will result in the assessment of liquidated damages, as specified in the Contract Documents. Failure to make such requests within the above limits will be considered as a waiver on the part of the Contractor as to the need for additional contract time.

1.16 FIELD ENGINEERING

A. Establish elevations, lines, and levels and certify and confirm elevations and locations of the Work, conforming with the Contract Documents, with the Engineer prior to performing any excavation.

B. Verify field measurements are as indicated on shop drawings or as instructed by manufacturer.

C. From the information provided by the Owner, the Contractor shall develop and make all detail surveys needed for construction such as slope stakes, batter boards, easement alignments, stakes for pipe locations and other working points, lines, elevations and cut sheets.

1.17 PRE-CONSTRUCTION CONFERENCE

A. Engineer will schedule Pre-Construction Conference after Notice of Award for affected parties.

B. The Contractor, or his duly authorized representative, and subcontractor representatives will attend the meeting.

1.18 PROGRESS MEETINGS

A. Schedule in coordination with the Engineer at maximum monthly intervals, and attend all Progress Meetings throughout progress of the Work.

B. The purpose of the meetings will be to review the following:

1. Work progress since previous meetings.
2. Field observations, problems, conflicts.
3. Problems which impede construction schedule.
4. Corrective measures and procedures to regain projected schedule.
5. Revisions to construction schedule.
6. Plan progress and schedule during succeeding work period.
7. Coordination of schedules.
8. Off-site fabrication and delivery schedules.
9. Maintenance of quality standards.
10. Proposed changes, construction schedule and completion date.
11. Coordination of separate contracts.

12. Record or "as-built" drawings of completed work.
13. Other business as required.
14. Regulatory requirements including OSHA, New Mexico Board of Labor, and others as applicable.
15. Funding requirements including RUS, NMED, NMFA, DFA, USEPA and others as applicable.

C. During each progress meeting, the Contractor is required to present any issues which may impact his Work, with a plan to resolve these issues expeditiously.

D. Together with each payment application, Contractor must present the current as-built drawings reflecting all work performed to date for review.

1.19 CUTTING AND PATCHING

A. Employ skilled and experienced installer to perform cutting and patching new Work; restore Work with new Products.

B. Execute cutting, fitting, and patching, including excavation and fill, to complete Work, and to:

1. Uncover Work to install or correct ill-timed Work.
2. Remove and replace defective and non-conforming Work.
3. Remove samples of installed Work for testing.
4. Provide openings in elements of Work for penetration of mechanical and electrical Work.

C. Cut masonry and concrete materials using masonry saw or core drill. Restore Work with new Products in accordance with requirements of Contract Documents.

D. Fit Work tight to adjacent elements. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.

E. Refinish surfaces to match adjacent finishes.

1.20 SUBMITTAL PROCEDURES

A. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.

B. Apply Contractor's stamp, signed or initialed, certifying that review, verification of Products required, field dimensions and elevations, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents.

C. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of completed Work.

D. Revise and resubmit submittals as required by the Engineer; identify changes made since previous submittal.

E. Submit number of copies Contractor requires, plus two copies Engineer will retain, at a minimum, unless otherwise indicated at the Pre-Construction Conference.

F. Transmit each submittal with Engineer accepted form.

G. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.

H. Prior to commencing construction activities, Contractor must submit a safety plan for approval by Engineer.

1.21 CONSTRUCTION PROGRESS SCHEDULES

A. Submit initial progress schedule in duplicate within fifteen [15] days after date of Owner-Contractor Agreement for Engineer review.

B. Submit revised schedules with each Application for Payment, identifying changes since previous version. Indicate estimated percentage of completion for each item of Work at each submission.

C. Distribute copies of reviewed schedules to Project site file, subcontractors, suppliers, and other concerned parties.

D. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate early and late start, early and late finish, float dates, and duration.

E. Indicate delivery dates for Owner furnished products and products identified under Allowances.

1.22 PROPOSED PRODUCTS LIST

A. Unless required as an attachment to Bid, within 15 days after date of Owner-Contractor Agreement, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.23 PRODUCT DATA

A. Product Data: Submit to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.

B. Submit copies and distribute in accordance with Submittal Procedures article.

C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

D. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

1.24 SHOP DRAWINGS

A. Shop Drawings:

1. Submitted to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.

2. Include detail design calculations, shop drawings, fabrication, and installation drawings, erection drawings, list, graphs, catalog sheets, data sheets, and similar items.

3. Design calculations shall bear the signature and seal of an engineer registered in the appropriate branch and in the state wherein the project is to be built, unless otherwise directed.

4. After review, provide copies and distribute in accordance with Submittal Procedures article and for record documents purposes as specified.

5. Except as may otherwise be indicated herein, the Engineer will return copies of each submittal to the Contractor with comments noted thereon, within 30 calendar days following their receipt by the Engineer.

B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. Submit number of opaque reproductions Contractor requires, plus two copies Engineer will retain.

1.25 TEST REPORTS

A. Submit for Engineer's knowledge as contract administrator or for Owner.

B. Submit test reports for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.26 MANUFACTURER'S INSTRUCTIONS AND CERTIFICATES

A. When specified in individual specification sections, submit manufacturer printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Engineer for delivery to Owner in quantities specified for Product Data.

B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

C. When specified in individual specifications sections, submit certifications by manufacturer to Engineer, in quantities specified for Product Data.

D. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

E. Certificates may be recent or previous test results on material or Product, but must be acceptable to Engineer.

1.27 QUALITY CONTROL

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply with manufacturer's instructions.

C. Comply with specified standards as minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

1.28 TOLERANCES

A. Monitor fabrication and installation tolerance control of installed products over suppliers, manufacturers, products, site conditions, and workmanship, to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply fully with manufacturer's tolerances.

1.29 REFERENCES

A. Conform to reference standards by date of issue current as of date of Contract Documents.

B. When specified reference standard conflict with Contract Documents, request clarification from Engineer before proceeding.

1.30 MANUFACTURER'S FIELD SERVICES AND REPORTS

A. When specified in individual specification sections, require material or product suppliers or manufacturers to furnish qualified staff personnel to observe site conditions and to initiate instructions when necessary.

B. Report observations and site decisions or instructions that are supplemental or contrary to manufacturer's written instructions.

1.31 EXAMINATION

A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.

B. Verify utility services are available, of correct characteristics, and in correct location.

C. Contractor is solely responsible for utility location, protection and verification. Contractor must notify New Mexico One Call System Inc., at 811, and all local utility providers, three (3) days before starting utility line construction.

D. It shall be the responsibility of the Contractor to become acquainted with the location of all underground structures which may be encountered or which may affect the Work hereunder.

1.32 TEMPORARY SERVICES

A. Provide, maintain and pay for suitable quality water service as required.

B. Maintain uninterrupted water and electric service to all properties adjoining the Work, except where specifically approved by the authority having jurisdiction. Services

damaged by the Contractor shall be immediately and permanently repaired or replaced at the expense of the Contractor. Give a minimum of 48-hour advance notice to occupants of adjacent properties before interrupting any service. Any interruption of service shall be kept to the minimum length of time possible.

C. Until final inspection and approval of the Work and issuance of the Certificate of Substantial Completion, the Contractor is responsible for all Work directly or indirectly affected by the Contractor's activities. Such responsibility continues for all Work detailed on the punch list that may accompany the Certificate of Substantial Completion, until satisfactorily completed by the Contractor and approved by the Owner and Engineer.

D. Furnish, install and maintain any temporary water storage structures, electrical connections, meters, wiring, outlets, switches, lamps, etc., as necessary for the work. The Contractor shall provide such temporary heat as may be necessary for the prevention of injury to the work or material through dampness or cold. All temporary connections, installations, facilities and supplies furnished or installed as specified in this paragraph, shall be removed prior to the completion of the Contract, and the premises left perfectly clean and satisfactory to the Owner.

E. Maintain ambient temperature above freezing in enclosed/occupied areas where construction is in progress, unless indicated otherwise in specifications.

F. Provide temporary electricity and power outlets for construction operations, connections, branch wiring, distribution boxes, and flexible power cords as required. Do not disrupt Owner's need for continuous service.

G. Provide and maintain required sanitary facilities and enclosures in clean and sanitary condition.

1.33 ACCESS ROADS

A. Construct and maintain temporary roads accessing public thoroughfares to serve construction area.

B. Existing on-site roads, designated by the Owner, may be used for construction traffic.

1.34 PROGRESS CLEANING AND WASTE REMOVAL

A. Collect and maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.

B. Remove waste and surplus materials, rubbish, and construction facilities from site. Restore all job sites and adjoining areas, including roads and driveways, to a condition equal to or better than the original status. Special attention will be made to not disturb unimproved roads by placing any excavated material to the sides of these roads when water lines are located along the right-of-way.

C. Brush and trees shall be felled parallel to the right-of-way to minimize damage to trees and structures on adjacent property. Dispose of vegetation in accordance with Section 31 10 00 – Site Clearing. The Contractor shall not destroy nor remove any trees, shrubbery, nor any other improvements, without permission of the Owner.

D. The Contractor shall not dispose of debris, refuse or sanitary wastes in an open dump or in a natural watercourse, whether on public or private property, or in such places that undesirable wastes can eventually be exposed or carried to a natural watercourse.

E. All waste material within the Mining Reclamation Areas shall be inspected by Arcadis prior to removal. Any contaminated material, including vegetation, rubbish, etc., shall be disposed of within the fenced disposal area.

1.35 PROJECT IDENTIFICATION

A. Provide project sign as indicated in the Contract Documents, to design and colors as indicated.

B. Project sign must be produced by a professional sign company with at least three years experience producing similar signage. The proposed project sign shall require a submittal for approval, whether included on a Submittals Checklist or not, and shall include materials to be incorporated and name of company that will produce the sign.

C. Erect on site at location approved by Engineer.

D. The Contractor shall not erect, or permit the erection of advertising signs. Only minimal identification and direction signs shall be permitted on the site. Unnecessary or obnoxious posters, pictures, signs, symbols, drawings or writing on work, material or equipment, resulting from vandalism or other causes, shall be covered or removed by the Contractor.

1.36 BARRIERS AND FENCING

A. Provide barriers or fencing to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage.

1.37 PROTECTION OF INSTALLED WORK

A. Protect installed Work and provide special protection where specified in individual specification sections.

1.38 SECURITY

A. Provide security and facilities to protect Work and existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

1.39 WATER CONTROL

A. Provide erosion control.

B. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

C. The Contractor shall provide a Storm Water Pollution Prevention Plan (SWPPP) that will address all construction phases and the proposed pollution prevention and sediment control measures. This shall be done in accordance with the National Pollution Discharge Elimination System (NPDES) general permit requirements for all construction activities, and shall include all required reporting. Contractor shall be wholly responsible to provide all notices to EPA, prepare all documents, implement all BMPs, perform all inspections, maintain all records and drawings, and abide by all stipulations and

requirements within the Storm Water Pollution Prevention Plan (SWPPP). This includes but is not limited to compliance with all tribal, federal, state, and local agencies regarding the SWPPP plan, filing of notices, implementation, documentation and maintenance of records including up-to-date as-built maps related to stormwater controls, inspections, and any other requirements incidental to compliance with EPA and NNEPA regulations. Implementation includes but is not limited to installation, modification, inspection, monitoring, and continuous maintenance of all permanent and temporary Best Management Practices (BMPs) for erosion and sediment control.

1. It is noted that the project traverses Mining Reclamation Areas which may contain soils with elevated radiation levels. Contractor is wholly responsible to address any special requirements related to potential erosion of contaminated soils in his/her SWPPP.

D. Do not fill in any natural washes or drainages or impede natural water flow unless otherwise indicated in the plans, specifications or SWPPP, or directed by the Engineer in the field.

1.40 POLLUTION AND ENVIRONMENTAL CONTROL

A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

B. Provide dust control, erosion and sediment control, noise control, pest control and rodent control to allow for proper execution of the Work. Short term effects of dust produced by equipment will be mitigated by sprinkling traffic areas with water. Motor equipment shall be kept in repair and equipped with anti-pollution devices, if possible, to cut down on exhaust emissions. Burning as a method of cleaning or disposal will not be permitted without approval of the proper authorities.

C. Comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act of 1970 (42 U.S.C. 1251 et seq.) as amended. Violations shall be reported to the New Mexico Environment Department.

D. The Contractor shall be responsible for the reporting and the cleanup of spills associated with project construction and shall report and respond to spills of hazardous materials such as gasoline, diesel, motor oil, solvents, chemicals, toxic and corrosive substances, and other materials which may be a threat to the public health or the environment. The Contractor shall be responsible for reporting past spills encountered during construction and of current spills not associated with construction. Reports shall be made to the New Mexico Environment Department Emergency Response Team at (505) 827-4308 or (505) 470-3657 and to the Owner's Representative. The Contractor shall clean up any unreported spills associated with project construction identified after construction.

1.41 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, and materials, prior to Substantial Completion review.

B. Clean and repair damage caused by installation or use of temporary work.

C. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

1.42 PRODUCTS

A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work, but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components specifically identified for reuse.

B. Do not use materials and equipment removed from existing premises, except as specifically identified or allowed by the Contract Documents.

C. Provide interchangeable components of same manufacturer for components being replaced.

1.43 DELIVERY, HANDLING, STORAGE, AND PROTECTION

A. Deliver, handle, store, and protect Products in accordance with manufacturer's instructions.

1.44 SUBSTITUTIONS

A. Substitutions will only be considered when Product becomes unavailable through no fault of Contractor, or where an "approved equal" is specifically allowed elsewhere in the Technical Specifications or noted on the Drawings.

B. Specific manufacturers may be required for certain items in order to maintain consistency with the Owner's existing inventory. In such cases, substitutions may not be allowed.

C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.

D. Submit three [3] copies of request for Substitution to the Engineer for consideration. Limit each request to one proposed Substitution.

1.45 CLOSEOUT PROCEDURES

A. Submit written certification Contract Documents have been reviewed, Work has been inspected, and Work is complete in accordance with Contract Documents and ready for Engineer's inspection.

B. Submit final Application for Payment identifying total adjusted Contract Price, previous payments, and amount remaining due.

C. Among required closeout submittals include: Release of Liens, Consent of Surety, and Certification of Labor Standards.

1.46 FINAL CLEANING

A. Execute final cleaning prior to final inspection.

B. Upon completion of the work under this contract, thoroughly clean and make any needed repairs caused by damage during construction to any existing utilities or other structures on the site.

C. Notify the Engineer in writing once final cleaning is complete. The final estimate will not be prepared until the Contractor has complied with all requirements set forth and the Engineer has made his final inspection of the entire work and is satisfied that it is properly constructed and the site properly cleaned.

D. For work within Mining Reclamation Areas, special cleaning requirements may apply. Contractor shall comply with all environmental requirements set forth by Arcadis, EPA, NNEPA or other competent entities.

1.47 STARTING OF SYSTEMS

A. Provide seven [7] days notification prior to start-up of each item.

B. Ensure each piece of equipment or system is ready for operation.

C. Execute start-up under supervision of responsible persons in accordance with manufacturer's instructions.

D. Submit written report stating equipment or system has been properly installed and is functioning correctly.

1.48 DEMONSTRATION AND INSTRUCTIONS

A. Demonstrate operation and maintenance of Products to Owner's personnel two weeks prior to date of Substantial Completion.

B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six [6] months.

C. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed-upon times, at designated location.

1.49 TESTING, ADJUSTING, AND BALANCING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

B. Owner retains the right to appoint, employ, and pay for services of independent firm to perform testing, adjusting, and balancing. Reports will be submitted by independent firm to Engineer indicating observations and results of tests and indicating compliance or non-compliance with specified requirements and with requirements of Contract Documents.

C. Contractor will cooperate with independent firm; furnish assistance as requested.

D. Re-testing required because of non-conformance to specified requirements will be charged to Contractor.

1.50 PROTECTING INSTALLED CONSTRUCTION

A. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

B. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

C. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

D. Prohibit traffic from landscaped areas.

1.51 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of Contract Documents to be utilized for record documents.

B. Record actual revisions to the Work. Record information concurrent with construction progress.

C. Specifications: Legibly mark and record at each Product section description of actual Products installed.

D. Record Documents and Shop Drawings (As-Built Drawings): Legibly mark each item to record actual construction. Deliver two (2) sets of As-Built Drawings with redlines to the Owner upon completion of the Project. The As-Built Drawings will be submitted to the Engineer prior to processing of final payment to the Contractor.

E. Submit updated record documents to Engineer together with claims for interim Application for Payment. Interim applications for payment shall not be processed without updated record documents.

F. As-built surveys shall be provided for any changes to established project alignment. As-built surveys shall be performed by a New Mexico registered surveyor and electronic survey files shall be provided to the Engineer.

1. All survey information and electronic CAD drawings to be tied to established survey control as provided on plan set survey control sheet.

1.52 OPERATION AND MAINTENANCE DATA

A. Submit (3) three sets prior to final inspection, bound in 8-1/2 x 11 inch text pages, within three D side ring binders with durable plastic covers.

B. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS FOR MARIANO WATER" and title of project.

C. Internally subdivide binder contents with permanent page dividers, logically organized.

D. Contents:

1. Part 1: Directory

a. List names, addresses, and telephone numbers of Engineer, Contractor, subcontractors, and major equipment suppliers.

2. Part 2: Operation and maintenance instructions, arranged by system:

a. Equipment summary, operational procedures, preventive maintenance procedures and schedules, parts list, shop drawings, safety issues.

3. Part 3: Project documents and certificates.

a. All equipment warranties, affidavits, and certifications required by the Technical Specifications shall be placed in this part.

1.53 SPARE PARTS AND MAINTENANCE MATERIALS

A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification sections.

B. Deliver to project site and place in location as directed by Engineer; obtain receipt prior to final payment.

1.54 WARRANTIES

A. Contractor warrants to Owner that all materials and workmanship covered by this Agreement, collectively referred to as the Work, supplied or performed by the Contractor, will conform with the specifications, drawings, and other descriptions supplied or adopted by Owner and will be new, fit, and sufficient for the purposes for which they are intended as evidenced in this Agreement and in the drawings and specifications referred to therein, of good material, design and workmanship, free from defects, and will fulfill satisfactorily the operating conditions specified herein.

B. Contractor shall execute and assemble transferable warranty documents from subcontractors, suppliers, and manufacturers for all products with extended warranties beyond one (1) year.

C. Contractor shall submit all warranty documents prior to final Application for Payment.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 22 00

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 SUMMARY

A. Measurement and payment shall be as specified in this Section.

B. Work to be performed under this contract will be paid for on a unit price basis under the appropriate Bid Items on the Bid Form. All costs for work shown on Drawings or described in Specifications shall be incidental to the Contract and shall be included in the Contract Price. A claim by the Contractor for extra compensation for an item shown on the Drawings or described in the Specifications will not be considered for any reason, including but not limited to, the claim that it does not fall within the scope of one of the Bid Items.

C. Contractor shall, within 10 days of receipt of Notice to Proceed, submit a complete breakdown of any lump sum bid items showing value assigned to each part of work including overhead and profit. Payment for materials delivered but not fully incorporated in work will be made only if such materials are listed and assigned a value in Contractor's submittal.

D. General Scope of Work under each Bid item includes labor and materials required for construction of a completely functional and operational water system.

E. Water for this project will be supplied by the Contractor. Contractor is responsible for acquiring a suitable water source and the cost of water is incidental to the contract. There is no water currently available on site. A recommendation for a water source location is being researched and if one is found, information will be provided at the pre-bid meeting.

1.2 BID ITEM DESCRIPTIONS

A. Item numbers listed below correspond directly to Bid Item numbers on the Bid Form.

GENERAL AND MISCELLANEOUS

Item No. 1 - Materials Testing
Payment as an allowance, based upon actual invoices, for direct laboratory or on-site testing costs only. Includes laboratory testing costs for material testing and on-site testing for proper compaction. All work performed by Contractor related to such testing shall be considered incidental and shall not be reimbursable from testing allowance. This item will include payment for all successful tests and for only tests required by the Drawings and Specifications or as requested by the Engineer. The laboratory must be approved by the Engineer. All invoices must be provided to the Engineer for review and payment. Hydrostatic pressure testing is not included in this allowance.

The cost of laboratory testing, such as fill material analysis testing, and on-site testing, such as trench compaction testing, shall be reimbursed to the Contractor, upon submittal of invoices from the laboratory testing firm, as specified in this Section. All work performed by Contractor related to such testing shall be considered incidental and shall not be reimbursable from testing allowance. Work shall be coordinated and directed by Engineer. Contractor shall pay for all failed tests.

Item No. 2 – Mobilization (75%)/Demobilization (25%)
Payment as a lump sum, with measurement based on percentage completed, and shall include all costs for Contractor's mobilization and demobilization.

Items No. 3, 5, 27 – Storm Water Pollution Prevention Plan (SWPPP) Preparation and Implementation, Complete in Place (CIP)
Payment as a lump sum, with measurement based on percentage completed, and shall include all labor, materials, equipment, and incidentals required for the preparation, implementation, and modification of the construction SWPPP. This includes but is not limited to compliance with all tribal, federal, state, and local agencies regarding the SWPPP plan, filing of notices, implementation, documentation and maintenance of records including up-to-date as-built maps related to stormwater controls, inspections, and any other requirements incidental to compliance with EPA and NNEPA regulations. Implementation includes but is not limited to installation, modification, inspection, monitoring, and continuous maintenance of all permanent and temporary Best Management Practices (BMPs) for erosion and sediment control.

Items No. 4, 6, 28 - Traffic Control Preparation and Implementation, CIP
Payment as a lump sum, with measurement based on percentage completed, and shall include all components required for preparation and implementation of a traffic control plan approved by the Engineer, provided by the contractor.

Items No. 7, 29 – Re-seeding, CIP
Payment and measurement for re-seeding shall be based on the cost per linear foot of ROW as shown on the bid form. The cost of the re-seeding shall include all labor, materials, equipment, and incidentals required for the installation, inspection, monitoring, and maintenance of the seeded area. See appendix for seed mixture and additional information.

Items No. 8, 30 – Hydrostatic Pressure Testing
Payment and measurement for hydrostatic testing shall be based on the cost per linear foot as shown on the bid form. Cost for work including materials, equipment, tools, labor, and incidentals necessary to complete the work shall be included. Repeat hydrostatic testing due to nonconforming or incomplete construction is incidental and will not be paid for.

Items No. 9, 31 - Flushing, Disinfection, and Bacteriological Testing
Payment and measurement for flushing, disinfection, and bacteriological testing shall be based on the cost per linear foot as shown on the bid form. Cost for work including materials, equipment, tools, labor, and incidentals necessary to complete the work shall be included. Repeat disinfection, flushing, and bacteriological testing due to nonconforming or incomplete construction is incidental and will not be paid for. Direct laboratory expenses shall be reimbursed from the testing allowance.

WATER PIPE

Items No. 10, 32 - 1-inch PE SIDR 7 Service Line, CIP
Payment and measurement will be based upon linear foot installed. This price shall be full compensation for pipe, all fittings and appurtenances not listed separately on the bid form (including but not limited to: saddles, tees, reducers, end caps), all earthwork (including site clearing, preparation, excavation, trenching, bedding, backfill, compaction, construction water, shoring, and disposal of surplus or unsuitable material) not separately listed on the bid form, hand trimming, concrete joint restraints (where applicable), mechanical joint restraints (where applicable), working around existing drains and structures encountered, connection to existing system, restoration of property including driveways, aboveground pipe markers, tracer wire, detectable warning tape, connection to existing public water source, and all materials, labor, tools, equipment and incidentals necessary to satisfactorily complete the work, CIP. Soil cement, if used, shall be considered incidental to the cost of the pipe installation.

Items No. 11, 33 - 2-inch ASTM D2241 Class 200 PVC pipe, CIP
Payment and measurement will be based upon linear foot installed. This price shall be full compensation for pipe, all fittings and appurtenances not listed separately on the bid form (including but not limited to: saddles, tees, reducers, end caps), construction surveying and staking, all earthwork (including site clearing, preparation, excavation, trenching, bedding, backfill, compaction, construction water, shoring, and disposal of surplus or unsuitable material) not separately listed on the bid form, hand trimming, concrete joint restraints (where applicable), mechanical joint restraints (where applicable), working around existing drains and structures encountered, connection to existing system, restoration of property including driveways, aboveground pipe markers, tracer wire, detectable warning tape, connection to existing public water source, and all materials, labor, tools, equipment and incidentals necessary to satisfactorily complete the work, CIP. Soil cement, if used, shall be considered incidental to the cost of the pipe installation.

Items No. 12, 34 - 4-inch C900 DR18 PVC pipe, CIP
Payment and measurement will be based upon linear foot installed. This price shall be full compensation for pipe, all fittings and appurtenances not listed separately on the bid form (including but not limited to: saddles, tees, reducers, end caps), construction surveying and staking, all earthwork (including site clearing, preparation, excavation, trenching, bedding, backfill, compaction, construction water, shoring, and disposal of surplus or unsuitable material) not separately listed on the bid form, hand trimming, concrete joint restraints (where applicable), mechanical joint restraints (where applicable), working around existing drains and structures encountered, connection to existing system, restoration of property including driveways, aboveground pipe markers, tracer wire, detectable warning tape, connection to existing public water source, and all materials, labor, tools, equipment and incidentals necessary to satisfactorily complete the work, CIP. Soil cement, if used, shall be considered incidental to the cost of the pipe installation.

Items No. 13, 35 - 6-inch C900 DR18 PVC pipe, CIP
Payment and measurement will be based upon linear foot installed. This price shall be full compensation for pipe, all fittings and appurtenances not listed separately on the bid form (including but not limited to: saddles, tees, reducers, end caps), construction surveying and staking, all earthwork (including site clearing, preparation, excavation, trenching, bedding,

backfill, compaction, construction water, shoring, and disposal of surplus or unsuitable material) not separately listed on the bid form, hand trimming, concrete joint restraints (where applicable), mechanical joint restraints (where applicable), working around existing drains and structures encountered, connection to existing system, restoration of property including driveways, aboveground pipe markers, tracer wire, detectable warning tape, connection to existing public water source, and all materials, labor, tools, equipment and incidentals necessary to satisfactorily complete the work, CIP. Soil cement, if used, shall be considered incidental to the cost of the pipe installation.

Items No. 14, 36 - Trench Excavation - Uncontaminated Rock, CIP
Payment and measurement will be based upon vertical linear foot removed. The unit of measurement, "vertical linear foot", is defined as the product of depth of rock removed (in vertical feet), multiplied by linear feet of trench. This price shall be full compensation for all materials, labor, tools, equipment and incidentals necessary to satisfactorily complete the work, including permits. This price includes preparation of rock for removal, mechanical disintegration of rock, removal from position, and loading and hauling from trench to a site designated by the Engineer, and any required import or borrow of bedding, embedment or backfill material from designated locations. Excavation of uncontaminated soil is incidental to pipe and is excluded from this pay item. Payment will not be made for overexcavation, trench width in excess of that shown in trench detail, or replacement materials required due to overexcavation without Engineer's approval. Any deviations from the pipe cover depth shown on the plans must be approved in advance by the Engineer in order for additional payment to be made.

Item No. 15 - Trench Excavation - Contaminated Rock, CIP (Located within or near "Mining Reclamation Areas")
Payment and measurement will be based upon vertical linear foot removed. The unit of measurement, "vertical linear foot", is defined as the product of depth of contaminated rock removed (in vertical feet), multiplied by linear feet of trench. Depths and locations of contaminated rock requiring removal shall be determined in field by Arcadis (environmental consultant of the Mine operator, Chevron). This price shall be full compensation for all materials, labor, tools, equipment and incidentals necessary to satisfactorily complete the work, including permits. This price includes preparation of rock for removal, mechanical disintegration of rock, removal from position, loading and hauling from trench to fenced disposal site designated by Arcadis, and any required import or borrow of bedding, embedment or backfill material from designated locations. Trenching of uncontaminated soil is incidental to pipe and is excluded from this pay item. Payment will not be made for overexcavation, trench width in excess of that shown in trench detail, or replacement materials required due to overexcavation without Engineer's approval. Any deviations from the pipe cover depth shown on the plans must be approved in advance by the Engineer in order for additional payment to be made.

Item No. 16 - Trench Excavation - Contaminated Soil, CIP (Located within or near "Mining Reclamation Areas")
Payment and measurement will be based upon vertical linear foot removed. The unit of measurement, "vertical linear foot", is defined as the product of depth of contaminated soil removed (in vertical feet), multiplied by linear feet of trench. Depths and locations of contaminated soil requiring removal shall be determined in field by Arcadis (environmental consultant of the Mine operator, Chevron). This price shall be full compensation for all materials, labor, tools, equipment and incidentals necessary to satisfactorily complete the work,

including permits. This price includes preparation of soil for removal, removal from position, loading and hauling from trench to fenced disposal site designated by Arcadis, and any required import or borrow of bedding, embedment or backfill material from designated locations. Excavation of uncontaminated soil is incidental to pipe and is excluded from this pay item. Payment will not be made for overexcavation, trench width in excess of that shown in trench detail, or replacement materials required due to overexcavation without Engineer's approval. Any deviations from the pipe cover depth shown on the plans must be approved in advance by the Engineer in order for additional payment to be made.

Items No. 17, 37 - Residential Service Connection, CIP
Includes complete installation as shown on drawings: all components shown in detail drawing, construction surveying and staking, site clearing, preparation, excavation, backfill, compaction, disinfection, and testing, complete in place. Does not include 1 inch service line. NTUA is to supply meter.

Item No. 18 – Pressure Reducing Residential Service Connection, CIP
Includes complete installation as shown on drawings: all components shown in detail drawing, construction surveying and staking, site clearing, preparation, excavation, backfill, compaction, disinfection, and testing, complete in place. Does not include 1 inch service line. NTUA is to supply meter.

Items No. 19, 38 - 1-inch Combination Air Release Valve Assembly, CIP
Includes complete installation as shown on Drawings: excavation, vault, valves, fittings, accessories, concrete, backfill, compaction, tests, and connection to system, CIP.

Items No. 20, 39 - 2-inch flush valve assembly, CIP
Includes complete installation as shown on Drawings: excavation, pipe, valves, fittings, accessories, concrete, backfill, compaction, tests, and connection to system , CIP.

Items No. 21, 40 - 2-inch Gate Valve, CIP
Includes complete installation as shown on Drawings: excavation, valve box, riser, valves, fittings, accessories, concrete, backfill, compaction, tests, and connection to system, CIP.

Items No. 22, 41 - 4-inch Gate Valve, CIP
Includes complete installation as shown on Drawings: excavation, valve box, riser, valves, fittings, accessories, concrete, backfill, compaction, tests, and connection to system, CIP.

Items No. 23, 42 - 6-inch Gate Valve, CIP
Includes complete installation as shown on Drawings: excavation, valve box, riser, valves, fittings, accessories, concrete, backfill, compaction, tests, and connection to system, CIP.

Item No. 43 - Pressure Reducing Valve Station, CIP
Includes complete installation as shown on Drawings: excavation, manhole with lid, valves, fittings, accessories, concrete, backfill, compaction, tests, and connection to system, CIP.

ROAD CROSSINGS

Items No. 24, 44 - Road Crossings Installed via Open Cut, 6-inch steel casing (0.25" wall thickness), CIP
Payment and measurement will be based upon linear foot installed. This price shall be full compensation for steel casing, all fittings and appurtenances not listed separately on the bid form (including but not limited to spacers and end seals), construction surveying and staking, all earthwork (including but not limited to site clearing, preparation, excavation, trenching, bedding, backfill, compaction, construction water, shoring, and disposal of surplus or unsuitable material) not separately listed on the bid form, shop and field welding, working around existing drains and structures encountered, restoration of property including chipsealed and graveled roads and driveways, tracer wire, detectable warning tape, and all materials, labor, tools, equipment and incidentals necessary to satisfactorily complete the work, CIP. Soil cement, if used, shall be considered incidental to the cost of the casing installation. Excludes carrier pipe, which is covered under separate bid items.

Item No. 45 - Road Crossings Installed via Open Cut, 10-inch steel casing (0.25" wall thickness), CIP
Payment and measurement will be based upon linear foot installed. This price shall be full compensation for steel casing, all fittings and appurtenances not listed separately on the bid form (including but not limited to spacers and end seals), construction surveying and staking, all earthwork (including but not limited to site clearing, preparation, excavation, trenching, bedding, backfill, compaction, construction water, shoring, and disposal of surplus or unsuitable material) not separately listed on the bid form, shop and field welding, working around existing drains and structures encountered, restoration of property including chipsealed and graveled roads and driveways, tracer wire, detectable warning tape, and all materials, labor, tools, equipment and incidentals necessary to satisfactorily complete the work, CIP. Soil cement, if used, shall be considered incidental to the cost of the casing installation. Excludes carrier pipe, which is covered under separate bid items.

Items No. 25, 46 - Road Crossings Installed via Open Cut, 12-inch steel casing (0.25" wall thickness), CIP
Payment and measurement will be based upon linear foot installed. This price shall be full compensation for steel casing, all fittings and appurtenances not listed separately on the bid form (including but not limited to spacers and end seals), construction surveying and staking, all earthwork (including but not limited to site clearing, preparation, excavation, trenching, bedding, backfill, compaction, construction water, shoring, and disposal of surplus or unsuitable material) not separately listed on the bid form, shop and field welding, working around existing drains and structures encountered, restoration of property including chipsealed and graveled roads and driveways, tracer wire, detectable warning tape, and all materials, labor, tools, equipment and incidentals necessary to satisfactorily complete the work, CIP. Soil cement, if used, shall be considered incidental to the cost of the casing installation. Excludes carrier pipe, which is covered under separate bid items.

Item No. 26 - Road Crossings Installed via Boring and Jacking, 12-inch steel casing (0.375" wall thickness), CIP
Payment and measurement will be based upon linear foot installed. This price shall be full compensation for steel casing, all fittings and appurtenances not listed separately on the bid form

(including but not limited to spacers and end seals), construction surveying and staking, all earthwork (including but not limited to site clearing, preparation, excavation of bore and recovery pits) not listed separately on the bid form, boring, construction water, shoring, disposal of surplus or unsuitable material, shop and field welding, working around existing drains and structures encountered, restoration of property including paved and graveled roads and driveways, tracer wire, detectable warning tape, and all materials, labor, tools, equipment and incidentals necessary to satisfactorily complete the work, CIP. Soil cement, if used, shall be considered incidental to the cost of the casing installation. Excludes carrier pipe, which is covered under separate bid items.

1.3 PAYMENT FOR TESTING

A. The cost of laboratory testing, such as fill material analysis testing, and on-site testing, such as trench compaction testing, shall be reimbursed to the Contractor, upon submittal of invoices from the laboratory testing firm, as specified in this Section.

1. All work performed by Contractor related to such testing shall be considered incidental and shall not be reimbursable from testing allowance.

2. The allowance shall not cover laboratory personnel's stand-by time in the field, nor any other costs incurred by the laboratory due to delays caused by the Contractor.

3. Contactor shall take reasonable measures to minimize laboratory's trips to the site by having multiple sites ready for testing for each trip to the site by the laboratory field personnel.

4. Engineer will direct frequency and location of tests

5. Contractor shall pay for all failed tests.

B. The cost of work associated with hydrostatic pressure, disinfection and bacteriological testing for pipeline shall be paid via a separate bid item, as specified in this Section.

C. The cost of work associated with testing for any other facilities for which a separate bid item is not provided shall be considered incidental to their respective bid items.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 03 05 00

BASIC CONCRETE MATERIALS AND METHODS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes formwork, reinforcement, accessories, cast-in-place concrete, transporting, placing, finishing, curing, and other pertinent items of construction.

B. Concrete and Standards - Except as noted or modified in this section, all concrete materials, transporting, placing, finishing, curing, and sealing shall conform to requirements as follows:

1. American Institute of Concrete (ACI)
   a. 301 - Specifications for Structural Concrete.
   b. 304 - Guide for Measuring, Mixing, Transporting and Placing Concrete.
   c. 306 - Cold Weather Concreting.
   d. 308.1 - Standard Specification for Curing Concrete.
2. American Society for Testing and Materials (ASTM)
   a. ASTM C31 - Practices for Making and Curing Concrete Test Specimens in the Field.
   b. ASTM C33 - Specifications for Concrete Aggregate.
   c. ASTM C39 - Test Method for Compressive Strength of Cylindrical Concrete Specimens.
   d. ASTM C94 - Specification for Ready-Mixed Concrete.
   e. ASTM C143 - Test Method for Slump of Hydraulic Cement Concrete.
   f. ASTM C150 - Specification for Portland Cement.
   g. ASTM C156 - Test Methods for Water Retention by Concrete Curing Materials.
   h. ASTM C227 - Test for Potential Alkali Reactivity of Cement- Aggregate Combinations.
   i. ASTM C260 - Specification for Air-Entraining Admixtures for Concrete.
   j. ASTM C441 - Test for Effectiveness of Mineral Admixtures in Preventing Excessive Expansion of Concrete Due to Alkali-Aggregate Reaction.
   k. ASTM C494 - Specification for Chemical Admixtures for Concrete.

1.2 QUALITY ASSURANCE

A. Inform Engineer at least 48 hours in advance of time at which Contractor intends to place concrete.

B. When required by any applicable permits, such as CID permits, Contractor shall have reinforcement inspected by the agency with jurisdiction prior to placement of concrete.

C. Construct and erect concrete formwork in accordance with ACI 301 and ACI 347.

D. Concrete tests shall be in accordance with requirements of ACI 301, Chapter 16 - Testing, except as noted or modified in this Section.
   1. Strength test:
      a. Mold and cure 5 cylinders from each sample.
      b. Test one at 7 days and one at 14 days for information and two at 28 days for acceptance.

E. Samples:
   1. Collect the following minimum samples for each 28-day strength concrete used in the work for each days placing. No sample shall be required for thrust blocks nor fence posts.

   2. Hold fifth cylinder for future considerations.

Quantity	Number of Samples
50 cubic yards or less	1
50 to 100 cubic yards	2
100 cubic yards or more	2 plus 1 sample for each additional 100 cubic yards

   3. Sample marking.
      a. Mark or tag each sample of compression test cylinders with date and time of day cylinders were made.
      b. Identify location in work where concrete represented by cylinders was placed.
      c. Identify delivery truck or batch number, air content and slump.

   4. Slump test:
      a. Conduct test for each strength test sample and whenever consistency of concrete appears to vary.

   5. Air content:
      a. Conduct test from 1 of first 3 batches mixed each day and for each strength test sample.

F. Coordinate concrete placement with the Engineer to ensure proper testing in compliance with the Drawings and Specifications. The cost of all tests shall be covered by the Testing Allowance provided for in the bid schedule, except for new analyses required due to failed tests.

G. The Contractor is free to take additional specimens for his own information, at his own expense, not reimbursable from the Testing Allowance.

H. Acceptance of Concrete: Strength level of concrete will be considered satisfactory so long as average of all sets of 3 consecutive strength test results equal or exceeds specified 28-day strength and no individual strength test result falls below specified strength by more than 500 psi.

I. Failure of Test Cylinder Results: Upon failure of test cylinder results, Engineer may require Contractor, at his expense, to test remaining cylinder after curing for a period of

time specified by Engineer. If strength level of this cylinder is not greater than specified 28-day strength, Engineer may require Contractor to obtain and test at least three 2-inch diameter cored samples from an area in question.

1. Conform to ASTM C42.
2. Concrete will be considered adequate if average of 3 cores is at least 85 percent of, and if no single core is less than 75 percent of, specified 28-day strength.
3. Upon failure of core test results, Engineer may require Contractor, at his expense, to perform load tests as specified in ACI 318, Chapter 20.
4. Fill all core holes as specified for repairing defective concrete.

J. Completed Work

1. Completed concrete work which fails to meet 1 or more requirements, but which has been repaired to bring it into compliance, will be accepted without qualification.
2. Completed concrete work which fails to meet 1 or more requirements and which cannot be brought into compliance shall be rejected as provided in these Contract Documents. In this event, modifications shall be required to assure that concrete work complies with requirements. Modifications, as directed by Engineer, to be made at no additional cost to Owner.

K. Perform concrete reinforcing and cast-in-place concrete work in accordance with ACI 301.

L. The maximum deviation of the top surface of curb and gutter shall not exceed 1/8" in 10' nor shall the inside face deviate more than 1/4" in 10' from a straight line. Prior to or during final inspection, curb and gutter shall be water flow tested as directed by the Engineer. All areas with standing water will be rejected.

PART 2 PRODUCTS

2.1 FORM MATERIALS AND ACCESSORIES

A. Steel Forms: Symons "Steel-Ply", Simplex "Industrial Steel Frame Forms", Universal "Uniform". Forms shall be clean, straight and true, without surface defects.

B. Plywood Forms: Product standard PS-1, waterproof, resin-bonded exterior type Douglas Fir or Larch. Forms shall be clean, straight and true, without surface defects.

C. Lumber: Douglas Fir or Larch, straight, uniform width and thickness, clean and free from offsets, holes, dents and other surface defects.

D. Chamfer Strips: Clean white pine, surface against concrete planed.

E. Form Release Agent: Colorless mineral oil not capable of staining concrete or impairing natural bonding characteristics of coating intended for use on concrete.

2.2 CONCRETE MATERIALS

A. Cement: ASTM C150 Type I Portland type.

B. Batching and Mixing Equipment: Conform to ACI 304.

C. Slump:
1. Keep as low as possible consistent with proper handling and thorough compaction.
2. Shall not exceed 4 inches unless otherwise authorized by Engineer.

D. Fine and Coarse Aggregates: ASTM C33.

E. Water: Clean and not detrimental to concrete.

F. Air Entrainment Admixture: ASTM C260.

2.3 CONCRETE MIX

A. Mix and deliver concrete in accordance with ASTM C94.

B. Retempering of prepared concrete will not be permitted.

C. Furnish concrete of the following strength:

Type of Work	Min. 28-Day Compressive Strength (psi)	Max. Size Aggregate (in.)	Min. Cement W/C per CY (94# sacks)	Maximum Ratio (by wt.)
Site work concrete such as fence posts, thrust blocks, valve collars, etc.	3,000	1	6.0	0.50

D. Proportioning:
1. Proportion ingredients to produce a well-graded mix of high-density maximum workability consistent with approved mix design.
2. Entrained air - all concrete:
   a. Five (5) percent, plus or minus one (1) percent, for concrete in the forms. Concrete samples for air content tests shall be taken at the end of the concrete truck chute or the output of the concrete pump, whichever applies. A reduction in air content of pumped concrete should be expected. Contractor shall be responsible to coordinate with the concrete supplier to provide the specified air content of the in-place concrete.
   b. Refer to Table 3.4.1 of ACI 301 for further requirements.
3. Fly ash: The mineral admixture Class F fly ash shall be proportioned by weight of cement to provide a fly ash to portland cement ratio not less than 1:4, not less than 20 per cent of the total cementitious material. Portland cement concrete submitted under this Specification shall be proportioned with Class F fly ash, unless a variance is authorized by the Engineer. The Contractor shall provide the Engineer with chemical and physical analysis of the fly ash.

4. Aggregates supplied under this Specification shall be assumed to be "alkali-silica reactive", ASR. Variance from this position for a particular aggregate source may be authorized by the Engineer. Application for a variance may be made to the Engineer.
   a. An aggregate may be classified non-alkali-silica reactive if, when tested in accordance with ASTM C227, using low alkali cement demonstrates an expansion at one (1) year not greater than 0.05%, and the rate of expansion is negative decreasing, based on test measurements at 1 month, 3 months, 6 months, 9 months, and 15 months, as authorized by the Engineer.
   b. Portland cement concrete design mixes using non alkali-silica reactive aggregates will not be required to be proportioned with Class F fly ash.

2.4 CEMENT GROUT

A. Portland Cement: ASTM C150, Type I and II.

B. Water:
   1. Potable; containing no impurities, suspended particles, algae or dissolved natural salts.

C. Fine Aggregate:
   1. Washed natural sand.
   2. Gradation in accordance with ASTM C33 and represented by smooth granulometric curve within required limits.
   3. Free from injurious amounts of organic impurities as determined by ASTM C40.

D. Mix:
   1. Portland cement, sand and water. Do not use ferrous aggregate or staining ingredients in grout mixes.
   2. Water content shall be such that the grout can be readily spread, yet not wet enough to cause trouble with surface water or laitance, or failure to stay in place after screeding. All grout mixes and mixing procedures shall be submitted in accordance with submittal requirements, and shall be subject to review and approval by the Engineer prior to commencing the grouting operations.

E. The minimum compressive strength at 28 days shall be 4000 psi.

F. Procedures for Grout placement shall be approved by the equipment supplier, to insure that no equipment is overstressed, as well as proper placement tolerances. Equipment Supplier shall have final say on grouting procedures and final tolerances.

PART 3 EXECUTION

3.1 FORMWORK ERECTION

A. Erect formwork, shoring and bracing to achieve design requirements.

B. Erect forms substantially and sufficiently tight to prevent leakage of mortar and braced or tied to maintain desired position, shape and alignment before, during, and after concrete placement.

C. Carefully remove forms only after concrete is able to support all dead and live loads and curing requirements are met. Apply curing compound to all formed surfaces immediately after form removal.

D. Camber slabs and framing to achieve ACI 301 tolerances.

E. Provide bracing to ensure stability of formwork.

F. Clean forms as erection proceeds, to remove foreign matter.

3.2 INSERTS, EMBEDDED COMPONENTS, AND OPENINGS

A. Provide formed openings where required for work to be embedded in and passing through concrete members.

B. Coordinate work of other sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.

C. Install concrete accessories straight, level, and plumb.

D. Install water stops continuous without displacing reinforcement.

3.3 PLACING CONCRETE

A. Do not place concrete during rain, sleet, or snow unless adequate protection is provided and Construction Observer approval is obtained. Do not allow rainwater to increase mixing water or damage surface finish.

B. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent.

C. Convey concrete from mixer to final position as rapidly as practicable without segregation or loss of material. Limit chute length to less than 20 feet with maximum slope of 1 vertical to 2 horizontal.

D. Maximum height of concrete free fall is 4 feet.

E. Place concrete continuously between predetermined expansion, control and construction joints. Do not break or interrupt successive pours creating cold joints.

F. On large volume pours, concrete shall be placed with the aid of approved mechanical vibrators. Vibration shall be supplemented by manual forking or spading adjacent to the forms on exposed faced in order to secure smooth dense surfaces. The concrete shall be thoroughly consolidated around reinforcement, pipes or other shapes built into the work.

G. Where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack with non-shrink grout.

H. Screed slabs-on-grade and concrete base for toppings level.

3.4 FORM REMOVAL

A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads.

B. Remove formwork progressively and in accordance with code requirements.

3.5 CURING

A. Immediately after placement, protect concrete from premature drying.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete, for not less than ten (10) days in warm to hot weather and fourteen (14) days in cold weather after placing, unless otherwise indicated by the Engineer, in accordance with the methods specified herein for the different parts of the Work.
1. Cold weather is defined as when the temperature reaches or goes below 35 degrees F for one (1) hour during any 24-hour period during the curing period.

C. Use a pre-approved concrete curing method. Acceptable curing methods, as detailed in ACI 308R-01, are as follows:
1. Water Curing Methods:
   a. Ponding/Immersion.
   b. Fogging/Sprinkler.
   c. Burlap/Cotton Mats/Absorbent Material.
   d. Wet Sand Curing.
   e. Straw/Hay.
   f. Plastic Film.
   g. Reinforced Paper.
2. Liquid Membrane-Forming Compounds.

D. The covering used, if applicable, must be overlapped adequately to ensure 100% coverage, and must not be allowed to become dry at any point during the curing period. Place and anchor covers, mats, and/or sheeting to ensure continuous contact with the concrete surfaces.

E. When using one of the water curing methods, keep the concrete structures thoroughly and continuously moist and covered during the entire curing period.

3.6 FIELD QUALITY CONTROL

A. Three (3) Concrete Test Cylinders: Taken for every 75 or less cubic yards of each class of concrete placed.

B. One (1) Additional Test Cylinder: Taken during cold weather concreting, and cured on job site under same conditions as concrete incorporated into the Work.

C. One (1) Slump Test: Taken for each set of test cylinders taken.

3.7 DEFECTIVE CONCRETE

A. Modify or replace concrete not conforming to required lines, details and elevations, as directed by Engineer.

END OF SECTION

SECTION 31 10 00

SITE CLEARING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Removing surface debris.
2. Removing designated paving, curbs, and other obstructions.
3. Removing designated trees, shrubs, and other plant life.
4. Removing abandoned utilities.
5. Excavating topsoil.

B. Related Sections:
1. Section 01 00 00 - Basic Requirements
2. Section 31 22 13 - Rough Grading

1.2 QUALITY ASSURANCE

A. Perform Work in accordance with the most recent edition of the New Mexico Standard Specifications for Public Works Construction, with latest revisions.

B. Perform Work in accordance with the most recent edition of the NMDOT Standard Specifications for Road and Bridge Construction, with latest revisions.

C. Conform to applicable State of New Mexico code for environmental requirements, disposal of debris, burning debris on site, use of herbicides.

1.3 COORDINATION

A. Section 01 00 00 - Administrative Requirements: Coordination and project conditions.

B. Call New Mexico "One Call" at 811 and local utilities not less than three working days before performing Work.
1. Request underground utilities to be located and marked within and surrounding construction areas.

C. Coordinate all activities within "Mining Reclamation Areas" with Engineer, Chevron, EPA, NNEPA, Arcadis, and others, as required. Points of contact for these entities shall be designated at the pre-construction conference.
1. Notify Engineer and other contacts designated at the pre-construction conference at least fifteen (15) working days prior to any work within any Mining Reclamation Areas.

2. Contractor shall not perform any work within Mining Reclamation Areas unless Arcadis is present on site.

3. Arcadis will oversee environmental compliance pertaining to contaminated materials within the Mining Reclamation Areas. Such oversight may include, but not necessarily be limited to:

   a. Testing of spoils to determine what material is contaminated

   b. Designation of disposal site

   c. Control access to the fenced disposal site

   d. Oversight of Contractor's compliance with environmental requirements pertaining handling of contaminated materials, to the extent delegated by EPA

D. Notify Engineer at least five (5) working days prior to commencing work within 100 feet of any designated culturally sensitive area, as shown on Plans. Do not commence work unless barricades are in place, as required. Refer to Section 01 00 00 for site-specific requirements.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 00 00 - Quality Requirements: Examination of existing conditions before starting work.

B. Verify existing plant life designated to remain is tagged or identified.

C. Identify waste area and/or salvage area for placing removed materials.

3.2 PREPARATION

A. Call New Mexico "One Call" at 811 and local utility companies at least three (3) working days before performing Work.
   1. Request that underground utilities be located and marked within and surrounding construction areas.

B. Notify Engineer at least five (5) working days prior to commencing work within 100 feet of any designated culturally sensitive area, as shown on Plans. Do not commence work unless site has been flagged by qualified archeologist.

3.3 PROTECTION

A. Locate, identify, and protect utilities indicated to remain, from damage.

B. Protect trees, plant growth, and features designated to remain, as final landscaping.

C. Protect benchmarks, survey control points, and existing structures from damage or displacement.

3.4 CLEARING

A. Clear areas required for access to site and execution of Work.

B. Remove trees and shrubs within indicated areas. Remove stumps and surface rock.

C. Clear undergrowth and deadwood, without disturbing subsoil.

D. Apply herbicide to remaining stumps to inhibit growth.

3.5 REMOVAL

A. Remove debris, rock, and extracted plant life from site.

B. Partially remove paving, curbs, and other obstructions as indicated on Drawings. Neatly saw cut edges at right angle to surface.

C. Remove abandoned utilities as directed by Owner and/or Engineer. Indicate removal termination point for underground utilities on Record Documents.

D. Continuously clean up and remove waste materials from site. Do not allow materials to accumulate on site.

E. The Engineer will indicate to the Contractor which obstructions are to be removed, disposed of, or salvaged, and will require special documentation.

F. All existing fences crossed by the Work, or are within the construction area, are to be removed and rebuilt to original condition or better. Fence materials resulting from such removal are to be stored or disposed of as directed by the Engineer. Fence materials suitable for reuse or salvage that are damaged, lost or destroyed due to the Contractor's negligence or carelessness are to be replaced at the Contractor's expense.

G. Do not burn or bury materials on site. Leave site in clean condition.

H. Contaminated materials removed from within the "Mining Reclamation Area", as determined by Arcadias, shall be disposed of in a fenced disposal side near or within the mining reclamation area.

I. For all work performed within Mining Reclamation Areas:

1. Notify engineer at least fifteen (15) working days prior to performing work within any Mining Reclamation Area.
2. Do not perform any work within a Mining Reclamation Area without Arcadis present on-site.
3. Comply with all environmental requirements set forth by Arcadis.
4. Comply with all relevant safety requirements, as set forth by U.S. EPA, NNEPA, OSHA or other competent authorities.
5. Water working areas with sufficient frequency to prevent the emission of fugitive dust while performing all work activities.
6. Allow Arcadis to test spoils for radiation levels. Arcadis will indicate which spoils are contaminated and which are not.
7. Dispose of contaminated materials inside fenced disposal site designated by Arcadis. Arcadis shall control access to the fenced disposal site.
8. Take appropriate precautions to prevent fugitive dust emissions or spillage during hauling of contaminated material to disposal site.

3.6 TOPSOIL EXCAVATION

A. Excavate topsoil from areas to be further excavated, relandscaped, or regraded, without mixing with foreign materials for use in finish grading.

B. Do not excavate wet topsoil.

C. Stockpile in area designated on site to depth not exceeding 8 feet and protect from erosion. Stockpile material on impervious material and cover over with same material, until disposal.

D. Remove excess topsoil not intended for reuse, from site.

E. All equipment shall be properly maintained and with proper safety devices.

F. Contractor must maintain control of dust and minimize blowing debris.

END OF SECTION

SECTION 31 22 13

ROUGH GRADING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Excavating subsoil.
2. Cutting, grading, filling, rough contouring, and compacting site for site structures and building pads.

B. Related Sections:
1. Section 01 00 00 - Basic Requirements
2. Section 01 22 00 - Measurement and Payment
3. Section 31 10 00 - Site Clearing
4. Section 31 22 13 - Rough Grading
5. Section 31 23 17 - Trenching
6. Section 31 23 23 - Backfill
7. Section 33 11 10 - Water Utility Distribution Piping
8. Section 3312 12 - Water Service Connections

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:
1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 10-lb Rammer and an 18-in. Drop.

B. ASTM International:
1. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
2. ASTM D422 - Particle -Size Analysis of Soils.
3. ASTM D653 - Terminology Relating to Soil, Rock, and Contained Fluids.
4. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort 12,400 ft-lbf/ft3.
5. ASTM D1140 - Amount of Material in Soils Finer than the No. 200 Sieve.
6. ASTM D1556 - Standard Test Method for Density of Soil in Place by the Sand-Cone Method.
7. ASTM D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort 56,000 ft-lbf/ft3.
8. ASTM D1633 - Test Method for Compressive Strength of Molded Soil - Cement Cylinders.

9. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
10. ASTM D2216 - Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass.
11. ASTM D2419 - Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate.
12. ASTM D2434 - Standard Test Method for Permeability of Granular Soils Constant Head.
13. ASTM D2487 - Classifications of Soils for Engineering Purposes (Unified Soil Classification System).
14. ASTM D2488 - Description and Identification of Soils (Visual-Manual Procedure).
15. ASTM D2774 - Standard Practice for Underground Installation of Thermoplastic Pressure Piping.
16. ASTM D2901 - Test Method for Cement Content of Freshly Mixed Soil Cement.
17. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods Shallow Depth.
18. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods Shallow Depth.
19. ASTM D4253 - Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.
20. ASTM D4254 - Minimum Index Density and Unit Weight of Sols and Calculation of Relative Density.
21. ASTM D4318 - Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
22. ASTM D4564 - Density of Soil in Place by the Sleeve Method.
23. ASTM D4643 - Determination of Water (Moisture) Content of Soil by the Microwave Oven Heating.
24. ASTM D4718 - Correction of Unit Weight and Water Content for Soils Containing Oversize Particles.
25. ASTM D4832 - Compressive Strength of Controlled Low Strength Material.
26. ASTM D4914 - Density of Soil and Rock in Place by the Sand Replacement Method in a Test Pit.
27. ASTM D4959 - Determination of Water (Moisture) Content of Soil by Direct Heating.
28. ASTM D5030 - Density of Soil and Rock in Place by the Water Replacement Method in a Test Pit.
29. ASTM D5080 - Rapid Determination of Percent Compaction.
30. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

1.3 SUBMITTALS

A. Section 01 00 00 - Submittal Procedures.

B. Materials Source: Submit name of imported materials suppliers.

C. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

A. Project Record Documents: Accurately record actual locations of utilities remaining by horizontal dimensions, elevations or inverts, and slope gradients.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with ASTM C136, ASTM D2419, and ASTM D2434.

B. Perform Work in accordance with applicable New Mexico State Standards.

1.6 COORDINATION

A. Section 01 00 00 - Administrative Requirements: Coordination and project conditions.

B. Call New Mexico "One Call" at 811 and local utilities not less than three working days before performing Work.

1. Request underground utilities to be located and marked within and surrounding construction areas.

C. Coordinate all activities within "Mining Reclamation Areas" with Engineer, Chevron, EPA, NNEPA, Arcadis, and others, as required. Points of contact for these entities shall be designated at the pre-construction conference.

1. Notify Engineer and other contacts designated at the pre-construction conference at least fifteen (15) working days prior to any work within any Mining Reclamation Areas.
2. Contractor shall not perform any work within Mining Reclamation Areas unless Arcadis is present on site.
3. Arcadis will oversee environmental compliance pertaining to contaminated materials within the Mining Reclamation Areas. Such oversight may include, but not necessarily be limited to:
    a. Testing of spoils to determine what material is contaminated
    b. Designation of disposal site
    c. Control access to the fenced disposal site
    d. Oversight of Contractor's compliance with environmental requirements pertaining handling of contaminated materials, to the extent delegated by EPA

D. Notify Engineer at least five (5) working days prior to commencing work within 100 feet of any designated culturally sensitive area, as shown on Plans. Do not commence work unless barricades are in place, as required. Refer to Section 01 00 00 for site-specific requirements.

PART 2 PRODUCTS

2.1 MATERIALS

Not Used.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 00 00 - Quality Requirements: Examination of existing conditions before starting work.

B. Verify survey benchmark and intended elevations for the Work are as indicated on Drawings.

3.2 PREPARATION

A. Call New Mexico "One Call" at 811 and local utility companies at least three (3) days before performing Work.
   1. Request underground utilities to be located and marked within and surrounding construction areas.

B. Notify Engineer at least five (5) working days prior to commencing work within 100 feet of any designated culturally sensitive area, as shown on Plans. Do not commence work unless site has been flagged by qualified archeologist.

C. Notify Engineer and other contacts designated at the pre-construction conference at least fifteen (15) working days prior to any work within any Mining Reclamation Areas.

D. Identify required lines, levels, contours, and datum.

E. Notify utility company to remove and relocate utilities.

F. Protect remaining utilities from damage.

G. Protect plant life, lawns, and other features remaining as portion of final landscaping.

H. Protect benchmarks, survey control point, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

3.3 SUBSOIL EXCAVATION

A. Excavate subsoil from areas to be further excavated, relandscaped, or regraded.

B. Do not excavate wet subsoil or excavate and process wet material to obtain optimum moisture content.

C. Do not excavate in rain or snow.

D. Do not excavate frozen materials.

E. Blasting is not allowed.

F. When excavating through roots, perform Work by hand and cut roots with sharp axe.

G. Remove excess subsoil not intended for reuse, and dispose of in accordance with these Specifications.

H. Benching Slopes: Horizontally bench existing slopes greater than 1: 4 to key placed fill material to slope to provide firm bearing.

I. Stability: Replace damaged or displaced subsoil as specified for fill.

J. Notify Owner of any utility damage at once so emergency measures can be taken. The Contractor will pay for any required repairs.

K. Intercept and divert surface drainage and precipitation away from excavation through use of dikes, curb walls, ditches, pipes, or other means.

L. Remove and exclude water, including storm water, groundwater, irrigation water, and/or other waters, from all excavations. Dewatering wells, well-points, sump pumps, or other means shall be used to remove water and continuously maintain groundwater at a level below the bottom of excavations. Water shall be removed and excluded until backfilling is complete and all field soils testing have been completed.

M. Comply with New Mexico state standards and requirements for dewatering to any watercourse, prevention of stream degradation, and erosion and sediment control.

N. Excavation below Fills and Embankments: The subgrade areas beneath embankments shall be excavated to remove not less than the top 1 foot of native material and, where such sub-grade is sloped, the native material shall be benched. After the required excavation or over-excavation has been completed, the top 12 inches of material shall be scarified and moisture added or material dried to optimum moisture and the exposed surface shall be proof rolled.

O. Excavation under areas to be paved shall extend to the bottom of the sub-base. After the required excavation has been completed, the area shall be scarified a minimum of 12 inches below the subgrade surface and recompacted prior to the placement of the sub-base aggregate and/or base course aggregate. The finished sub-grade shall be even, self-draining, and in conformance with the slope of the finished pavement. Areas that could accumulate standing water shall be regraded to provide a self-draining subgrade.

P. Material beyond prescribed lines which is loosened by the Contractor's operations shall be removed, replaced and/or compacted, as directed by the Engineer, at no additional cost to the Owner.

3.4 FILLING

A. See Section 31 23 23 - Backfill.

3.5 DISPOSAL OF EXCAVATED MATERIALS

A. Excess excavated material or excavated material not suitable for backfill may be disposed of on-site, provided that:
   1. The finished grade substantially conforms with the Drawings, or any deviation therefrom is approved by the Engineer.
      a. Blend with natural terrain.
      b. Minimum slope: 2%.
      c. Maximum slope: 4:1.
   2. All excess excavated material spread on the right-of-way is compacted to the same specifications as final backfill, as set for in Section 31 23 23 - Backfill and the Drawings, and
   3. All on-site disposal of material is approved by the Engineer.

B. Do not dispose of waste material by dumping from tops of slopes.

C. Do not dispose of excess material within 15 feet of any wash, drainage or waterway.

D. Re-seed waste material areas in accordance with Section 32 92 19 - Seeding.

E. Contaminated materials removed from within the "Mining Reclamation Area", as determined by Arcadis, shall be disposed of in a fenced disposal side near or within the mining reclamation area.

F. For all work performed within Mining Reclamation Areas:
   1. Notify engineer at least fifteen (15) working days prior to performing work within any Mining Reclamation Area.
   2. Do not perform any work within a Mining Reclamation Area without Arcadis present on-site.
   3. Comply with all environmental requirements set forth by Arcadis.
   4. Comply with all relevant safety requirements, as set forth by U.S. EPA, NNEPA, OSHA or other competent authorities.
   5. Apply water on working areas with sufficient frequency to prevent the emission of fugitive dust while performing all work activities.
   6. Allow Arcadis to test spoils for radiation levels. Arcadis will indicate which spoils are contaminated and which are not.
   7. Dispose of contaminated materials inside fenced disposal site designated by Arcadias. Arcadis shall control access to the fenced disposal site.
   8. Take appropriate precautions to prevent fugitive dust emissions or spillage during hauling of contaminated material to disposal site.

3.6 TOLERANCES

A. Section 01 00 00 - Quality Requirements: Tolerances.

B. Top Surface of Subgrade: Plus or minus 1/10 foot from required elevation.

3.7 FIELD QUALITY CONTROL

A. Section 01 00 00 - Execution Requirements: Testing, adjusting, and balancing.

B. Perform laboratory material tests in accordance with ASTM D1557, ASTM D698, AASHTO T180.

C. Perform in place compaction tests in accordance with the following:
1. Density Tests: ASTM D2922.
2. Moisture Tests: ASTM D3017.

D. When tests indicate Work does not meet specified requirements, remove Work, replace, compact, and retest at no additional cost to the Owner.

E. Compaction testing shall be done to the extent such that the Owner and Engineer can be reasonably assured that the backfill has been placed in accordance with the requirements of the Contract Documents or in accordance with the NMDOT Standard Specifications for Road and Bridge Construction, whichever is the more stringent. When a testing allowance is established on the Bid Form, the Owner and Engineer will determine the testing frequency to be used throughout the project.

3.8 SCHEDULES

A. Structural Fill:
1. Fill Type G or H: To subgrade elevation.
2. Compact uniformly to minimum 95 percent of maximum density.

B. Subsoil Fill:
1. Fill Type G: To subgrade elevation.
2. Compact uniformly to minimum 90 percent of maximum density.

C. Topsoil Fill:
1. Fill Type M or uniform mix of Types A - H: To subgrade elevation.
2. Compact uniformly to minimum 90 percent of maximum density.

END OF SECTION

SECTION 31 23 17

TRENCHING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Excavating trenches for utilities.
2. Sheeting and shoring.
3. Disposal of excavated material.

B. Related Sections:

1. Section 01 00 00 - Basic Requirements
2. Section 01 22 00 - Measurement and Payment
3. Section 31 10 00 - Site Clearing
4. Section 31 22 13 - Rough Grading
5. Section 31 23 23 - Backfill
6. Section 33 11 10 - Water Utility Distribution Piping
7. Section 3312 12 - Water Service Connections

1.2 REFERENCES

A. Sub-surface Data:

1. None.

B. NMSSPWC

1. NMSSPWC Sections 701, 801 & 802 "Trenching, Excavation and Backfill".

C. American Association of State Highway and Transportation Officials:

1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 10-lb Rammer and an 18-in. Drop.

D. ASTM International:

1. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
2. ASTM D422 - Particle -Size Analysis of Soils.
3. ASTM D653 - Terminology Relating to Soil, Rock, and Contained Fluids.
4. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).

5. ASTM D1140 - Amount of Material in Soils Finer than the No. 200 Sieve.
6. ASTM D1556 - Standard Test Method for Density of Soil in Place by the Sand-Cone Method.
7. ASTM D1633 - Test Method for Compressive Strength of Molded Soil - Cement Cylinders.
8. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
9. ASTM D2216 - Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass.
10. ASTM D2487 - Classifications of Soils for Engineering Purposes (Unified Soil Classification System).
11. ASTM D2488 - Description and Identification of Soils (Visual-Manual Procedure).
12. ASTM D2774 - Standard Practice for Underground Installation of Thermoplastic Pressure Piping.
13. ASTM D2901 - Test Method for Cement Content of Freshly Mixed Soil Cement.
14. ASTM D4253 - Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.
15. ASTM D4254 - Minimum Index Density and Unit Weight of Sols and Calculation of Relative Density.
16. ASTM D4318 - Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
17. ASTM D4564 - Density of Soil in Place by the Sleeve Method.
18. ASTM D4643 - Determination of Water (Moisture) Content of Soil by the Microwave Oven Heating.
19. ASTM D4718 - Correction of Unit Weight and Water Content for Soils Containing Oversize Particles.
20. ASTM D4832 - Compressive Strength of Controlled Low Strength Material.
21. ASTM D4914 - Density of Soil and Rock in Place by the Sand Replacement Method in a Test Pit.
22. ASTM D4959 - Determination of Water (Moisture) Content of Soil by Direct Heating.
23. ASTM D5030 - Density of Soil and Rock in Place by the Water Replacement Method in a Test Pit.
24. ASTM D5080 - Rapid Determination of Percent Compaction.
25. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

1.3 DEFINITIONS

A. Rock – Solid mineral material that cannot be excavated using standard excavation equipment such a track excavator or chain-driven trencher (excluding rock saw). For excavators, a 235C Caterpillar excavator with a medium stick and a rock ripping bucket, or equivalent equipment, is considered conventional equipment, if it can excavate at a production rate of at least 30 bank cubic yards per hour.

B. Arcadis – Environmental consultant contracted by the mine operator, Chevron, to oversee environmental compliance related to radioactive contamination within the vicinity of the abandoned mine located in the project area.

C. Contaminated – Adjective referring to rock or soil, whether excavated from trench or considered for use as borrowed fill, designated by Arcadis as exceeding allowable radiation limit for use as fill material.

D. Uncontaminated - Adjective referring to rock or soil, whether excavated from trench or considered for use as borrowed fill, determined by Arcadis to be safe for use as fill material.

E. Mining Reclamation Areas – Areas delineated by Arcadis and shown on Plans, which may contain contaminated materials and require special treatment.

F. Disposal Site – Fenced area in the vicinity of the project area designated by Arcadis for disposal of contaminated materials.

G. Special Excavations – Refers to uncontaminated rock, contaminated rock and/or contaminated soil, as referenced on the Bid Form.

1.4 SUBMITTALS

A. Section 01 00 00 - Submittal Procedures: Requirements for submittals.

B. Materials Source: Submit name of imported fill materials suppliers.

C. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with applicable New Mexico, Navajo Nation and U.S. Bureau of Reclamation standards.

B. Perform Work in accordance with applicable OSHA trench safety standards.

1.6 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.7 COORDINATION

A. Section 01 00 00 - Basic Requirements

B. Verify Work associated with lower elevation utilities is complete before placing higher elevation utilities.

C. Call New Mexico "One Call" at 811 and local utilities not less than three working days before performing Work.

1. Request underground utilities to be located and marked within and surrounding construction areas.

D. Coordinate all activities within "Mining Reclamation Area" with Engineer, Chevron, EPA, NNEPA, Arcadis, and others, as required. Points of contact for these entities shall be designated at the pre-construction conference.

1. Notify Engineer and other contacts designated at the pre-construction conference at least fifteen (15) working days prior to any work within any Mining Reclamation Area.
2. Contractor shall not perform any work within Mining Reclamation Areas unless Arcadis is present on site.
3. Arcadis will oversee environmental compliance pertaining to contaminated materials within the Mining Reclamation Areas. Such oversight may include, but not necessarily be limited to:
   a. Testing of spoils to determine what material is contaminated
   b. Designation of disposal site
   c. Control of access to the fenced disposal site
   d. Oversight of Contractor's compliance with environmental requirements pertaining handling of contaminated materials, to the extent delegated by EPA

E. Notify Engineer at least five (5) working days prior to commencing work within 100 feet of any designated culturally sensitive area, as shown on Plans. Do not commence work unless barricades are in place, as required. In the event of a discovery, all operations in the immediate vicinity of the discovery must cease and the Navajo Nation Historic Preservation Department must be notified at (928)-871-7139 or (928) 871-7148. Refer to appendix for additional information and site-specific requirements.

F. Notify Engineer of all special excavations (rock and contaminated materials). Payment for special excavations may be withheld if Engineer is not afforded adequate opportunity to measure quantities.

PART 2 PRODUCTS

2.1 FILL MATERIALS

A. Pipe Bedding and Embedment: As specified in Section 31 23 23 - Backfill.

B. Pipe Backfill: As specified in Section 31 23 23 - Backfill.

C. Structural Fill: As specified in Section 31 23 23 - Backfill.

D. Concrete: Structural concrete, as specified in Section 03 30 00, with minimum compressive strength of 4,000 psi at 28 days. Concrete for thrust blocking with minimum compressive strength of 3,000 psi at 28 days.

PART 3 EXECUTION

3.1 PREPARATION

A. Identify required lines, levels, contours, and datum locations.

B. Protect plant life, lawns and other features remaining as portion of final landscaping.

C. Protect benchmarks, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

D. Maintain and protect above and below grade utilities indicated to remain.

E. Establish temporary traffic control and detours when trenching is performed in public right-of-way. Relocate controls and reroute traffic as required during progress of Work.

3.2 LINES, GRADES AND DIMENSIONS

A. Excavate trench to lines and grades indicated on Drawings.

1. Engineer reserves right to make changes in lines, grades, and depths of utilities when changes are required based on field conditions.

2. When bottom of trench is rocky, over-excavate and fill as specified in Section 31 23 23 – Backfill.

a. Do not overexcavate without Engineer's approval. Additional payment for uncontaminated rock, contaminated rock, or contaminated soil shall not be made for overexcavated material unless overexcavation is approved by Engineer.

B. Excavate trench to minimum width as indicated on Drawings.

1. Increase trench width as required to meet required clearances between pipe and trench wall, to avoid voids in the haunch areas of the pipe and to meet embedment compaction requirements or minimum soil cement slurry layer thickness. Increased trench width, if needed to meet these requirements, shall be provided at no additional cost to the Owner.

3.3 TRENCHING

A. Excavate subsoil required for utilities.

B. Remove lumped subsoil, boulders, and rock to bottom of trench.

C. Allowable open trench: Trenches may be opened in advance of pipe placement and backfill operations as per AWWA C605, subject to the following additional conditions:

1. Do not leave any trench open at the end of the workday without prior approval by Engineer.
2. Do not block vehicular traffic or impede access to homes or businesses.
3. Protect open trench to protect the public, livestock, wildlife and the environment.
    a. Comply with all stipulations set forth by the Bureau of Indian Affairs, Navajo Nation and other land-controlling agencies.
    b. The Owner or land-controlling agencies, at their sole discretion, may require temporary fencing to protect livestock, wildlife and local residents and land users from open trenches. Such fences shall be required in all trenches left open in active livestock grazing areas. Contractor shall provide such fencing, if required, at no additional cost to the Owner.
    c. Provide animal escape ramps in trenches.
4. Contractor is solely responsible for safety of all open trenches and bears sole liability for any incidents or accidents arising from open trenches.
5. The Owner may restrict the amount of open trench at any time as needed due to public safety, land use or environmental considerations.
6. Additional restrictions on open trenches may apply within Mining Reclamation Areas.

D. Remove water or materials that interfere with Work. Remove groundwater by pumping to keep excavations dry.

E. Provide uniform and continuous bearing and support for bedding material and pipe.

F. Do not interfere with 45 degree bearing splay of foundations. Any excavation in this area shall be backfilled and compacted using the same materials and methods as structural fill for new buildings. Refer to Section 31 23 23.

G. Slope or shore trench as needed to meet safety requirements. When sidewalls cannot be sloped, provide sheeting and shoring to protect excavation as specified in this section.

H. When subsurface materials at bottom of trench are loose or soft, excavate to greater depth as directed by Engineer until suitable material is encountered. Backfill and compact to reach specified or directed line and grade. Refer to specifications for overexcavation backfill, as set forth in Section 31 23 23.

I. Cut out soft areas of subgrade not capable of compaction in place. Backfill and compact to specified or directed line and grade. Refer to specifications for overexcavation backfill, as set forth in Section 31 23 23.

J. Trim excavation. Hand trim for bell and spigot pipe joints. Remove loose matter.

K. Correct over excavated areas with compacted backfill as specified for authorized excavation or replace with fill concrete as directed by Engineer.

L. Do not excavate in the rain or snow without approval from the Engineer.

M. Do not excavate in frozen materials without approval from the Engineer.

N. Blasting is not allowed.

3.4 ADDITIONAL EXCAVATION

A. Perform additional excavation in trench bottom for pipe foundations as show on drawings and other additional excavations beyond specified lines as directed by the Engineer.

3.5 OVEREXCAVATION

A. When foundation material is over-excavated beyond specified or directed lines, fill the over-excavation with embedment or bedding material and compact in accordance with Section 31 23 23 - Backfill.

B. If foundation material is over-excavated by being disturbed or loosened during excavation, compact material in place or remove and replace with embedment or bedding material as determined by the Engineer and compact in accordance with Section 31 23 23 - Backfill.

C. Do not overexcavate without Engineer's approval. Additional payment for uncontaminated rock, contaminated rock, or contaminated soil shall not be made for overexcavated material unless overexcavation is approved by Engineer.

3.6 SHEETING AND SHORING

A. Sheet, shore, and brace excavations to prevent danger to persons, structures and adjacent properties and to prevent caving, erosion, and loss of surrounding subsoil.

B. Support trenches more than 5 feet deep (or less depending on trench/soil conditions) excavated through unstable, loose, or soft material. Provide sheeting, shoring, bracing, or other protection to maintain stability of excavation.

C. Design sheeting and shoring to be removed at completion of excavation work. If the Engineer orders the sheeting to be left in place for the protection of the work, a payment will be allowed only for the actual cost of the timber left in place.

D. Repair damage caused by failure of the sheeting, shoring, or bracing and for settlement of filled excavations or adjacent soil.

E. Repair damage to new and existing Work from settlement, water or earth pressure or other causes resulting from inadequate sheeting, shoring, or bracing.

3.7 BACKFILLING OF TRENCHES

A. See Section 31 23 23 – Backfill for general backfill requirements, as well as trench backfill, bedding and embedment requirements around pipelines.

3.8 DISPOSAL OF EXCAVATED MATERIALS

A. Excess excavated material or excavated material not suitable for backfill may be disposed of on-site, provided that:

1. The finished grade substantially conforms with the drawings, or any deviation therefrom is approved by the Engineer

a. Blend with natural terrain

b. Minimum slope: 2%

c. Maximum slope: 4:1

2. All excess excavated material spread on the right-of-way is compacted to the same specifications as final backfill, as set forth in Section 31 23 23 - Backfill and the Drawings,

3. Disposed material does not encroach beyond established rights-of-way, and

4. All on-site disposal of material is approved by the Engineer.

B. Do not dispose of waste material by dumping from tops of slopes.

C. Do not dispose of excess material within 15 feet of any wash, drainage or waterway.

D. Re-seed waste material areas in accordance with Section 32 92 19 - Seeding.

E. Disposal of contaminated rock and soil: Refer to specifications for Special Excavations in this Section.

3.9 SPECIAL EXCAVATIONS

A. Uncontaminated Rock:

1. Excavation, removal, hauling and disposal of rock and replacement with approved fill material is covered under a separate line item on the Bid Form. Refer to Section 01 22 00 – Measurement and Payment.

2. Rock is defined in this Section.

3. Cut away rock at bottom of excavation to form level bearing.

4. Remove shaled layers to provide sound and unshattered base for footings.

5. Blasting: Not allowed.

B. Contaminated Rock and Contaminated Soil:

1. Excavation, removal, hauling and disposal of contaminated material and replacement with approved fill material are covered under separate line items on the Bid Form. Refer to Section 01 22 00 – Measurement and Payment.

a. For payment purposes, linear footage of trench containing contaminated material shall be determined by field radiation measurements of the spoils pile conducted by Arcadis. Arcadis shall be solely responsible to

determine what material is contaminated and what is uncontaminated. Length of contaminated spoils shall measured by Engineer.

b. In segments of trench determined by Arcadis to be contaminated, depth of contaminated soil shall generally be assumed to be equal to the depth of soil in the trench, based on total trench depth or depth to rock, except as noted below.

1) In some cases, such as road crossings where the road base is suspected to be more contaminated than underlying soil, Contractor may be required to excavate in lifts and separate contaminated from uncontaminated lifts of soil. In such cases, depth of contaminated soil for payment purposes shall consist only of depth of lifts indicated by Arcadis to be contaminated.

2. Contaminated material is defined in this Section.

a. Contaminated Soil is defined as material meeting the definition of contaminated, but not meeting the definition of rock, as set forth in this Section.

b. Contaminated Rock is defined as material meeting both the definition of contaminated and the definition of rock, as set forth in this Section.

3. For all work performed within Mining Reclamation Areas:

a. Notify engineer at least fifteen (15) working days prior to performing work within any Mining Reclamation Area.

b. Do not perform any work within a Mining Reclamation Area without Arcadis present on-site.

c. Comply with all environmental requirements set forth by Arcadis.

d. Comply with all relevant safety requirements, as set forth by U.S. EPA, NNEPA, OSHA or other competent authorities.

e. Apply water on working areas with sufficient frequency to prevent the emission of fugitive dust while performing all work activities.

f. Allow Arcadis to test spoils for radiation levels. Arcadis will indicate which spoils are contaminated and which are not.

g. Dispose of contaminated materials inside fenced disposal site designated by Arcadis. Arcadis shall control access to the fenced disposal site.

h. Take appropriate precautions to prevent fugitive dust emissions or spillage during hauling of contaminated material to disposal site.

i. Replace with uncontaminated material – Refer to Section 31 23 23 – Backfill.

C. Engineer must witness and measure all special excavations in order for payment for special excavations to be made. Payment for special excavations may be withheld if Engineer is not afforded adequate opportunity to measure quantities.

D. Blasting: Not allowed.

3.10 TOLERANCES

A. Section 01 00 00 - Quality Requirements: Tolerances.

B. Top Surface of Backfilling Under Paved Areas: Plus or minus 1 inch from required elevations.

3.11 FIELD QUALITY CONTROL

A. Section 01 00 00 - Execution Requirements: Testing, adjusting, and balancing.

B. Determine compaction characteristics of materials in accordance with ASTM D698.

C. Classify soils in accordance with ASTM D2487.

D. Perform in place compaction tests in accordance with the following:

1. Density Tests: ASTM D1556 (USBR EM 7205), ASTM D2937, ASTM D4564 (USBR EM 7215), or ASTM D6938, as directed by the Engineer.

2. Moisture Tests: ASTM D2216 (USBR EM 5300), ASTM D6938 with adjustment per ASTM D4718, ASTM D4959 or ASTM D4643, as directed by the Engineer.

E. When tests indicate Work does not meet specified requirements, remove Work, replace, compact, and retest at no additional cost to the Owner.

3.12 PROTECTION OF FINISHED WORK

A. Section 01 00 00 - Execution Requirements: Protecting installed construction.

B. Reshape and re-compact fills subjected to vehicular traffic during construction.

END OF SECTION

SECTION 31 23 23

BACKFILL

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Backfilling building perimeter to subgrade elevations.
2. Backfilling site structures to subgrade elevations.
3. Fill under slabs-on-grade.
4. Fill under paving.
5. Fill for over-excavation.
6. Pipe bedding material.

B. Related Sections:

1. Section 01 00 00 - Basic Requirements
2. Section 01 22 00 - Measurement and Payment
3. Section 31 10 00 - Site Clearing
4. Section 31 22 13 - Rough Grading
5. Section 31 23 23 - Backfill
6. Section 31 23 25 - Soil Cement Slurry.
7. Section 33 11 10 - Water Utility Distribution Piping
8. Section 3312 12 - Water Service Connections

1.2 REFERENCES

A. Sub-surface Data:

1. None.

B. American Association of State Highway and Transportation Officials:

1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

C. ASTM International:

1. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
2. ASTM D422 - Particle -Size Analysis of Soils.

3. ASTM D653 - Terminology Relating to Soil, Rock, and Contained Fluids.
4. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
5. ASTM D1140 - Amount of Material in Soils Finer than the No. 200 Sieve.
6. ASTM D1556 - Standard Test Method for Density of Soil in Place by the Sand-Cone Method.
7. ASTM D1633 - Test Method for Compressive Strength of Molded Soil - Cement Cylinders.
8. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
9. ASTM D2216 - Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass.
10. ASTM D2487 - Classifications of Soils for Engineering Purposes (Unified Soil Classification System).
11. ASTM D2488 - Description and Identification of Soils (Visual-Manual Procedure).
12. ASTM D2774 - Standard Practice for Underground Installation of Thermoplastic Pressure Piping.
13. ASTM D2901 - Test Method for Cement Content of Freshly Mixed Soil Cement.
14. ASTM D4253 - Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.
15. ASTM D4254 - Minimum Index Density and Unit Weight of Sols and Calculation of Relative Density.
16. ASTM D4318 - Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
17. ASTM D4564 - Density of Soil in Place by the Sleeve Method.
18. ASTM D4643 - Determination of Water (Moisture) Content of Soil by the Microwave Oven Heating.
19. ASTM D4718 - Correction of Unit Weight and Water Content for Soils Containing Oversize Particles.
20. ASTM D4832 - Compressive Strength of Controlled Low Strength Material.
21. ASTM D4914 - Density of Soil and Rock in Place by the Sand Replacement Method in a Test Pit.
22. ASTM D4959 - Determination of Water (Moisture) Content of Soil by Direct Heating.
23. ASTM D5030 - Density of Soil and Rock in Place by the Water Replacement Method in a Test Pit.
24. ASTM D5080 - Rapid Determination of Percent Compaction.

25. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

1.3 DEFINITIONS

A. Percentage Compaction – Ratio, expressed as percentage, of actual density of material compared with maximum dry density based on Standard Proctor (ASTM D698).

B. Optimum Moisture Content – Based on Standard Proctor (ASTM D698).

C. Unified Soil Classification System – Based on ASTM D2487.

D. Rock – Material that cannot be excavated using standard excavation equipment such a backhoe, track excavator or chain-driven trencher (excluding rock saw).

E. Arcadis – Environmental consultant contracted by the mine operator, Chevron, to oversee environmental compliance related to radioactive contamination within the vicinity of the abandoned mine located in the project area.

F. Contaminated – Adjective referring to rock or soil, whether excavated from trench or considered for use as borrowed fill, designated by Arcadis as exceeding allowable radiation limit for use as fill material.

G. Uncontaminated - Adjective referring to rock or soil, whether excavated from trench or considered for use as borrowed fill, determined by Arcadis to be safe for use as fill material.

H. Mining Reclamation Areas – Areas delineated by Arcadis and shown on Plans, which may contain contaminated materials and require special treatment.

I. Disposal Site – Fenced area in the vicinity of the project area designated by Arcadis for disposal of contaminated materials.

J. Special Excavations – Refers to uncontaminated rock, contaminated rock and/or contaminated soil, as referenced on the Bid Form.

1.4 SUBMITTALS

A. Section 01 00 00 - Submittal Procedures.

B. Submit samples and certified test documentation of all materials to be used.

C. Materials Source: Submit name of imported fill materials suppliers.

D. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

E. Submit field soil test on material in place as backfill.

PART 2 PRODUCTS

2.1 NATIVE FILL MATERIAL

A. Native material may be used for bedding, embedment and/or backfill, provided that said material meets all specifications set forth in this section. The Contractor may screen or otherwise process the material on-site to meet the specifications.

B. Contaminated native material shall not be used for bedding, embedment or backfill. If contaminated material is encountered during trenching or excavation, it shall be disposed of as indicated in Section 31 23 17, and uncontaminated material shall be borrowed or imported to replace it.

C. Native material may be borrowed from within the designated right-of-way and hauled within the project area if needed, under the following conditions:

a. All borrow areas must receive prior approval from the Engineer. Finished grades shall conform to the finished grades shown in the plans, or any deviations therefrom must receive prior approval by the Engineer.

b. Borrow areas shall not encroach beyond the designated project right-of-way. Borrow areas shall not encroach on any protected culturally sensitive area.

c. All borrow areas shall be sloped and dressed to minimize erosion.

d. Adequate storm water pollution prevention measures shall be installed and maintained during construction. Such controls must be approved by the Engineer.

e. All borrow areas shall be re-seeded upon completion of the project, in accordance with Specification 32 92 19, and post-construction storm water controls shall be installed with approval from the Engineer.

f. All borrow areas shall be located outside of Mining Reclamation Areas. All borrow material shall be subject to testing by Arcadis prior to use to ensure it is uncontaminated.

g. Use of borrow material shall be subject to availability of suitable material within ROW that can be removed and site restored in accordance with the foregoing specifications. Owner makes no guarantee as to quantity or location of available borrow material.

D. All costs incurred in removing, hauling, or processing native or borrowed material and reclaiming borrow sites shall be considered incidental and shall be borne by the Contractor at no additional expense to the Owner.

1. For special excavation bid items for which additional payment is to be made, i.e. uncontaminated rock, contaminated rock, and contaminated soil excavation, all costs associated with borrowing of material shall be incidental to their respective bid items.

E. The Owner makes no guarantee that native materials meeting the fill and backfill material specifications contained herein are available within the project area.

2.2 IMPORTED FILL MATERIAL

A. If imported materials are required to meet the quantity requirements of the project, they shall be provided at no additional expense to the Owner.

1. For special excavation bid items for which additional payment is to be made, i.e. uncontaminated rock, contaminated rock, and contaminated soil excavation, all costs associated with importing of material shall be incidental to their respective bid items.

B. Imported fill material must be approved by the Engineer prior to use.

2.3 TYPES OF ACCEPTABLE FILL MATERIAL

A. All fill material, whether native, borrowed or imported, shall be uncontaminated, as determined in the field by Arcadis.

B. Structural Fill: Structural fill for use as sub-foundation material under tanks, buildings and other structures shall be provided of the Contract Documents.

C. Fill for Appurtenances: Fill under and around in-line valves and structures at the same elevation as the pipe shall comply with specifications for the corresponding type of fill under or around the pipe. Fill under and around appurtenances such as valves, vaults and other structures above the top of the pipe shall comply with specifications for initial backfill material.

D. Pipe Bedding and Embedment Material: The following types of material are acceptable for use as pipe bedding and embedment material:

1. Crushed Rock: Not more that 25% passing 3/8-inch sieve and not more than 12% fines. Maximum particle size shall not exceed ½ inch for pipe bedding and ¾ inch for embedment.

2. Clean Coarse-Grained Soils: Sands and gravels with 12% or less fines. Unified Soil Classification System designation GW, GP, SW, SP or any soil beginning with one of these symbols. Maximum particle size shall not exceed ½ inch for pipe bedding and ¾ inch for embedment.

3. Coarse-Grained Soils with Fines: Sands and gravels with more than 12% fines. Unified Soil Classification System designation GC, GM, SC, SM or any soil beginning with one of these symbols. Maximum particle size shall not exceed ½ inch for pipe bedding and ¾ inch for embedment.

4. Sandy or Gravelly Fine-Grained Soils: Fine-grained soils (LL<50) with medium to no plasticity and with 30% or more coarse-grained particles. Unified Soil Classification System designation CL, ML or CL-ML. Maximum particle size shall not exceed ½ inch for pipe bedding and ¾ inch for embedment.

5. Other: Other types of material may be considered only with prior written approval by the Engineer. The Contractor is advised that soil amendment and/or higher levels of compaction may be required if using other soil types. Any costs associated with use of other soil types shall be borne by the Contractor at no additional expense to the Owner.

E. Pipe Backfill Material:

1. Initial backfill: All material placed in the trench between the top of the embedment and 18 inches above the top of the pipe shall be free from clumps, organic material, frozen material, debris or rocks larger than ¾ inch.

2. Final backfill: All material placed in the trench more than18 inches above the top of the pipe shall be free from clumps, organic material, frozen material, debris or rocks larger than 3 inches.

F. Base Course, as follows:

Sieve Size	Percentage Passing
1-inch	100
¾ inch	80-100
No. 4	30-60
No. 10	20-45
No. 200	3-10

G. Soil Cement Slurry: Refer to Technical Specification 31 23 25 – Soil Cement Slurry.

H. All fill material shall be free of clumps, organic material, frozen material, ice, snow, debris or organic contaminants.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 00 00 - Administrative Requirements: Coordination and project conditions.

B. Verify sub drainage, damp proofing, or waterproofing installation has been inspected.

C. Verify underground tanks are anchored to their own foundations to avoid flotation after backfilling.

D. Verify structural ability of unsupported walls to support loads imposed by fill.

3.2 PREPARATION

A. Compact subgrade to density requirements for subsequent backfill materials.

B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with structural fill and compact to density equal to or greater than requirements for subsequent fill material.

C. Scarify subgrade surface to depth of 8 inches.

D. Proof roll to identify soft spots; fill and compact to density equal to or greater than requirements for subsequent fill material.

E. Notify Engineer and other points of contact designated at the pre-construction conference at least fifteen (15) working days prior to work within any Mining Reclamation Area. Refer to Section 31 23 17 – Trenching.

3.3 USE OF ACCEPTABLE MATERIALS

Fill and Backfill materials specified in Part 2 of this Section shall be used in accordance with the following provisions:

A. Overexcavation: Backfill to specified or directed lines using Embedment or Bedding material as specified above.

B. Bedding: Use Bedding material as specified above.

C. Embedment: Use embedment material as specified above.

D. Initial back fill: For backfilling between top of embedment (0.7 of pipe O.D.) and 18" above top of pipe, use initial backfill material as specified above.

E. Final backfill: For backfilling more than 18" above top of pipe, backfill as follows:

1. Outside of surfaced roads, driveways or parking areas: Use final backfill material as specified above.

2. Under surfaced or paved roads, driveways or parking areas: Use final backfill material as specified above, topped with base course as specified above. Apply base course to same thickness as existing driving surface, or 6 inches, whichever is greater. If paved, apply pavement patch to thickness equal to or greater than existing pavement.

F. Embankments: Use final backfill material as specified above, unless otherwise indicated on the Drawings.

G. Under buildings, tanks, slabs-on-grade and other structures: Use structural fill as specified above unless otherwise indicated on Drawings.

H. Soil Cement Slurry: At Contractor's option and expense, soil cement slurry may be used in lieu of bedding, embedment, initial backfill and/or final backfill materials. Soil cement slurry, if used, shall be provided at no additional expense to the Owner, and conforming to Section 31 23 25 Soil Cement Slurry.

3.4 BACKFILLING FOR STRUCTURES, SITE WORK AND APPURTENANCES

A. Backfill areas to lines and grades as indicated on the Drawings or as directed by the Engineer.

B. Systematically backfill to allow maximum time for natural settlement.

C. Do not backfill over porous, wet or spongy subgrade surfaces. Do not place backfill if either the material or the surface on which it is to be placed is frozen.

D. Each layer shall be thoroughly mixed as necessary to promote uniformity of material in each layer.

E. Place material in continuous, uniform layers such that all spaces around rocks and clods are filled. Thickness of such layers shall be as follows:

1. Subsoil Fill: Maximum 8 inches compacted depth.
2. Structural Fill: Maximum 6 inches compacted depth.
3. Granular Fill: Maximum 6 inches compacted depth.

F. Employ placement method that does not disturb or damage other work.

G. Slope grade away from building minimum 4%, unless otherwise noted on the Drawings.

H. Make gradual grade changes. Blend slope into level areas.

I. Shape and drain embankments and excavations, maintain ditches and drains to provide drainage at all times. Protect graded areas against action of elements prior to acceptance of work, and reestablish grade where settlement or erosion occurs.

J. Bench hillside slopes or fills to key the embankment. Remove and re-compact a minimum of 12 inches normal to the slope of the hillside or fill as the embankment or fill is brought up in layers.

K. Remove surplus backfill materials from site in accordance with Technical Specification 31 22 13 – Rough Grading.

L. Leave fill material stockpile areas free of excess fill materials.

3.5 BACKFILLING OF TRENCHES

A. Place material in pipe trenches to lines and grades indicated on Drawings or as directed by Engineer.

B. Do not place material when either the material or the surface upon which it is to be placed is frozen.

C. When using select material for pipe bedding, place bedding material below bottom of pipe before pipe is laid. Grade bedding material parallel to bottom of pipe.

D. When using select material for pipe embedment:

1. Exercise care not to damage pipe or appurtenances when placing embedment material.
2. Ensure material is placed to equal height on both sides of pipe to avoid unequal loading and possible lateral displacement of the pipe. Elevation difference of embedment between each side of pipe shall not exceed 6 inches.
3. Place material in uniform layers.
4. Work material into pipe haunches to prevent voids and achieve specified compaction under the haunches.

E. When using soil cement slurry: See Technical Specification 31 23 25 – Soil Cement Slurry.

F. If pipe laying operations are interrupted for more than 24 hours, cover pipe laid in the trench with backfill.

G. When the bottom of the trench is rocky, the trench shall be overexcavated and backfilled by 4 inches prior to placing the bedding layer, as directed by the Engineer. Backfill of this overexcavation shall comply the requirements for overexcavation backfill provided in these Technical Specifications.

1. Do not overexcavate without Engineer's approval. Additional payment for uncontaminated rock, contaminated rock, or contaminated soil shall not be made for overexcavated material unless overexcavation is approved by Engineer.

H. When using crushed rock or gravel for embedment on stretches longer than 300 feet, install trench plugs composed on silty, non-plastic material at 300 ft intervals to prevent piping of trench water through the embedment.

3.6 COMPACTION

A. Do not place and compact soil under the following conditions:

1. Ambient air temperature below freezing
2. Rain that creates puddles in clayey or silty materials
3. Ice or snow pockets visible in material being placed.

B. Surface Preparation:

1. Prepare surface so that first compacted lift will be placed on firm, stable base. Compact surface to specified percent compaction, if necessary.
2. For water-retaining compacted fill, scarify and moisten surface to provide satisfactory bonding surface before placing first layer of material to be compacted.
3. Do not place material to be compacted on frozen surface.

C. Compact material in trenches in layers having approximately the same top elevation on both sides of the pipeline to avoid unequal loading and displacement of the pipe.

D. Placement:

1. Place soil to be compacted in horizontal layers.
2. Blend materials as needed to ensure compacted fill is homogenous and free from lenses, pockets, streaks, voids, laminations and other imperfections.

E. Compaction Procedures:

1. Silty or Clayey Material:
   a. Compact with mechanical impact tampers, tamping rollers, vibrating pad foot rollers, rubber tire rollers or other suitable compaction equipment.
   b. Uniformly distribute equipment passes.
   c. Compact in horizontal layers to compacted thickness of 6 inches or less.
2. Cohesionless Free-Draining Material: Compact in horizontal layers to maximum compacted thickness of:
   a. Tampers and rollers: 6 inches
   b. Crawler-type tractors, vibrating drum rollers, surface vibrators or similar equipment: 12 inches
   c. Saturation and internal vibration: Penetrating depth of vibrator.
3. When compacting pipe embedment material, exercise care not to damage the pipe or appurtenances with compaction equipment. Do not apply compaction equipment directly above the pipe.
4. Demonstration: Lift thicknesses may vary depending on equipment and methods. Field adjustments to the specified lift thicknesses may be allowed or required. Contractor shall demonstrate that proposed equipment and methods will meet required compaction for the proposed lift thickness.
5. Flooding and jetting is not allowed unless specifically approved by the Engineer.

F. Moisture Content:

1. Optimum moisture content for each soil type, whether native soil or imported material, shall be determined by the Standard Proctor method, ASTM D 698.
2. Moisture content during compaction shall be no more than 2 percentage points wet or dry of optimum moisture content.
3. Moisten or aerate material, as necessary, to provide specified moisture content. Add water to soil in increments that will permit moisture content to be uniform and homogenous through each layer after mixing.
4. Add no more than 2 percent water to fill by sprinkling just prior to compaction when fill is clayey and contains dry clods of clay.

a. If clayey soil is more than 2 percent below optimum moisture, pre-conditioning and curing may be required to obtain uniform and homogenous distribution of moisture in clods.

b. Use of disks, harrows or rakes may be required to blend moisture prior to placement and compaction.

5. For cohesionless soils, add water as necessary during compaction, as these soils are free-draining.

G. Minimum Percent Compaction:

1. Overexcavation – Backfill of overexcavation to specified or directed lines shall be compacted to same percent compaction as embedment material or undisturbed foundation material, whichever is greater. If the in-place compaction of the undisturbed foundation material is greater than 95%, the overexcavation backfill may be compacted to 95%.

2. Embedment – For trenches outside of roads, driveways, parking areas or wash crossings, compact to 90%. For trenches within driving surfaces of roads, driveways or parking areas (both paved and unpaved), compact to 95%.

3. Initial and Final Backfill – For trenches outside of roads, driveways, parking areas or wash crossings, compact to 90%. For trenches within the driving surfaces of roads, driveways or parking areas (both paved and unpaved) or within wash crossings, compact to 95%.

4. Embankments – Compact to same requirements as Final Backfill.

5. Note that all Percent Compaction values in these Technical Specifications and Drawings are based on Standard Proctor, ASTM D698.

H. Soil Cement Slurry may be used in trenches, at Contractor's option and expense, to replace bedding, embedment or backfill materials where it is not practical to reach minimum compaction requirements using select material.

1. If soil cement slurry is to be used in lieu of embedment material, soil cement slurry shall also replace the bedding material. Do not use soil cement slurry for embedment on top of select material bedding.

3.7 TOLERANCES

A. Section 01 00 00 - Quality Requirements: Tolerances.

B. Top Surface of Backfilling within Building Areas: Plus or minus 1 inch from required elevations.

C. Top Surface of Backfilling under Paved Areas: Plus or minus 1 inch from required elevations.

D. Percent Compaction: Shall meet minimum required compaction as set forth in these Technical Specifications

E. Moisture Content: As set forth in these Technical Specifications.

3.8 FIELD QUALITY CONTROL

A. Section 01 00 00 - Execution Requirements: Testing, Adjusting, and Balancing.

B. Classification of materials to determine adequacy for use as fill or backfill shall be performed in accordance with ASTM D2487 and designated based on the Unified Soil Classification System described therein.

C. Measurement of optimum moisture content and maximum dry density for each type of material to be compacted shall be determined using the Standard Proctor method, ASTM D698.

1. All references to "optimum moisture content" or "percent compaction" in these Technical Specifications and on the Drawings are based on Standard Proctor, ASTM D698.

2. While it may not be necessary to perform a separate Proctor test for every single compaction test location, it is necessary to perform this test for every type of material to be field tested. All material tested for compaction must correspond to a representative Proctor test.

3. Contractor shall perform Proctor tests on actual fill material (whether native or imported) and shall base determination of optimum moisture content and maximum density for compaction on the Contractor's own tests.

4. Proctor tests upon which the Contractor bases determination of optimum moisture content and maximum density for calculation of percent compaction are subject to approval by the Engineer. The Engineer may require additional tests to ensure that Proctor tests are representative of the actual fill material being compacted.

D. Field moisture content shall be measured by one or more of the following methods, as determined by the Engineer:

1. ASTM D2216 (USBR EM 5300)

2. ASTM D6938 (USBR EM 7230), provided that corrections can be made of gage error for the specific soils tested. The moisture content of the total material may require adjustment for the control fraction in accordance with ASTM D4718 (USBR EM 7230, Method C).

3. ASTM D4959 or ASTM D4643 (USBR EM 5315), provided that the results have been correlated to ASTM D 2216 (USBR EM 5300) for the specific soil tested.

4. For silty or clayey soils containing more than 5% gravel: Results of water content corrected for oversized particle in accordance with ASTM D4718.

E. Unit weight of in-place compacted material shall be measured as follows:

1. Haunch area of pipe – By Drive Cylinder (ASTM D2937) or by Sand Cone (ASTM D1556 or USBR EM 7205), or as directed by the Engineer

2. Springline of pipe – By Sand Cone (ASTM D1556 or USBR EM 7205), or as directed by the Engineer
3. For cohesionless soils – By Sleeve Method (ASTM D4564 or USBR EM 7215), or as directed by the Engineer
4. Initial trench backfill – By Sand Cone (ASTM D1556 or USBR EM 7205) or by Nuclear Methods (ASTM D6938), as directed by the Engineer. Note that selection of density test will depend in part on distance from the pipe and potential for pipe interference with nuclear density measurements.
5. Final trench backfill – By Sand Cone (ASTM D1556 or USBR EM 7205) or by Nuclear Methods (ASTM D6938), as directed by the Engineer. Note that selection of density test will depend in part on distance from the pipe and potential for pipe interference with nuclear density measurements.
6. Fill outside of trenches, including embankments, structural fill and driving surfaces – By Nuclear Methods (ASTM D6938).
7. For silty or clayey soils containing more than 5% gravel: Results of unit weight corrected for oversized particle in accordance with ASTM D4718.

F. Percent compaction shall be determined by one of the following methods:

1. Comparison of in-place density of compacted material with maximum dry density of similar soil, as determined by Standard Proctor, ASTM D698.
2. Rapid Method: ASTM D5080 (USBR EM 7240)

G. Compaction testing frequency:

1. Minimum testing intervals shall be as follows:
   a. One test per compaction crew per day
   b. One test pit per 1000 LF of pipeline
   c. One test per 500 CY of structural fill or one test per lift, whichever results in greater testing frequency
2. Greater testing frequency is typically required at the beginning of new work, new personnel, new compaction methods or new equipment.
3. Additional tests may be required for areas suspected of having incomplete compaction or improper moisture content, or surfaces that may have become torn up subsequent to compaction efforts, at the direction of the Engineer.
4. Additional tests may be required for any reason at the discretion of the Engineer.

H. Contractor Support

1. At the direction of the Engineer, the Contractor shall provide inspection pits to check for voids under the haunches of the pipe and test pits to perform density and compaction testing at the springline and haunch areas of the pipe or against structure foundations.

a. All test and inspection pits shall comply with all relevant OSHA safety requirements.

b. Contractor shall provide warning lights, flags and other safety devices as needed by testing personnel.

c. Upon completion of testing, Contractor shall backfill pits to original fill and backfill requirements.

2. When density is being measured by Sand Cone, Contractor shall cease construction activity in the immediate vicinity of testing.

3. The cost of all work associated with excavating, protecting and backfilling inspection and test pits, including implementation of safety requirements and time delays, shall be incidental to the unit price of the applicable pay item being tested, and shall be provided at no additional cost to the Owner.

4. Laboratory fees only shall be reimbursed to the Contractor from the Materials Testing Allowance bid item in accordance with Section 01 00 00 - Basic Requirements: Testing and Inspection Allowances. Other costs associated with testing, such as excavations, providing access, safety, time delays, transportation and other costs shall be considered incidental to the work.

3.9 CORRECTION OF SUB-STANDARD WORK

A. All fill and backfill represented by tests that fail to meet compaction, moisture content, soil classification or other specifications shall be uncovered as needed, replaced as needed, re-compacted and re-tested until all specifications are met, at no additional expense to the Owner.

1. Elevations, lines and grades of replaced material, as well as of pipe and other structures resting against such material, shall be re-surveyed at the direction of the Engineer. Contractor shall correct elevations, lines and grades as needed.

B. The cost of failed tests shall not be reimbursed by the Owner from the testing allowance.

3.10 PROTECTION OF FINISHED WORK

A. Section 01 00 00 - Execution Requirements: Protecting Installed Construction.

B. Reshape and re-compact fills subjected to vehicular traffic.

END OF SECTION

SECTION 31 23 25

SOIL CEMENT SLURRY

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Soil cement slurry for:
a. Utility bedding.
b. Utility backfill.

B. Related Sections:

1. Section 01 00 00 - Basic Requirements
2. Section 01 22 00 - Measurement and Payment
3. Section 31 23 17 - Trenching
4. Section 31 23 23 - Backfill
5. Section 33 11 10 - Water Utility Distribution Piping

1.2 REFERENCES

A. ASTM International:
1. ASTM C33 - Standard Specification for Concrete Aggregates.
2. ASTM C40-04 - Organic Impurities in Fine Aggregates for Concrete.
3. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete.
4. ASTM C114-05 - Chemical Analysis of Hydraulic Cement.
5. ASTM C143/C 143M-05-a - Slump of Hydraulic Cement Concrete.
6. ASTM C150 - Standard Specification for Portland Cement.
7. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
8. ASTM C403/C403M - Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance.
9. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete.
10. ASTM C595-06 - Blended Hydraulic Cements.
11. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete.
12. ASTM C1017/C1017M - Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete.
13. ASTM C1040 - Standard Test Methods for Density of Unhardened and Hardened Concrete In Place By Nuclear Methods.
14. ASTM C1602/C 1602M-06 - Mixing Water Used in the Production of Hydraulic Cement Concrete.

15. ASTM D558 - Standard Test Methods for Moisture-Density Relations of Soil-Cement Mixtures.
16. ASTM D4832 - Standard Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders.
17. ASTM D6103-04 - Flow Consistency of Controlled Low Strength Material.

B. Bureau of Reclamation (USBR)
1. USBR Concrete Manual - Concrete Manual, Eight Edition, Revised Reprint, 1981.

1.3 DEFINITIONS

A. Soil Cement Slurry: Equivalent terminology for Controlled Low Strength Materials as used in these specifications.
1. Mixture of soil, cementitious materials, water and admixtures.

1.4 SUBMITTALS

A. Section 01 00 00 - Submittal Procedures: Requirements for submittals.

B. Approval Data:
1. Method to prevent pipe flotation while placing Soil Cement Slurry.

C. Mix design for soil cement.

1.5 DELIVERY, STORAGE AND HANDLING

A. Furnish batch ticket with each batch of slurry in accordance with ASTM C94. Deliver ticket to Resident Project Representative at jobsite prior to discharging material from the transport vehicle.

PART 2 PRODUCTS

2.1 CEMENTITIOUS MATERIALS

A. Cementitious Materials Option:
1. Specified Portland cement plus 20 percent plus or minus 5 percent by weight specified pozzolan.

B. Portland Cement:
1. ASTM C150, Type II.
2. Meet equivalent alkalies requirements of ASTM C150 – Table 2.
3. Meet false-set requirements of ASTM C150 – Table 4.

C. Pozzolan:
1. ASTM C618, Class F, except:
a. Sulfur trioxide, maximum: 4.0 percent.
b. Loss on ignition, maximum: 2.5 percent.

c. Test for effectiveness in controlling alkali-silica reaction under optional physical requirements in Table 2 of ASTM C618. Use low-alkali cement for test.

d. Does not decrease sulfate resistance of concrete by use of pozzolan.
   1) Demonstration pozzolan will have an "R" factor less than 2.5.
   2) R = (C-5)/F
   3) C: Calcium oxide content of pozzolan in percent determined in accordance with ASTM C114.
   4) F: Ferric oxide content of pozzolan in percent determined in accordance with ASTM C114.

2.2 WATER

A. Water: ASTM C1602, including optional requirements of Table 2.

2.3 AGGREGATE

A. Aggregate: ASTM C33
   1. Maximum particle size: 3/8 inch.

2.4 SOIL

A. Soil producing a color darker than the standard color when tested in accordance with ASTMC40: Not allowed.

B. Gradation:
   1. Passing U.S. Standard N0. 200 sieve by weight, maximum: 20 percent.
   2. Passing U.S. Standard No. 100 sieve by weight, maximum: 50 percent.

C. Select or process soil so that particles remain in suspension, i.e. no segregation occurs, when slurry is placed.

D. Plasticity: Non-plastic or low plasticity.

E. Clay balls:
   1. Maximum percent, by weight of soil: 10 percent.
   2. Maximum size: 3/8 inch.

2.5 MIX

A. Contractor will design mix in accordance with USBR Concrete Manual.

B. Use specified cementitious materials option.

C. Typical cement content: 3 to 10 percent by dry weight of soil to obtain specified compressive strength.

D. Water content: Not to exceed that required to provide a mix that will flow and can be pumped.

E. 7-day compressive strength, ASTM D4832: Not less than 50 lb/in2 and not more than 150 lb/in2.

F. Consistency:
1. Spread, ASTM D6103: 8 to 9 inches.
2. Except, when stiffer mix required to prevent slurry from flowing down trenches on a steep slope:
a. Slump, ASTM C143: 8 to 10 inches.

2.6 SLURRY TEMPERATURE

A. Slurry temperature at time of placement: 50 degrees to 85 degrees F (10 to 30 degrees C).

PART 3 EXECUTION

3.1 BATCHING EQUIPMENT

A. Design and operation of mixers: Slurry, as discharged, is uniform in composition and consistency throughout each batch.

B. Equip truck mixer with dial or digital water meter accurate to within 1 percent of total mix water located between water supply and mixer.

C. Manufacture and deliver in accordance with ASTM C94.
1. In addition to the requirements of ASTM C94, use a water meter approved by the Resident Project Representative to measure and record mix water for each batch. Provide mix water information to Resident Project Representative.

3.2 PREPARATION

A. Place pipe on soil pads or other approved compressible material such as extruded polystyrene foam insulation.

3.3 PLACING

A. Do not place slurry during rain.

B. Do not mix or place slurry when ambient temperature is below 40 degrees F. When ambient temperature is 35 degrees F or above, slurry may be placed when ambient temperature is rising with approval from Resident Project Representative.

C. Place slurry to lines, grade, and dimensions shown on drawings.
1. Initially, place slurry from one side of pipe. Where necessary, rod or vibrate slurry so that slurry flows under pipe and appears on other side.
2. Add slurry to both sides of pipe and rod or vibrate until slurry completely fills space between pipe and trench.
3. Do not disturb pipe trench or allow foreign material to become mixed with slurry.

D. Do not allow the pipe to float or move.
   1. The Engineer may limit the length of pipe that can be laid or embedded with soil cement slurry in advance of backfilling operations to prevent flotation, or may require the Contractor to place the soil cement slurry in layers to prevent flotation or movement.
   2. Restrain pipe to prevent flotation or movement during and after placement of slurry.
   3. Pipe that has floated or moved shall be re-surveyed at the direction of the Engineer to ensure compliance with specified lines and grades.
   4. Do not disturb pipe trench or allow foreign material to become mixed with slurry.

E. Do not place backfill material over slurry until slurry has reached initial set.

3.4 FIELD QUALITY ASSURANCE

A. The Contractor shall supply material samples to Resident Project Representative upon request for independent testing of compressive strength in accordance with ASTM D4832 or USBR Concrete Manual and spread in accordance with ASTM D6103.

3.5 PROTECTION

A. If backfill will not be placed over slurry within 8 hours after initial set, place 6-inch minimum cover of moist backfill over slurry. Maintain moisture in 6-inch soil cover until additional backfill is placed.

B. If ambient temperature is 50 degrees F or less, place 12-inch minimum additional cover of loose backfill over 6-inch moist backfill cover before end of workday. Do not allow soil cement slurry to freeze.

END OF SECTION

SECTION 32 11 23

AGGREGATE BASE COURSE

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Aggregate base course.

B. Related Sections:
1. Section 01 00 00 - Basic Requirements
2. Section 31 22 13 - Rough Grading
3. Section 31 23 23 - Backfill
4. Section 33 11 10 - Water Utility Distribution Piping

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

Not applicable.

1.3 REFERENCES

A. New Mexico Department of Transportation (NMDOT) Standard Specifications for Highway and Bridge Construction.

B. American Association of State Highway and Transportation Officials:
1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 10-lb Rammer and an 18-in. Drop.

C. ASTM International:
1. ASTM D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6,000 ft-lbf/ft3).
2. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
3. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.4 SUBMITTALS

A. Section 01 00 00 - Submittal Procedures: Requirements for submittals.

B. Materials Source: Submit name of imported materials suppliers.

C. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

A. Furnish each aggregate material from single source throughout the Work.

B. Perform Work in accordance with NMDOT standards.

PART 2 PRODUCTS

2.1 MATERIALS

A. Base course material and gradation shall have a percent passing sieve sizes as shown in TABLE 304, SECTION 304 - BASE COURSE, New Mexico Department of Transportation Standard Specifications for Highway and Bridge Construction, latest edition.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 00 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify substrate has been inspected, gradients and elevations are correct, and is dry.

3.2 PREPARATION

A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re-compacting.

B. Do not place fill on soft, muddy, or frozen surfaces.

C. Subgrade surface shall be kept at all times in such manner that it will drain readily and effectively.

D. Mix aggregate material to provide a homogenous mixture of uniformly dispersed materials as placed in position for compacting.

3.3 AGGREGATE PLACEMENT

A. Spread aggregate over prepared substrate in layers that will permit the required density be obtained. Density requirements will be determined by AASHTO T-180.

B. Compact each layer of material full width with: (1) two passes of a 50 ton compression type roller, or (2) two passes of a vibratory roller having a minimum dynamic force of 40,000 pounds impact per vibration and a minimum frequency of 1,000 vibrations per minute, or (3) eight passes of a 10 ton compression-type roller, or (4) eight passes of a vibratory roller having a minimum dynamic force of 30,000 pounds impact per vibration and a minimum frequency of 1,000 vibrations per minute.

C. No displacement (pumping) of subgrade soils shall be visually observed when loaded by heavy equipment traffic.

D. Level and contour surfaces to elevations and gradients indicated.

E. Incorporate only suitable roadway excavation material into embankments. Compact material placed in all embankment layers and the material scarified in cut sections to a uniform density of not less than 95% of the maximum density.

F. Add small quantities of fine aggregate to coarse aggregate as appropriate to assist compaction.

G. Maintain optimum moisture content of fill materials to attain required compaction density.

H. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

3.4 TOLERANCES

A. Section 01 00 00 - Quality Requirements: Tolerances.

B. Maximum Variation From Flat Surface: 3/8 inch measured with 10-foot straight edge in any direction.

C. Maximum Variation From Thickness: 1/2 inch.

3.5 FIELD QUALITY CONTROL

A. Section 01 00 00 - Execution Requirements: Testing, adjusting, and balancing.

B. Compaction testing will be performed in accordance with ASTM D2922.

C. Field control of moisture content of in-place material will be performed in accordance with Nuclear Method, ASTM D3017.

D. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.

E. Frequency of Tests: One test every 1,000 square yards or portion thereof, at locations directed by Engineer.

END OF SECTION

SECTION 32 92 19

SEEDING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Preparation of subsoil.
2. Placing topsoil.
3. Seeding, Hydroseeding, Seed Drilling.
4. Mulching.
5. Maintenance.

B. Related Sections:
1. Section 31 22 13 - Rough Grading
2. Section 31 23 17 - Trenching
3. Section 31 23 23 - Backfill

1.2 REFERENCES

A. Contract Document Appendix "Navajo Tribal Utility Authority Vegetative Reclamation for Pipeline and Powerline R.O.W.".

B. Federal Specifications:
1. OF-241 - Fertilizers, Mixed, Commercial.

C. ASTM International:
1. ASTM C602 - Standard Specification for Agricultural Liming Materials.

1.3 DEFINITIONS

A. Weeds: Vegetative species other than specified species to be established in given area.

1.4 SUBMITTALS

A. Section 01 00 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data for seed mix, fertilizer, mulch, and other accessories.

1.5 QUALITY ASSURANCE

A. Provide seed mixture in containers showing percentage of seed mix, germination percentage, inert matter percentage, weed percentage, year of production, net weight,

date of packaging, and location of packaging. See Appendix for seed mixture information (Site Description #1).

B. Perform Work in accordance with Navajo Nation Department of Agriculture standards.

C. Seed mixtures must be certified. There shall be no primary or secondary noxious weeds in the seed mixtures.

D. Temporary Best Management Practices (BMPs), as per SWPPP requirements, must be installed along areas where sediment is being transported out of the construction area. Fiber rolls (mulch socks) rip rap blankets, rip rap check dams, soil cement, soil berms, surface roughening, shall be used in these areas, as outlined in Appendix "Navajo Tribal Utility Authority Vegetative Reclamation for Pipeline and Powerline R.O.W.".

1.6 DELIVERY, STORAGE, AND HANDLING

A. Product storage and handling requirements shall be as specified in applicable sections of these Specifications and in accordance with recommendations of the supplier.

B. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.

C. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.7 COORDINATION

A. Section 01 00 00 - Administrative Requirements: Requirements for coordination.

B. Coordinate seeding dates to June 15th through August 15th to take advantage of the time of best moisture availability (intent is to plant just before monsoon season). Other dates to be approved by Owner and Engineer. Final seeding must occur at least 4-6 weeks after the last killing frost.

C. Dates of seeding will correspond to the high probability (60 percent or more) of receiving effective precipitation (0.6 to 1.0 inch during any three week period) for seeding establishment.

1.8 MAINTENANCE SERVICE

A. Section 01 00 00 - Execution Requirements: Requirements for maintenance service.

B. The cover will be maintained by occasional mowing, spot spraying, reseeding weak areas, or by controlled burns. Maintain seeded areas for three months from Date of Substantial Completion. Maintenance shall include weekly watering.

C. If after the first full season of growth (not the first year) the cover should be mowed or grazed to control annual weeds to encourage good growth. Timing of mowing should avoid nesting times of birds (Mar-June).

PART 2 PRODUCTS

2.1 SEED MIXTURE

A. Furnish materials in accordance with Navajo Nation Department of Agriculture standards.

B. In developing seed mixtures, the percentage of each included species should first be determined. This percentage, which should total 100, is then multiplied by the recommended seeding rate for the concerned species. This will give the required pounds PLS for that species in the mix.

C. Seed Mixture: See Appendix.

D. Disturbed portions of the site will be stabilized with seed no later than 14 days from the last construction activity in that area, or as per the seeding dates recommended. The seed mixture shall be NTUA mix at recommended rates per acre.

2.2 SOIL MATERIALS

A. Topsoil: Excavated from site and free of weeds.

2.3 ACCESSORIES

A. Mulching Material: Not recommended due to possible grazing livestock.

B. Water: Clean, fresh and free of substances or matter capable of inhibiting vigorous growth of grass.

C. Erosion Fabric: Jute matting, open weave.

D. Herbicide: If required, Owner and Engineer's approval must be obtained prior to use.

E. Stakes: Softwood lumber, chisel pointed.

F. String: Inorganic fiber.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify prepared soil base is ready to receive the Work of this section.

3.2 PREPARATION OF SUBSOIL

A. Prepare sub-soil to eliminate uneven areas and low spots. Maintain lines, levels, profiles and contours. Make changes in grade gradual. Blend slopes into level areas. The heel of a boot should not sink in more than ½ to 1 inch.

B. Remove foreign materials, weeds and undesirable plants and their roots. Remove contaminated sub-soil.

C. Topsoil removed from the right-of-way must not be mixed with sagebrush debris which may impede seed germination during the revegetation process.

D. Areas needing reseeding need the top layer of soil softened by ripping and disking prior to seeding to create the soil structure necessary to allow for seed germination.

E. Scarify subsoil to depth of 6 inches where topsoil is to be placed. Repeat cultivation in areas where equipment, used for hauling and spreading topsoil, has compacted sub-soil.

3.3 PLACING TOPSOIL

A. Spread topsoil to minimum depth of 6 inches over area to be seeded. Rake until smooth.

B. Place topsoil during dry weather and on dry unfrozen subgrade.

C. Remove vegetable matter and foreign non-organic material from topsoil while spreading.

D. Grade topsoil to eliminate rough, low or soft areas, and to ensure positive drainage.

3.4 SEEDING

A. Apply seed at rates specified in the Appendix. Use seed drill followed by drag packer over area to incorporate seed approximately ½ inch deep.

B. Do not seed areas in excess of that which can be incorporated on same day.

C. Planting Season: See 1.7 of this Section.

D. Do not sow immediately following rain, when ground is too dry, or when winds are over 12 mph.

E. Apply water with a fine spray immediately after each area has been seeded. Saturate top 4 inches of soil.

3.5 HYDROSEEDING

A. Apply seeded slurry with hydraulic seeder at an approved rate evenly in one pass.

B. After application, apply water with fine spray immediately after each area has been hydroseeded. Saturate to 4 inches of soil and maintain moisture levels two to four inches.

C. Hydroseeding shall only be allowed where it is physically unfeasible to seed drill. Hydroseeding shall not be performed without prior written authorization by the Engineer.

3.6 SEED DRILLING

A. If a seed drill (planter) is used; the specified rates of application should be reduced by one-half of those listed in 2.1.B of this Section.

3.7 SEED PROTECTION

A. Do not mulch without prior written approval by Engineer.

B. Cover seeded slopes where grade is 4 inches per foot or greater with erosion fabric. Roll fabric onto slopes without stretching or pulling.

C. Lay fabric smoothly on surface, bury top end of each section in 6 inch deep excavated topsoil trench. Overlap edges and ends of adjacent rolls minimum 12 inches. Backfill trench and rake smooth, level with adjacent soil.

D. Secure outside edges and overlaps at 36 inch intervals with stakes.

E. Lightly dress slopes with topsoil to ensure close contact between fabric and soil.

F. At sides of ditches, lay fabric laps in direction of water flow. Lap ends and edges minimum 6 inches.

3.8 MAINTENANCE

A. Immediately reseed areas showing bare spots.

B. Repair washouts or gullies.

C. Protect seeded areas with warning signs during maintenance period.

3.9 SCHEDULE

A. All utility routes, disturbed areas, vault areas, and non-traveled areas in road rights-of-way to be reseeded when Work is completed in affected areas.

END OF SECTION

SECTION 33 05 23.16

TRENCHLESS UTILITY INSTALLATION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Excavation for approach trenches and pits.
2. Casing pipe.
3. Carrier pipe.

B. Related Sections:
1. Section 01 00 00 - Basic Requirements
2. Section 01 22 00 - Measurement and Payment
3. Section 03 05 00 - Basic Concrete Materials and Methods
4. Section 31 10 00 - Site Clearing
5. Section 31 23 17 - Trenching
6. Section 31 23 23 - Backfill
7. Section 33 11 00 - Water Utility Distribution Piping.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

Not applicable.

1.3 REFERENCES

A. American Association of State Highway and Transportation Officials:
1. AASHTO M133 - Standard Specification for Preservatives and Pressure Treatment Processes for Timber.
2. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. American Railway Engineering and Maintenance-of-Way Association:
1. AREMA - Manual for Railway Engineering.

C. ASTM International:
1. ASTM A36/A36M - Standard Specification for Carbon Structural Steel.
2. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
3. ASTM A307 - Standard Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength.
4. ASTM A449 - Specification for Hex Cap Screws, Bolts and Studs, Steel, Heat Treated 120/105/90 ksi minimum tensile strength General Use.

5. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
6. ASTM C33 - Standard Specification for Concrete Aggregates.
7. ASTM C150 - Standard Specification for Portland Cement.
8. ASTM C404 - Standard Specification for Aggregates for Masonry Grout.
9. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3).
10. ASTM D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6,000 ft-lbf/ft3).
11. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
12. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

D. American Wood-Preservers' Association:
1. AWPA C1 - All Timber Products - Preservative Treatment by Pressure Process.
2. AWPA C3 - Piles - Preservative Treatment by Pressure Process.

E. American Welding Society:
1. AWS D1.1 - Structural Welding Code - Steel.

F. National Utility Contractors Association:
1. NUCA - Pipe Jacking & Microtunneling Design Guide.
2. NUCA - Trenchless Excavation Construction Equipment & Methods Manual.

1.4 DESIGN REQUIREMENTS

A. Design casing pipe and tunnel liner joints of leak proof construction. Design for earth and/or other pressures present plus highway H20 loading or railway E80 loading with associated recommended impact loading.
1. Highway Crossings: Design tunnel for earth and/or other pressure loads present, plus AASHTO H20 live loading.
2. Railroad Crossings: Design tunnel for earth and/or other pressure loads present, plus railroad E80 live loading with 50 percent added for impact.

B. Design bracing, backstops, and use jacks of sufficient rating for continuous jacking without stoppage, except for adding pipe sections and as conditions permit, to minimize tendency of ground material to "freeze" around casing pipe.

C. Design steel tunnel lining in accordance with AREMA Manual for Railway Engineering, Section 4.15.5.

1.5 SUBMITTALS

A. Section 01 00 00 - Submittal Procedures: Requirements for submittals.

B. Installation Plan: Submit description of proposed construction plan, dewatering plan, and plan to establish and maintain vertical and horizontal alignment.

C. Submit emergency response procedures to handle situations when conduit is compromised and jeopardizes integrity of installation or safety.

D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.6 CLOSEOUT SUBMITTALS

A. Project Record Documents: Record actual locations of casing or tunnel liner, carrier pipe, and invert elevations.

B. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.7 QUALITY ASSURANCE

A. Perform Work in accordance with applicable New Mexico state standards, NUCA Trenchless Excavation Construction Equipment & Methods Manual, NUCA Pipe Jacking & Microtunneling Design Guide, AREMA guidelines.

B. When boring, jacking or tunneling under BIA Route 49, make application for and obtain occupancy permit, unless already provided by Engineer.

1.8 QUALIFICATIONS

A. Installer: Company specializing in performing work of this section with minimum 3 years documented experience.
   1. Work Experience: Include projects of similar magnitude and conditions.
   2. Furnish list of references upon request.

1.9 PRE-INSTALLATION MEETINGS

A. Section 01 00 00 - Administrative Requirements: Pre-Construction Conference.

B. Convene minimum one week prior to commencing work of this section.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Section 01 00 00 - Product Requirements: Requirements for delivering, handling, storing, and protecting products.

B. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.

C. Protect piping system pieces from entry of foreign materials and water by temporary covers, completing sections of work, and isolating parts of completed system.

D. Accept system components on site in manufacturer's original containers or configuration. Inspect for damage.

E. Use wooden shipping braces between layers of stacked pipe. Stack piping lengths no more than 3 layers high.

F. Store field joint materials indoors in dry area in original shipping containers. Maintain storage temperature of 60 to 85 degrees F.

G. Support casing and carrier pipes with nylon slings during handling.

1.11 ENVIRONMENTAL REQUIREMENTS

A. Section 01 00 00 - Product Requirements: Environmental conditions affecting products on site.

B. Conduct operations so as not to interfere with, interrupt, damage, destroy, or endanger integrity of surface or subsurface structures or utilities, and landscape in immediate or adjacent areas.

1.12 FIELD MEASUREMENTS

A. Verify invert elevations prior to excavation and installation of casing.

1.13 COORDINATION

A. Section 01 00 00 - Administrative Requirements: Requirements for coordination.

B. Coordinate work with NTUA, NN, and utilities within construction area.

PART 2 PRODUCTS

2.1 CASING AND JACKING PIPE MATERIALS

A. Furnish materials in accordance with New Mexico state standards.

B. Steel Casing Pipe: ASTM A53/A53M, 35,000-psi minimum yield strength, casing diameter and minimum wall thickness as indicated on Drawings. Full circumference welded joints in accordance with AWS D1.1 to withstand excavation forces.

2.2 CARRIER PIPE MATERIALS

A. Water Utility Distribution System Piping: As specified in Section 33 11 00.

2.3 COVER MATERIALS

A. Soil Backfill for Trench Approaches and Pits to Finish Grade: Subsoil with no rocks over 6 inches in diameter, frozen earth or foreign matter.

2.4 ACCESSORIES

A. Pipe Casing End Seals (Pipeline Seal Insulator or Approved Equal): Seamless, vulcanized edge, pull-on casing end seals composed of a minimum 1/8" thick 60 durometer synthetic neoprene rubber. Includes ½" wide T304 stainless steel bandings with 100% non-magnetic worm gear mechanism.

B. Pipe Casing Spacers (PSI Ranger II Mini or Approved Equal): Constructed of heavy duty, two piece, 8" wide 14-gauge stainless steel bands, or hot rolled 14-gauge circular carbon steel with thermoplastic powder coating for extra corrosion protection, as identified on the Drawings. Bands bolt together to form a shell around the carrier pipe, with 10-gauge stainless steel or carbon steel risers (material to match bands) and glass filled polymer runners to support the carrier pipe within the casing pipe maintaining a minimum clearance of 1" between the casing ID and the spacer OD.

C. Pressure Grout Mix: One part portland cement, and 6 parts mortar sand mixed with water to consistency applicable for pressure grouting.

D. Mortar Sand: ASTM C404.

E. Portland Cement: ASTM C150, Type I.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 00 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify connection to existing piping system size, location, and invert elevations are in accordance with Drawings.

3.2 PREPARATION

A. Identify required lines, levels, contours, and datum locations.

3.3 DEWATERING

A. Intercept and divert surface drainage precipitation and groundwater away from excavation through use of dikes, curb walls, ditches, pipes, sumps or other means.

B. Develop substantially dry subgrade for prosecution of subsequent operations.

C. Comply with New Mexico state standards and requirements for dewatering to any watercourse, prevention of stream degradation, and erosion and sediment control.

3.4 EXISTING WORK

A. Maintain access to existing community facilities and homes as well as other remaining active installations requiring access. Modify installation as necessary to maintain access.

3.5 PITS OR APPROACH TRENCHES

A. Excavate approach trenches or pits in accordance with installation plan and as site conditions require.

B. Ensure casing entrance face as near perpendicular to alignment as conditions permit.

C. Establish vertical entrance face at least 1 foot above top of casing.

D. Install dewatering measures and excavation supports as specified in Section 31 23 17.

3.6 CASING PIPE INSTALLATION

A. Boring:
1. Push pipe into ground with boring auger rotating within pipe to remove spoil. Do not advance cutting head ahead of casing pipe except for distance necessary to permit cutting teeth to cut clearance for pipe. Arrange machine bore and cutting head to be removable from within pipe. Arrange face of cutting head to provide barrier to free flow of soft material.
2. When unstable soil is encountered during boring retract cutting head into casing to permit balance between pushing pressure and ratio of pipe advancement to quantity of soil.
3. When voids develop greater than outside diameter of pipe by approximately one inch, grout to fill voids.
4. When boring is obstructed, relocate, jack, or tunnel as directed by Engineer.

B. Jacking
1. Construct adequate thrust wall normal to proposed line of thrust.
2. Impart thrust load to pipe through suitable thrust ring sufficiently rigid to ensure uniform distribution of thrust load on full pipe circumference.

3.7 PRESSURE GROUTING

A. Pressure grout annular space between casing pipe and surrounding earth.

3.8 CARRIER PIPE INSTALLATION

A. Clean, inspect, and handle pipe in accordance with Section 33 11 00.

B. Place carrier pipe in accordance with Section 33 11 00. Exercise care to prevent damage to pipe joints when carrier pipe is placed in casing.

C. Support pipeline within casing on spacers at intervals identified on Drawings or according to manufacturer's instructions if interval is not identified on Drawings, so no

external loads are transmitted to carrier pipe. Attach supports to barrel of carrier pipe; do not rest carrier pipe on bells.

D. Install pipe casing end seals at ends of casing.

3.9 TOLERANCES

A. Do not over cut excavation by more than 1 inch greater than outside diameter of casing pipe.

B. Install casing pipe to vertical and horizontal alignment on Drawings within plus or minus 3 inches prior to installation of carrier pipe.

C. Install pipe bells with minimum ½-inch clearance to casing.

3.10 FIELD QUALITY CONTROL

A. Section 01 00 00 - Execution Requirements: Testing, adjusting, and balancing.

B. Compaction Testing: As specified in Section 31 23 23.

C. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.

3.11 MANUFACTURER'S FIELD SERVICES

A. Section 01 00 00 - Quality Requirements: Requirements for manufacturer's field services.

B. Furnish field technical assistance during following periods of casing installation:
1. Unloading of casing materials and components.
2. Prior to commencing excavation and during excavation as requested.

3.12 REMOVAL OF FACILITIES AND CONTROLS

A. Remove temporary facilities for casing installation and jacking operations in accordance with Section 01 00 00.

END OF SECTION

SECTION 33 11 00

WATER UTILITY DISTRIBUTION SYSTEMS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Pipe and fittings for public line including potable water line.
2. Tapping Sleeves and Valves.
3. Underground and Aboveground Pipe Markers.
4. Bedding and Cover Materials.

B. Related Sections:

1. Section 01 00 00 - Basic Requirements
2. Section 01 22 00 - Measurement and Payment
3. Section 03 05 00 - Basic Concrete Materials and Methods
4. Section 31 10 00 - Site Clearing
5. Section 31 23 17 - Trenching
6. Section 31 23 23 - Backfill
7. Section 31 23 25 - Soil Cement Slurry
8. Section 33 05 23.16 - Trenchless Utility Installation
9. Section 33 11 00 - Water Utility Distribution Piping
10. Section 33 12 13 - Water Service Connections
11. Section 33 12 16 - Water Utility Distribution Valves
12. Section 33 12 19 - Hydrants
13. Section 33 13 00 - Disinfection of Water Utility Distribution

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Section 01 22 00 – Measurement and Payment.

1.3 REFERENCES

A. American Association of State Highway and Transportation Officials (AASHTO):

1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. American Society of Mechanical Engineers (ASME):

1. ASME B16.1 - Cast Iron Pipe Flanges and Flanged Fittings.

C. American Society for Testing and Materials International (ASTM):

1. ASTM A36/A36M - Standard Specification for Carbon Structural Steel.
2. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

3. ASTM A139 – Standard Specification for Electric Fusion (Arc) Welded Steel Pipe
4. ASTM A283 – Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
5. ASTM A307 - Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.
6. ASTM A1011 – Standard Specification for Steel, sheet and strip, Hot Rolled, Carbon, Structural, High Strength Low Allow, High Strength Low Alloy with Improved Formability, and Ultra High Strength
7. ASTM A1018 – Standard Specification for Steel, Sheet and Strip, Heavy Thickness Coils, Hot Rolled, Carbon, Commercial, Drawing, Structural, High Strength Low Alloy, High Strength Low Allow with Improved Formability, and Ultra High Strength
8. ASTM B843 – Standard Specification for Magnesium Allow Anodes for Cathodic Protection
9. ASTM D653 - Terminology Relating to Soil, Rock, and Contained Fluids.
10. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
11. ASTM D1784 - Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds.
12. ASTM D2241 - Standard Specification for Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series).
13. ASTM D2487 - Classifications of Soils for Engineering Purposes (Unified Soil Classification System).
14. ASTM D2513 - Standard Specification for Polyethylene (PE) Gas Pressure Pipe, Tubing, and Fittings.
15. ASTM D2774 – Standard Practice for Underground Installation of Thermoplastic Pressure Piping
16. ASTM D3035 – Standard Specification for Polyethylene Plastic Pipe (DR PR) Based on Controlled Outside Diameter
17. ASTM D3350 - Standard Specification for Polyethylene Plastics Pipe and Fittings Materials
18. ASTM D3363 – Standard Test Method for Film Hardness by Pencil Test
19. ASTM D3139 - Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.
20. ASTM D4752 – Standard Practice for Measuring MEK Resistance of Ethyl Silicate Zinc Rich Primers by Solvent Rub
21. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
22. ASTM E165 – Standard Practice for Liquid Penetrant Examination for General Industry

23. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
24. ASTM F714 - Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter
25. ASTM F2164 – Standard Practice for Field Leak Testing of Polyethylene Pressure Piping Systems Using Hydrostatic Pressure
26. ASTM F2620 – Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings
27. ASTM F2634 - Standard Test Method for Laboratory Testing of Polyethylene (PE) Butt Fusion Joints using Tensile-Impact Method

D. American Water Works Association (AWWA):

1. AWWA C104 - ANSI Standard for Cement Mortar Lining for Ductile-Iron Pipe and Fittings for Water.
2. AWWA C110 - ANSI Standard for Ductile-Iron and Gray-Iron Fittings, 3 In. through 48 In. (76 mm through 1,219 mm), for Water.
3. AWWA C111 - ANSI Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
4. AWWA C115 - ANSI Standard for Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges.
5. AWWA C151 - ANSI Standard for Ductile-Iron Pipe, Centrifugally Cast, for Water or Other Liquids.
6. AWWA C153 - ANSI Standard for Ductile-Iron Compact Fittings for Water Service.
7. AWWA C200 - Steel Water Pipe 6 In. (150 mm) and Larger.
8. AWWA C205 - Cement-Mortar Protective Lining and Coating for Steel Water Pipe - 4 In. and Larger - Shop Applied.
9. AWWA C206 - Field Welding of Steel Water Pipe.
10. AWWA C207 - Steel Pipe Flanges for Waterworks Service - Sizes 4 In. through 144 In. (100 mm through 3,600 mm).
11. AWWA C208 - Dimensions for Fabricated Steel Water Pipe Fittings.
12. AWWA C209 - Cold-Applied Tape Coatings for the Exterior of Special Sections, Connections, and Fittings for Steel Water Pipelines.
13. AWWA C210 – Standard for Liquid-Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines
14. AWWA C213 - Fusion-Bonded Epoxy Coating for the Interior and Exterior of Steel Water Pipelines.
15. AWWA C219 – Standard for Bolted, Sleeve-Type Couplings for Plain-End Pipe
16. AWWA C500 – Standard for Metal-seated Gate Valves for Water Supply Service

17. AWWA C600 - Installation of Ductile-Iron Water Mains and their Appurtenances.
18. AWWA C605 - Underground Installation of Polyvinyl Chloride PVC Pressure Pipe and Fittings for Water.
19. AWWA C606 - Grooved and Shouldered Joints.
20. AWWA C900 - Polyvinyl Chloride (PVC) Pressure Pipe, and Fabricated Fittings, 4 In. through 12 In. (100 mm through 300 mm), for Water Distribution.
21. AWWA C901 - Polyethylene Pressure Pipe and Tubing, 1/2 In. through 3 In. (13 mm through 76 mm), for Water Service.
22. AWWA C905 - Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 In. through 48 In. (350 mm through 1,200 mm), for Water Transmission and Distribution.
23. AWWA C906 - Polyethylene Pressure Pipe and Fittings, 4 In. through 63 In. (100 mm through 1,575 mm), for Water Distribution and Transmission).
24. AWWA M11 – Steel Pipe: A Guide for Design and Installation
25. AWWA M55 – HDPE Pipe: Design and Installation

E. NACE International (NACE)

1. SP0169 – Control of External Corrosion on Underground or Submerged Metallic Piping Systems
2. TM0497 – Measurement Techniques Related to Criteria for Cathodic Protection on Underground or Submerged Metallic Piping Systems
3. RP0274 – High-Voltage Electrical Inspection of Pipeline Coatings

F. Manufacturer's Standardization Society of the Valve and Fittings Industry:

1. SSPC-SP5 – White Metal Blast Cleaning
2. MSS SP-60 - Connecting Flange Joint between Tapping Sleeves and Tapping Valves.

G. National Fire Protection Agency

1. NFPA 24 - Standard for the Installation of Private Fire Service Mains and Their Appurtenances.

H. NSF International Standard / American National Standard (ANSI)

1. NSF/ANSI 61 – Drinking Water System Components – Health Effects.

I. National Association of Pipe Fabricators

1. NAPF 500 – Surface Preparation Standard for Ductile Iron Pipe and Fittings in Exposed Locations Receiving Special External Coatings and/or Special Internal Linings.

J. American Welding Society

1. AWS D1.1 – Structural Welding Code

1.4 SUBMITTALS

A. Section 01 00 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data on pipe materials, pipe fittings, and accessories.

C. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

D. In addition to the submittal requirements listed above, Contractor shall also submit:

1. Joint restraint table for all types of restrained joints to be used for the project based on the manufacturer's specifications and calculations.

2. Shop drawings for all custom-fabricated steel fittings which clearly show compliance with AWWA M11, AWWA C207 and AWWA C208. Include design calculations, as applicable.

3. Submittal for all coatings which demonstrate compliance with relevant AWWA standards.

4. As-built survey data. Refer to Sections 01 00 00 – Basic Requirements.

1.5 CLOSEOUT SUBMITTALS

A. Section 01 00 00 - Execution Requirements: Requirements for submittals.

B. Project Record Documents: Refer to Sections 01 00 00 – Basic Requirements.

C. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.6 QUALITY ASSURANCE

A. Perform Work in accordance with applicable New Mexico Standards, standards and specifications of the Navajo Tribal Utility Authority (Navajo Area Standards and Construction Requirements, Technical Specifications for Materials and Workmanship for Water and Wastewater Facilities), whichever is most stringent.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Section 01 00 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Block individual and stockpiled pipe lengths to prevent moving.

C. Do not place pipe or pipe materials on private property without prior authorization, or in areas obstructing pedestrian or vehicular traffic.

D. Store PVC materials out of sunlight.

E. Coated pipe shall be shipped on bunks and secured with nylon belt tie down straps or padded banding over braces, and shall be stored on padded skids or other suitable means to prevent damage to coating.

F. Coated pipe shall be handled with wide belt slings, padded forks or other means to prevent damage to coating. Chains, cables or other equipment likely to damage coating or pipe shall not be used.

G. Prior to shipment and again prior to installation, all materials shall be visually inspected for damage, including coatings and surfaces. Any damaged materials shall be repaired to original standards or replaced.

1.8 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

PART 2 PRODUCTS

2.1 WATER PIPING AND FITTINGS

A. Polyvinyl Chloride (PVC):

1. Pipe: 4" diameter and greater - AWWA C900 and AWWA C905, with Dimension Ratio (DR) as indicated on the Drawings or on the Bid Form. Nominal laying length of 20 feet.

2. Pipe: 2" diameter – ASTM D2241 Class 200 SDR 21 PVC, IPS, gasketed.

3. Gaskets:

a. Use rubber gaskets manufactured and tested in accordance with ASTM F477.

b. For all PVC casings at petroleum line crossings or where otherwise indicated on Drawings, use petroleum-resistant gaskets in accordance with ASTM F477.

1. Fittings:

a. 2" diameter and greater - Ductile iron, American-made on all PVC pipe

b. Compact MJ fittings conforming to AWWA C153 or C110, unless otherwise noted on Drawings.

c. Flanged fittings shall conform to AWWA C110. Do not use flanged fittings for buried installations unless otherwise noted on the Drawings.
1) Contractor responsible to ensure that all mating flanges have compatible diameters, bolt sizes and drill patterns. Over drill bolt holes as necessary, provided such over drilling is within manufacturer's recommended tolerances.

d. Working pressure rating of fittings and gaskets shall be at least 250 psi, unless otherwise noted on the Drawings.

e. Marked with pressure rating, nominal diameter of opening, manufacturers' identification, country where cast, and degree of bend.

f. All exposed interior and exterior surfaces shall be coated with fusion-bonded epoxy in accordance with AWWA C116.

g. Joint restraints: EBBA Iron Mega-Lug, or approved equal.

h. No glue fittings allowed.

i. Provide adaptors as needed.

2. Joints: Mechanical conforming to ANSI/AWWA C111/A21.11, American-made. Solvent-cement couplings are not permitted on pipe 1-1/2" diameter and greater.

3. Joint Restraints: American-made, mechanical joint restraints for all fittings and appurtenances. Mechanical joint restraints shall be "EBAA Iron, Megalug®", or approved equal, for all pipe 4" diameter and greater, "EBAA Iron, Series 6500 and 7500", or approved equal, for all pipe from 2" to 3-1/2" diameter, installation and spacing as per manufacturer's specifications. Spacing provided on plans are only a guide.

   a. Fusion bonded epoxy coating in accordance with AWWA C116, EBAA Iron Mega-Bond, or approved equal.

B. Steel Pipe and Fittings:

1. Pipe fabrication:

   a. Arc-welded spiral seam steel pipe: ASTM A139, Grade B, C, D or E.

   b. Fabricated in accordance with AWWA C200, except:
      1) Steel plate: ASTM A283, Grade C or D, or ASTM A36.
      2) Steel sheet: ASTM A1011, Designation SS, Grade 40, 45 or 50; or ASTM A1018, Designation SS, Grade 40.

   c. Wall thickness as shown on Drawings, or as needed to provide working pressure shown on Drawings, or minimum thickness of ¼-inch, whichever is greater.
      1) Steel casing pipe used for bored road crossings shall have minimum thickness of 0.375 inch.

2. Fittings and Special Sections:

   a. Steel for fittings: ASTM A283, Grade C or D, or ASTM A36.

   b. Welding: Per AWS D1.1. All welding must be completed prior to application of lining and coatings, unless otherwise permitted by the Engineer. In no case shall any welding damage lining or coatings.

   c. Joints between steel fittings and PVC pipe: Rubber gaskets in accordance with AWWA C219. Joint dimensions and tolerances to match those of PVC pipe manufacturer's joint design.

   d. Dimensions in accordance with AWWA C208.

   e. Custom fabricated fittings shall be designed and fabricated in accordance with AWWA M11, with outlet reinforcements per AWWA M11. All other standards and specifications for steel, welds, coatings, flanges and dimensions of component fittings provided herein shall apply equally to custom fabricated fittings.

   f. No custom-made fittings shall be used without prior written approval by the Engineer.

3. Field Coatings:

   a. Exterior surfaces of all buried steel pipe and fittings shall include cold-applied tape coating, manufactured and installed in accordance with AWWA C209, applied with a minimum overlap width of 1-inch and a

total coating thickness shall be a minimum of 80 mils. Such tape coating shall be applied in addition to fusion-bonded epoxy coatings specified above.

4. Flanges:

   a. Steel: ANSI Class 150 / AWWA C207 Class E / ASME B16.5 Class 150, unless otherwise noted on Drawings.

   b. Ductile or Cast Iron: ANSI Class 125 / AWWA C207 Class E / ASME B16.1 Class 125, unless otherwise noted on Drawings.

   c. Pressure rating of flanges and gaskets shall meet or exceed surge pressure rating of attached pipe.

   d. Coatings and linings shall be continuous to the ends of pipe and backs of flanges.

   e. Do not apply coatings to mating surfaces of flanges.

   f. Gaskets shall be full-face, AWWA C207 Type E with outer diameter equal to that of the flange.

   g. Retainers shall be fabricated of phenolic or other suitable material as recommended by manufacturer and conforming to NSF 61, with minimum thickness of 1/8 inch and minimum dielectric strength of 500 volts/mil.

   h. Nitrile sealing rings.

   i. All bolts shall have isolating sleeves: Sleeves shall be full length, extending halfway into both steel washers when installed, with tube thickness of 1/32-inch. Sleeves shall be composed of mylar or other suitable material recommended by flange manufacturer.

   j. Steel washers shall be 1/8-inch thick, with inner diameter sufficient to fit over bolt isolating sleeve.

   k. Isolating washers shall be 1/8-inch thick, with inner diameter sufficient to fit over bolt isolating sleeve, composed of phenolic or other suitable material with minimum dielectric strength of 500 volts/mil as recommended by flange manufacturer.

   l. Bolts and nuts shall be carbon steel, in accordance with AWWA C207 and ASTM A307, Grade B. Bolt shall be long enough to protrude through the assembled nut at least two threads but not more than ½-inch.

   m. Contractor is responsible to ensure that all pipe flanges that connect to valve body flanges have the same dimensions, drill pattern, bolt hole diameter and equal or higher pressure rating as the valves to which they are connected.
      1) Overdrill bolt holes as necessary, provided such overdrlling is within manufacturer's recommended tolerances.

   n. Contractor shall be responsible to verify compatibility of all flange bolt patterns prior to purchasing materials and shall notify the Engineer in the event that alternate bolt patterns are required to mate flanges.

2.2 TAPPING SLEEVES, TEES AND VALVES

A. Tapping Sleeves:

1. Ductile iron or cast-iron dual compression type.
2. For use on PVC and DI pipe only.
3. Manufacturers:
   a. Mueller Co.
   b. Approved Equal
4. Outlet Flange Dimensions and Drilling: ASME B16.1, Pressure Rating of 250 psi and MSS SP-60.
5. Shall utilize at least two straps, or long sleeve in lieu of strap, capable of sustaining pressures up to 250 psi.

B. Tapping Valves:

1. AWWA C500, double disc with non-rising stem. Inlet flanges shall conform to ANSI B16.1, Pressure Rating of 250 psi and MSS SP-60. Mechanical joint outlets shall conform to AWWA C111.
2. Manufacturers:
   a. Mueller Co.
   b. Approved Equal

2.3 UNDERGROUND PIPE MARKERS

A. Furnish materials in accordance with the most recent edition of New Mexico Standard Specifications for Public Works Construction, with latest revisions.

B. Tracer Wire: 12 AWG, Solid Copper, Single Conductor, 600V, UF-XHHW wire or equal, for underground installation.

C. Splice Connectors: Model LV 9500 Blazing Snap-locking waterproof connectors pre-filled with silicone or engineer approved equal.

D. Plastic Ribbon Tape: Bright colored, metallized for detection by above-ground metal detector, continuously printed, minimum 6 inches wide by 4-mil thick, manufactured for direct burial service, imprinted with "BURIED WATER SERVICE" in large letters, on blue tape in conformance with APWA color code specifications for underground tape systems. The tape shall be constructed of material that is impervious to alkalis, acids, chemical reagents, and solvents found in the soils.

2.4 ABOVEGROUND PIPE MARKERS

A. Carsonite marker posts, blue, with Navajo Tribal Utility Authority (NTUA) decals. Decals to be specified by NTUA and furnished and installed by the Contractor. Place markers as specified on the Drawings.

2.5 PIPE SUPPORTS AND ANCHORING

A. Metal for pipe support brackets: ASTM A123/A123M, galvanized structural steel thoroughly coated with bituminous paint.

B. Metal tie rods and clamps or lugs: Galvanized steel sized in accordance with NFPA 24 thoroughly coated with bituminous paint.

2.6 BEDDING AND BACKFILL MATERIALS

A. As specified in Section 31 23 23.

2.7 ACCESSORIES

A. Joint Restraints: "EBAA Iron, Megalug®", or approved equal, for all pipe 4" diameter and greater, "EBAA Iron, Series 6500 and 7500", or approved equal, for all pipe from 2" to 3-1/2" diameter, installation and spacing as per manufacturer's specifications.

B. Steel rods, bolt, lugs and brackets: ASTM A36/A36M or ASTM A307 carbon steel.

C. Field-applied Roskote coal tar epoxy coating on all buried steel bolts on all fittings and valves.

2.8 SOURCE QUALITY CONTROL

A. Pipe:

1. Ductile iron pipe (DIP): Factory test in accordance with AWWA C151 and AWWA C104.

2. Polyvinyl chloride (PVC): Factory test in accordance with AWWA C900 or AWWA C905, as applicable.

3. Steel: Factory test in accordance with AWWA C200 or ASTM A139.

a. Hydrostatic test: Factory test per AWWA C200 to stress steel to 23,000 psi for at least 15 minutes, or longer as needed to allow for thorough inspection. Conduct test after all formed and welded ends have been completed and attached.

b. Repair defects and re-test prior to applying lining and coating.

B. Fittings:

1. Ductile iron (DI): Factory test in accordance with AWWA C153, AWWA C110, and AWWA C114, as applicable.

2. Steel:

a. Steel plate fittings: Factory test fittings fabricated from steel plate to stress steel under hydrostatic pressure to 23,000 psi for at least 15 minutes, or longer as needed to allow for thorough inspection.

b. Steel pipe fittings: Fittings fabricated from tested steel pipe do not require hydrostatic testing if girth butt welds are complete penetration welds. Perform dye penetrant test on welds in accordance with ASTM E 165.

c. Pipe should conform to ASTM A139 or AWWA C200.

d. Remove all defects disclosed during testing, re-weld and re-test the fitting.

C. Cure testing for fusion bonded or liquid epoxy coatings: ASTM D4752 and ASTM D3363, Every 1000 sq.ft. of epoxy coating.

D. Holiday testing for epoxy and cold-applied tape coatings: In accordance with NACE Standard RP-02-74, using electrical holiday tester. Use test voltage below:

Total Coating Thickness (Mils)	Test Voltage (Volts)
20 or less	6000
30	7500
50	9000
70	11500
80 or more	12000

E. All shop welding shall be performed by certified welders.

F. All shop welds shall be tested by ultrasonic or radiographic methods in accordance with AWS D1.1.

2.9 SOURCE QUALITY ASSURANCE

A. Acceptance of materials will be based on compliance with relevant AWWA, ASTM and other relevant standards. Materials must pass all relevant tests prior to acceptance.

B. The Engineer reserves the right to demand evidence of certification of all personnel performing shop or field welding on steel pipe and fittings.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 00 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify existing utility water main size, location, and invert, are as indicated on Drawings.

3.2 PREPARATION

A. Pre-Construction Site Documentation:

1. Prior to beginning construction, take photographs or videotape along centerline of proposed pipe trench; minimum one photograph for each 200 feet of pipe trench. The photos or video must include coverage of all areas and adjacent features that may potentially be impacted by the impending construction work.

2. Show mailboxes, curbing, lawns, driveways, signs, culverts, and other existing site features.

3. Include project description, date taken and sequential number on back of each photograph.

4. Contractor must submit two (2) copies of the video documentation on DVD format as part of the submittal process.

B. Clearly stake centerline and boundaries of rights-of-way prior to commencing construction activities.

1. Contractor shall flag the Mining Reclamation Areas, following the delineation shown on the plans and as further directed by Arcadis. Arcadis must approve in writing the limits of Mining Reclamation Areas prior to beginning construction within these areas.

C. Cut pipe ends square, ream pipe and tube ends to full pipe diameter, remove burrs. Use only equipment specifically designed for pipe cutting. The use of chisels or hand saws will not be permitted. Grind edges smooth with beveled end for push-on connections.

D. Remove scale and dirt on inside and outside before assembly.

E. Prepare pipe connections to equipment with flanges or unions.

F. Excavate pipe trench in accordance with Section 31 23 17 for Work of this Section. Hand trim excavation for accurate placement of pipe to elevations indicated on Drawings.

3.3 TRENCHING

A. In accordance with Section 31 23 17 - Trenching

3.4 BEDDING

A. In accordance with Section 31 23 23 - Backfill

3.5 INSTALLATION – PIPE

A. Install PVC pipe in accordance with AWWA C605.

1. Use only lubricants supplied by the pipe manufacturer and apply to both bell and spigot ends of the joint, in accordance with manufacturer's recommendations.

2. Clean the gasket, bell, groove and spigot immediately prior to connecting pipe joints.

3. Do not over-insert pipe joints. Any over-inserted pipe joints shall be removed and the pipe bell and gasket inspected for damage. Any damaged bells or gaskets shall be discarded and replaced.

B. Ductile iron pipe (DIP) shall not be allowed for buried installations unless the outside of the pipe is fusion-bonded epoxy-coated. Such coatings must be approved by Engineer prior to use.

C. Install steel pipe in accordance with AWWA M11.

1. In the event of damage of shop-applied coating, Contractor shall notify Engineer and shall field apply tape coating as described in Part 2 of this section. Engineer reserves the right to require re-application of any damaged shop-applied coatings.

2. All buried steel pipe shall be cold-applied tape-wrapped in accordance with AWWA C209

D. Handle and assemble pipe in accordance with manufacturer's instructions and as indicated on Drawings. Inspect each pipe and fitting prior to lowering into trench to ensure there is no damage to the pipe, fitting or coatings. Repair any damage prior to

installation. Clean ends of pipe and remove foreign material from inside of pipe and fittings.

E. For jointed pipe, excavate bell holes in the bottom of the trench to prevent the bell from coming into contact with the sub-grade.

F. Steel Rods, Bolt, Lugs, and Brackets: Coat buried steel with one coat of Roskote coal tar epoxy coating before backfilling. All exposed bolt heads and threads shall be thoroughly coated.

G. Maintain 10 ft horizontal separation of water main from sewer piping in accordance with local code.

H. Centering and straightness of pipe:

1. Lay PVC and DI pipe in straight line and center pipe within trench. Re-lay pipe that is out of alignment.

   Ensure that adequate side clearance is provided on both sides of the pipe to allow for placement of soil cement slurry or placement and compaction of embedment material, and to eliminate voids in the pipe haunch area. In the event that minimum side clearances are not met and/or Contractor is unable to achieve required embedment specifications, the Contractor shall either straighten out the pipe and/or widen the trench as necessary to meet embedment specifications at no additional cost to the Owner.

I. Horizontal and vertical pipe bending, angles and joint deflections

1. All mitered bend elbows shall be one of the following standard angles: 11.25, 22.5, 45, 60 or 90 degrees. No other mitered bend angles shall be allowed.

2. PVC pipe deflections may be made either at joints or by pipe bending, as allowed by AWWA C605.

   a. For PVC pipes 12-inch diameter or smaller, pipe bending shall be allowed, provided that such bending complies with AWWA C605 and/or pipe manufacturer's minimum allowable bending radius, whichever is more stringent. Lateral pipe bending force shall be isolated from the fitting.

   b. For PVC pipes 14-inch diameter or larger, deflections shall be made at the pipe joints only.

   c. For all pipe diameters, PVC pipe joint deflection shall not exceed 1 degree per joint.

3. Ductile iron and steel pipe deflections shall be made at joints, provided pipe manufacturer's allowable deflection limits are not exceeded.

J. Horizontal and vertical pipe line and grade

1. The horizontal and vertical lines and grades shown on the Drawings indicate the intent of the design. Actual horizontal and vertical lines and grades in the field may deviate from those shown on the Drawings, provided all of the following conditions are met:

   a. Actual minimum slope of pipe shall not be less than 0.00100 ft/ft.

b. Direction of pipe slope shall not differ from that shown on Drawings.

c. Minimum pipe cover of 4 feet shall be maintained throughout the project.

d. Additional minimum cover or specific minimum vertical clearances called out on the Drawings at specific locations, such as wash crossings, road crossings or pipeline crossings, shall be maintained.

e. In certain locations, the pipe elevation and/or slope must remain as shown on drawings to facilitate pipe draining, maintain pressures, or other performance criteria. In such cases, deviation from the Drawings may not be allowed.

f. All vertical deviations more than 6 inches and horizontal deviations more than 1 foot from the alignments shown in the Drawings must be documented by the Contractor and approved in advance by the Engineer.

g. All other specifications shall be met.

h. Any exceptions to the foregoing conditions must receive prior written approval by the Engineer.

2. No high points of any magnitude shall be allowed in the pipe without an approved air valve. If unforeseen field conditions arise which necessitate high points not shown on the Drawings, increase pipe bury depth or install additional air valves, as directed by Engineer.

a. Additional air valves required due to unforeseen field conditions not the fault of the Contractor shall be paid for at the prices established in the Bid.

b. Additional air valves required due to high points caused through fault of the Contractor shall be provided at no additional cost to the Owner. This includes failure of Contractor to meet lines and grades set forth in the Drawings or failure to meet minimum pipe slope.

K. Install pipe to bear on the trench bottom along entire length of pipe. Excavate bell holes to permit proper joint installation. Do not lay pipe in wet or frozen trench. Direction of pipe bells may be reversed for ease of installation, provided that all pipe material and installation meets applicable AWWA, ASTM, NTUA and material manufacturer's standards.

1. On grades greater than 10%, install jointed pipe uphill.

L. Do not allow trench water, dirt, debris or other foreign material to enter the pipe during or after installation.

1. Keep pipe ends sealed after joining pipes.

2. Close pipe openings with watertight plugs during work stoppages.

M. Install tracer wire continuous, taped to top of pipeline at regular intervals not exceeding 24"; coordinate with Sections 31 23 17 and 31 23 23. Continuity of tracer wire shall be tested periodically as indicated by Engineer, and prior to final acceptance of work. Any segment of tracer wire that fails the continuity test shall be repaired or replaced by Contractor at no additional cost to Owner.

Expose tracer wire at every surface penetration (i.e. valves, hydrants, vaults, etc.). Protect wire ends with wire caps and protect from corrosion. Provide extra length of tracer wire at each structure, so tracer wire can be pulled 3 feet out top of structure for connection to detection equipment. For air valves, coil excess wire inside valve can. For gate valves, tape tracer wire to outside of valve box up to last section of box and bring tracer wire into the valve box above the operating nut.

N. Install detectable plastic ribbon tape continuous over top of pipe, buried 18 inches above pipe; coordinate with Section 31 23 17 and 31 23 23.

O. Mechanical joint restraints (Mega-Lug, OAE) shall be used to prevent joint/pipe movements. Concrete thrust blocks may be used in addition to the mechanical joint restraints, but such use shall not relieve the Contractor of responsibility to mechanical joint restraints as specified and as shown on the Detail Drawings.

P. Flanged Joints: Do not use flanges in buried applications unless shown on Drawings.

Q. All pipes, fittings and appurtenances must remain within designated permanent rights-of-way. All construction activities must remain within the right-of-way or temporary use areas. Do not encroach on adjacent properties or culturally sensitive areas.

R. Embed pipe within 100 feet behind pipe-laying operations, unless otherwise permitted by the Engineer.

S. Install aboveground utility markers as specified on the Drawings.

3.6 INSTALLATION - TAPPING SLEEVES

A. Install tapping sleeves and valves in accordance with Drawings and in accordance with manufacturer's instructions.

3.7 THRUST RESTRAINT

A. Install tie rods, clamps, setscrew retainer glands, or restrained joints. Protect metal restrained joint components against corrosion by applying a bituminous coating, or by concrete mortar encasement of metal area. Do not encase pipe and fitting joints to flanges.

B. Install restrained fittings in accordance with Drawings and in accordance with manufacturer's instruction.

C. All thrust blocks, if used in addition to mechanical joint restraints, shall bear against undisturbed earth.

3.8 BACKFILLING

A. In accordance with Section 31 23 23.

3.9 PIPELINE RIGHT-OF-WAY GRADING

A. Establish finished grade to provide a minimum of four (4) foot of cover over the pipe. Measure depth of cover from final surface grade to top of pipe barrel.

1. At certain locations such as wash crossings, road crossings, utility line crossings or to prevent high points, the Drawings indicate greater than 4 ft minimum cover. At such locations, Contractor shall maintain the site-specific minimum cover.

B. Do not place fill material or raise the finished grade above existing grade in the flow lines of washes or surface water drainages, regardless of size.

C. Finished grade along pipeline right-of-way and temporary use area shall have a maximum longitudinal slope of 3:1 and maximum side slope of 3:1.

D. The pipeline right-of-way shall be leveled from side-to-side to slow down surface run-off from causing erosion rills perpendicular to the pipeline, as well as to make the ROW accessible to the Owner for future maintenance.

1. The entire right-of-way shall be re-seeded and reclaimed after construction. Do not build any new roads. Refer to Section 32 92 19 – Seeding for re-seeding requirements.

2. The right-of-way shall not be open to the general public and shall have minimal impact on the environment. Upon completion of construction, the right-of-way shall be reclaimed to visually blend in with the surrounding environment and minimize its visual impact.

E. All construction activities, including clearing and grading, must remain within the designated right-of-way and temporary use area. Do not encroach on adjacent properties or culturally sensitive areas.

3.10 TAPPING EXISTING WATER DISTRIBUTION FACILITIES

A. Obtain permission to tap from the Navajo Tribal Utility Authority (NTUA). A blank Permission to Tap application form is provided in the appendix. Contractor shall not connect to existing system without written permission from NTUA and the Engineer to proceed with connection to the existing system.

B. Coordinate with NTUA's designated representative regarding schedule, means and methods, maximum allowable shut-off time, water usage rates (both gpm and gpd) and other parameters stipulated by NTUA.

C. Perform all work in conformance with the tapping permit and all written and verbal instructions from NTUA personnel, including notification and coordination with NTUA, maximum water usage rates, time and duration of shut-offs, and disinfection requirements.

D. Minimize shut-off time during connections to existing facilities. Contractor shall have all tools and materials for actual field conditions as well as foreseeable problems on hand in order to minimize shut-off time.

E. Taps on existing NTUA pipelines shall be by cut-in tees, with NTUA's approval.

F. Prevent contamination of existing facilities with trench water, mud, debris, chemicals or other substances.

3.11 INITIAL FILLING OF PIPELINE

A. "Initial filling" refers to first introduction of water and evacuation of air in the pipeline.

B. Initial filling of pipeline shall not exceed maximum instantaneous flow rate (in gpm) or maximum daily fill rate (in gpd) set forth by NTUA and the Engineer in the field.

3.12 DISINFECTION OF POTABLE WATER PIPING SYSTEM

A. Flush and disinfect system in accordance with Section 33 13 00.

3.13 FIELD QUALITY CONTROL

A. Section 01 00 00 - Execution Requirements: Field inspecting, testing, adjusting, and balancing.

B. The Contractor shall be required to hydrostatic pressure test all water mains, appurtenances and plumbing trains.

1. Perform testing in accordance with applicable standards:

a. PVC pipe: AWWA C605

b. Ductile iron pipe: AWWA C600

c. Steel pipe: AWWA C200

2. Hydrostatic pressure testing of main line shall be performed in sections between each pair of adjacent gate valves.

a. Contractor shall fill and test each section as it is constructed, in order to detect leak problems with each section before the remainder of the pipeline installed.

3. Hydrostatic pressure shall be equal to the working pressure rating of the pipe (i.e. 150 psi for C900 DR 18, 200 psi for C900 DR 14, etc.) at the lowest point in the line section being tested. In the event it is not possible to measure the pressure at the lowest point directly, this pressure may be calculated by measuring the pressure elsewhere within the section and calculating the pressure based on elevation difference.

a. In no case shall the test pressure exceed the manufacturers' recommended maximum safe test pressure for the pipe, fittings or appurtenances.

b. Pressure shall be maintained for time period stipulated in relevant AWWA standard for each pipe material.

c. No observable leakage is allowed. Measurable leakage must be within the maximum allowable limits set forth by applicable AWWA and NTUA standards.

d. Any leaks detected during testing shall be repaired. After repairs are completed, another full duration test shall be performed on the section of the pipeline to which the repairs were made.

4. Pressure testing with air shall not be allowed.

C. Testing of field welds on steel pipe and fittings shall be by ultrasonic or radiographic method in accordance with AWS D1.1.

1. The Engineer reserves the right to demand evidence of welder's certification for all personnel performing field welding of steel pipe and fittings.

D. Compaction Testing: Refer to Section 31 23 23 – Backfill.

E. When tests indicate Work does not meet specified requirements, remove Work, replace and retest at no additional cost to the Owner.

3.14 TOLERANCES

A. Line and grade surveying tolerances:

1. Contractor shall follow installation instructions presented herein, including maintenance of horizontal and vertical pipe line and grade as shown in the Drawings.

2. All vertical deviations more than 6 inches and horizontal deviations more than 1 foot from the alignments shown in the Drawings shall be approved in advance by the Engineer and shall be documented by the Contractor and shown with the record as-built drawings.

B. Flange alignment tolerances as specified in AWWA C207 and AWWA M11.

END OF SECTION

SECTION 33 12 13

WATER SERVICE CONNECTIONS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Pipe and fittings for domestic water service connections.
2. Corporation stop assembly.
3. Curb stop assembly.
4. Meter setting equipment.
5. Residential water meters.
6. Pressure reducing valves.
7. Meter cans and vaults.
8. Underground pipe markers.
9. Aboveground pipe markers.
10. Bedding and Backfill.

B. Related Sections:

1. Section 01 00 00 - Basic Requirements
2. Section 01 22 00 - Measurement and Payment
3. Section 03 05 00 - Basic Concrete Materials and Methods
4. Section 31 10 00 - Site Clearing
5. Section 31 23 17 - Trenching
6. Section 31 23 23 - Backfill
7. Section 33 11 00 - Water Utility Distribution Piping.
8. Section 33 12 16 - Water Utility Distribution Valves.
9. Section 33 12 19 - Hydrants
10. Section 33 13 00 - Disinfection of Water Utility Distribution.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

Not Applicable.

1.3 REFERENCES

A. Navajo Area Standards and Construction Requirements, Technical Specifications for Materials and Workmanship for Water and Wastewater Facilities, March 2002 edition.

B. New Mexico Standard Specification for Pubic Works Construction (NMSSPWC), 1987 edition.

1. NMSSPWC - Section 802 - Installation of Water Service Lines.
2. NMSSPWC - Section 801 - Installation of Water Transmission, Collector, and Distribution Lines.

C. American Association of State Highway and Transportation Officials (AASHTO):

1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

D. American Society of Mechanical Engineers (ASME):

1. ASME B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings.
2. ASME B16.22 - Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.

E. American Society of Sanitary Engineering (AMSE):

1. ASSE 1012 - Backflow Preventer with Intermediate Atmospheric Vent.
2. ASSE 1013 - Reduced Pressure Principle Backflow Preventers.

F. American Society for Testing and Materials International (ASTM):

1. ASTM A48/A48M - Standard Specification for Gray Iron Castings.
2. ASTM B62 - Standard Specification for Composition Bronze or Ounce Metal Castings.
3. ASTM C858 - Standard Specification for Underground Precast Concrete Utility Structures.
4. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
5. ASTM D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6,000 ft-lbf/ft3 (2,700 kN-m/m3)).
6. ASTM D1785 - Standard Specification for Poly Vinyl Chloride (PVC) Plastic Pipe, Schedules 40, 80, and 120.
7. ASTM D2241 - Standard Specification for Poly Vinyl Chloride (PVC) Pressure-Rated Pipe (SDR Series).
8. ASTM D2466 - Standard Specification for Poly Vinyl Chloride (PVC) Plastic Pipe Fittings, Schedule 40.
9. ASTM D2855 - Standard Practice for Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings.
10. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
11. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

G. American Welding Society (AWS):

1. AWS A5.8 - Specification for Filler Metals for Brazing and Braze Welding.

H. American Water Works Association (AWWA):

1. AWWA C600 - Installation of Ductile-Iron Water Mains and Their Appurtenances.
2. AWWA C700 - Cold-Water Meters - Displacement Type, Bronze Main Case.
3. AWWA C800 - Underground Service Line Valves and Fittings.
4. AWWA C901 - Polyethylene (PE) Pressure Pipe and Tubing, 1/2 in. through 3 in., for Water Service.
5. AWWA M6 - Water Meters - Selection, Installation, Testing, and Maintenance.

1.4 SUBMITTALS

A. Section 01 00 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data on pipe materials, pipe fittings, corporation stop assemblies, curb stop assemblies, meter setting equipment, service saddles, vacuum breaker and accessories.

1.5 CLOSEOUT SUBMITTALS

A. Section 01 00 00 - Execution Requirements: Requirements for submittals.

B. Project Record Documents: Record actual locations of piping mains, curb stops (if applicable), connections, thrust restraints, and invert elevations.

C. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.6 QUALITY ASSURANCE

A. Perform Work in accordance with applicable New Mexico Standards, standards and specifications of the Navajo Tribal Utility Authority (Navajo Area Standards and Construction Requirements, Technical Specifications for Materials and Workmanship for Water and Wastewater Facilities), whichever is most stringent.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Section 01 00 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. During loading, transporting, and unloading of materials and products, exercise care to prevent any damage.

C. Store products and materials off ground and under protective coverings and custody, away from walls and in manner to keep these clean and in good condition until used.

1.8 MAINTENANCE MATERIALS

A. Furnish two (2) meter keys to Owner (required length) for each meter type.

PART 2 PRODUCTS

2.1 WATER PIPE

A. Manufacturer

1. Driscopipe 5100 Ultra-line
2. Yardley Ultra-high Molecular Weight PE
3. Approved Equal

B. Polyethylene Pipe

1. 1-inch diameter, max 100 feet length
2. Conforming to ASTM D-2239, SIDR 7, 200 psi pressure rating:
3. Produced from a high density ultra-high molecular weight PE pipe compound, PE 3406 or PE 3408 which conforms to the latest revision of ASTM D-1248.
4. Designation PE 3406 or PE 3408 shall be stamped on the pipe.

2.2 WATER PIPE FITTINGS

A. Manufacturer

1. Mueller Insta-Tite (Model H-15426).
2. Substitutions: Not allowed, per Paragraph 1.44.B of Section 01 00 00 – Basic Requirements

B. Fittings

1. Conforming to ASTM D-2239.
2. Made with non-flare compression connections.
3. All threaded connections from the water main to and including the inlet of the domestic stop shall be standard iron pipe (I.P.) threads.

2.3 CORPORATION STOP ASSEMBLY

A. Manufacturer

1. Mueller (Model H-10046)
2. Ford (Type FB1700)
3. Substitutions: Not allowed, per Paragraph 1.44.B of Section 01 00 00 – Basic Requirements

B. Corporation Stops:

1. Shall be bronze alloy with MIP threads inlet by FIP threads outlet.

2.4 Service Saddles:

A. Manufacturer

1. Ford S71

2. Mueller H-13478

3. Substitutions: Not allowed, per Paragraph 1.44.B of Section 01 00 00 – Basic Requirements

B. Saddles:

1. Specific for the type, size and pressure rating of the mainline as recommended by the saddle manufacturer.

2. Shall be double strapped, double banded, or of the contoured band type.

3. Tap threads shall be FIP.

4. Saddle and saddle components shall be of brass, bronze or stainless steel.

2.5 CURB STOPS

A. Manufacturer

1. Mueller Model B-20287

2. Ford B11-444M

3. AY McDonald 6105

4. Substitutions: Not allowed, per Paragraph 1.44.B of Section 01 00 00 – Basic Requirements

B. Curb Stops (1-inch):

1. Bronze alloy with tee head

2. Quarter turn check, FIPT x FIPT end connections.

3. Minneapolis pattern top threads.

4. Resilient O-Ring seals.

2.6 CURB STOP BOXES, RODS AND COVERS

A. Manufacturer

1. Curb stop boxes:

a. Mueller (Model H-10302)

b. Ford (Type PXL)

2. Stationary rod: Mueller (Part # 84338)

3. Lid: Mueller (Part # 89980)

4. Substitutions: Not allowed, per Paragraph 1.44.B of Section 01 00 00 – Basic Requirements

B. Curb stop box:

1. Cast iron body.

2. 1 ½ inch x 54 inch Extension Type

3. Minneapolis pattern 2-inch base x 1 ½-inch Bushing.

C. Rod:

1. Secured to curb stop with cotter pin
2. Sized to extend 2 to 4-inches below the top of the curb box.

D. Lid:

a. Cast iron
b. Inscription "WATER".
c. Shall have a countersunk brass Pentagon Head Plug.
d. Finished elevation of plug shall be such that it extends just slightly above the ground surface.

E. Collar:

1. 18-inch x 18-inch x 4-inch depth reinforced concrete.
2. Poured around each curb box.
3. Place two #4 rebar each way on center (4 total).

2.7 METER SETTING EQUIPMENT

A. Manufacturer

1. Ford (No. VH72-12W-FF-44) – for use without PRV
2. Ford (No. TVH72-12W-FF-44) – Tandem Style for PRV
3. Substitutions: Not allowed, per Paragraph 1.44.B of Section 01 00 00 – Basic Requirements

B. Outside meter setting for residential meter assemblies:

1. 3/4-inch I.D. x 12-inch high setter.
2. 1-inch FIPT end connectors for 5/8" x ¾" meter.
3. Ball valve with padlock wing angle on the inlet.
4. 1-inch iron pipe union nut/swivel assembly connection.
5. Yokes shall have an eye for the insertion of a cross brace.
6. Cross brace shall be a 1/2-inch OD PVC pipe or # 4 rebar 18-inches in length.
7. The tandem coppersetter (where necessary) shall have an "S" tube with two bronze adapters, iron thread by meter nut, for the pressure regulators.

2.8 RESIDENTIAL WATER METERS

A. Provided by Navajo Tribal Utility Authority (5/8 inch x 3/4 inch Sensus SR model).

2.9 PRESSURE REDUCING VALVES

A. Manufacturers

1. Watts Industries Series 25AUB

2. Wilkins Model 600

3. Substitutions: Not allowed, per Paragraph 1.44.B of Section 01 00 00 – Basic Requirements

B. Pressure reducing valves shall be installed on services requiring PRVs, as indicated on the Plans or as directed in the field by the Engineer.

C. 3/4 inch FIPT

2.10 METER CANS AND VAULTS:

A. Manufacturer:

1. Double Lid Meter Cover/Frame:

a. Castings Inc. Model M-70

2. Meter Can:

a. Sono-loc Brochure No. 2706

b. DFW

3. Substitutions: Not allowed, per Paragraph 1.44.B of Section 01 00 00 – Basic Requirements

B. Meter can and meter vault specifications:

1. Can, cover, and lid shall be rated for a load capacity of 5,000 lbs over a 10" x 10" area.

2. Meter can shall be 20 inch inside diameter x 30 inch long, 0.450 inch thick PVC Classification 12344 as per ASTM D-1784.

3. Meter can shall be extended a minimum of 1-inch below the service line.

4. Maximum wall deflection shall not exceed $^{1}/_{8}$" at any one point when subtracted from earth pressures or forces created during backfilling.

5. A 3" x 3" pipe hole shall be located at the bottom ends of the can.

6. The walls inside and outside of the can shall be reasonably smooth and free of burrs.

7. Cover of the meter can or vault must have a non-skid surface and have "WATER METER" inscribed on the top.

8. The 11½" minimum diameter frost lid (plastic or aluminum) and outer entrance lid (cast iron) shall be centered in the meter can.

9. Outer lid shall have a pentagon head worm type lock.

10. The material used for manufacturing the can, cover and lid shall be new and shall be suitable for service in ambient temperatures from negative (-) 20°F to 120°F: nominal material compressive strength = 11,000 psi, nominal material tensile strength = 1,700 psi, and nominal material flexural strength = 7,500 psi.

2.11 UNDERGROUND PIPE MARKERS

A. Furnish materials in accordance with the most recent edition of New Mexico Standard Specifications for Public Works Construction, with latest revisions.

B. Tracer Wire: 12 AWG, Solid Copper, Single Conductor, 600V, UF-XHHW wire or equal, for underground installation.

C. Splice Connectors: Model LV 9500 Blazing Snap-locking waterproof connectors pre-filled with silicone or engineer approved equal.

D. Plastic Ribbon Tape: Bright colored, metallized for detection by above-ground metal detector, continuously printed, minimum 6 inches wide by 4-mil thick, manufactured for direct burial service, imprinted with "BURIED WATER SERVICE" in large letters, on blue tape in conformance with APWA color code specifications for underground tape systems. The tape shall be constructed of material that is impervious to alkalis, acids, chemical reagents, and solvents found in the soils.

2.12 ABOVEGROUND PIPE MARKERS

A. Carsonite marker posts, blue, with Navajo Tribal Utility Authority (NTUA) decals. Decals to be specified by NTUA and furnished and installed by the Contractor. Place markers as specified on the Drawings.

2.13 BEDDING AND COVER MATERIALS

A. Bedding: Fill Type as specified in Section 31 23 23.

B. Cover: Fill Type as specified in Section 31 23 23.

C. Soil Backfill from Above Pipe to Finish Grade: Soil Type as specified in Section 31 23 23. Subsoil with no rocks over 6 inches in diameter, frozen earth or foreign matter.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 00 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify building service connection and municipal utility water main size, location, and invert elevation are as indicated on Drawings.

C. Water meter assemblies shall be installed at the locations indicated by the Owner's Representative. The Owner's Representative will identify location of existing system components and assist the Contractor with location and verification of the existing system in the field.

1. Tapping saddle, meter can, and yard hydrant locations shown on plans are approximations only. Actual locations shall be determined in the field by the Engineer.

3.2 PREPARATION

A. Cut pipe ends square, ream pipe and tube ends to full pipe diameter, remove burrs.

B. Remove scale and dirt on inside and outside before assembly.

C. Prepare pipe connections to equipment with flanges or unions.

3.3 INSTALLATION - CORPORATION STOP ASSEMBLY

A. Make connection for each different kind of water main using suitable materials, equipment and methods approved by the Engineer.

B. Install corporation stops at 10 and 2 o'clock position on main's circumference; locate corporation stops at least 12 inches apart longitudinally and staggered.

C. For plastic pipe water mains, provide full support for service clamp for full circumference of pipe, with minimum 2 inches width of bearing area; exercise care against crushing or causing other damage to water mains at time of tapping or installing service clamp or corporation stop.

D. Use proper seals or other devices so no leaks are left in water mains at points of tapping; do not backfill and cover service connection until approved by the Engineer.

3.4 BEDDING

A. Excavate pipe trench in accordance with Section 31 23 17 for Work of this Section.

B. Place bedding material at trench bottom, level fill materials in one continuous layer not exceeding 8 inches compacted depth; compact to 95 percent.

C. Backfill around sides and to top of pipe with cover fill, tamp in place and compact to 95 percent.

3.5 INSTALLATION - PIPE AND FITTINGS

A. Maintain separation of water main from sewer piping in accordance with Navajo Area Standards and Construction Requirements, Technical Specifications for Materials and Workmanship for Water and Wastewater Facilities.

B. Group piping with other site piping work whenever practical.

C. Route pipe in straight line, as much as possible. Do not crimp polyethylene pipe during installation or at any other time.

D. Install pipe to allow for expansion and contraction without stressing pipe or joints.

E. Install access fittings to permit disinfection of water system performed under Section 33 13 00.

F. Establish elevations of buried piping as shown on drawings. Install tracer wire continuous, taped to top of pipe at regular intervals not exceeding 24", and plastic warning tape directly above buried piping, all in accordance with Section 33 11 00. Coordinate with Sections 31 23 17 and 31 23 23. Contractor shall test tracer wire for continuity periodically when instructed by Engineer, and prior to final acceptance of work.

G. Backfill trench in accordance with Section 31 23 23.

3.6 INSTALLATION - CURB STOP ASSEMBLY

A. Set curb stops on solid bearing.

B. Center and plumb curb box over curb stops. Set box cover flush with finished grade.

3.7 INSTALLATION - WATER METERS

A. NTUA to install water meters.

3.8 INSTALLATION - SERVICE CONNECTIONS

A. Install water service in accordance with NTUA requirements.

B. Install Work in accordance with the most recent edition of Navajo Area Standards and Construction Requirements, Technical Specifications for Materials and Workmanship for Water and Wastewater Facilities.

3.9 INSTALLATION - VACUUM BREAKER

A. Install vacuum breaker where indicated on the Contract Drawings and in accordance with manufacturer's instructions.

B. Comply with local water company requirements and plumbing codes in regards to testing and installation requirements.

3.10 BACKFILL

A. Backfill pipe trench in accordance with Section 31 23 23 for Work of this Section.

3.11 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

A. Flush and disinfect system in accordance with Section 33 13 00.

3.12 FIELD QUALITY CONTROL

A. Section 01 00 00 - Execution Requirements: Field inspecting, testing, adjusting, and balancing.

B. During testing of the materials at the above ambient temperatures, no visual cracking, checking, blistering, surface pitting or deformation shall be noted.

C. Perform pressure test on domestic site water distribution system in accordance with AWWA C600. Compaction Testing for Bedding: In accordance with ASTM D1557.

D. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.

E. Compaction testing shall be done to the extent such that the Owner and Engineer can be reasonably assured that the backfill has been placed in accordance with the requirements of the Contract Documents and in accordance with the specifications of the Navajo Tribal Utility Authority. The Owner and Engineer will determine the testing frequency to be used throughout the project.

END OF SECTION

SECTION 33 12 16

WATER UTILITY DISTRIBUTION VALVES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Gate Valves
2. Pressure Reducing Valves.
3. Combination Air Valves.
4. Water Pressure Gauges.
5. Valve boxes.

B. Related Sections:

1. Section 01 00 00 - Basic Requirements
2. Section 01 22 00 - Measurement and Payment
3. Section 03 05 00 - Basic Concrete Materials and Methods
4. Section 33 11 00 - Water Utility Distribution Piping
5. Section 33 13 00 - Disinfection of Water Utility Distribution

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Section 01 22 00 – Measurement and Payment.

1.3 REFERENCES

A. American Water Works Association (AWWA):

1. AWWA C500 - Metal-Seated Gate Valves for Water Supply Service.
2. AWWA C509 - Resilient-Seated Gate Valves for Water Supply Service.
3. AWWA C512 - Air Release, Air/Vacuum, and Combination Air Valves for Water Supply Service
4. AWWA C550 - Protecting Epoxy Interior Coating for Valves and Hydrants.

B. National Sanitation Foundation (NSF):

1. NSF/ANSI Standard 61 - Drinking Water Components - Health Effects.

C. New Mexico Standard Specifications for Public Works Construction (NMSSPWC):

1. 801 - Installation of Water Transmission, Collector, and Distribution Lines.
2. 802 - Installation of Water Service Lines.

1.4 SUBMITTALS

A. Design Data: Submit manufacturer's latest published literature. Include illustrations, installation instructions, maintenance instructions and parts lists.

B. Manufacturer's Certificates: Submit Statement of Compliance, supporting data, from material suppliers attesting that valves and accessories provided meet or exceed AWWA Standards and specification requirements.

1.5 CLOSEOUT SUBMITTALS

A. Project Record Documents: Record actual locations of all valves. Provide completed Water Valve Cards for each valve installed per NMSSPWC Section 801.4.

B. Provide Operation and Maintenance Data for each type of valve installed.

1.6 QUALITY ASSURANCE

A. Perform work in accordance with applicable New Mexico Standards, the standards and specifications of the Navajo Tribal Utility Authority and the National Fire Protection Act (NFPA).

B. Valves: Mark valve body with manufacturer's name and pressure rating.

1.7 QUALIFICATIONS

A. Manufacturer: company specializing in manufacturing Products specified in this section with minimum three years experience.

1.8 DELIVERY, STORAGE AND HANDLING

A. Prepare valves and accessories for shipment according to AWWA Standards and seal valve ends to prevent entry of foreign matter into product body.

B. Deliver and store valves in shipping containers with labeling in place.

C. Store products in areas protected from weather, moisture, or possible damage; do not store products directly on ground; handle products to prevent damage to interior or exterior surfaces.

D. Coated valves and appurtenances shall be shipped on bunks and secured with nylon belt tie down straps or padded banding over braces, and shall be stored on padded skids or other suitable means to prevent damage to coating.

E. Coated valves shall be handled with wide belt slings, padded forks or other means to prevent damage to coating. Chains, cables or other equipment likely to damage coating or valves shall not be used.

1.9 ENVIRONMENTAL REQUIREMENTS

A. Conduct operations not to interfere with, interrupt, damage, destroy, or endanger integrity of surface or subsurface structures or utilities, and landscape in immediate or adjacent areas.

1.10 COORDINATION

A. Coordinate work with NTUA, and utilities within construction area.

1.11 MAINTENANCE MATERIALS

A. Furnish two (2) tee wrenches to Owner (required length) for each valve type.

PART 2 PRODUCTS

2.1 RESILIENT WEDGE GATE VALVES

A. Manufacturers:

1. Mueller Company
2. Approved Equal

B. Resilient Wedge Gate Valves: AWWA C509, NSF 61.

1. Body, Bonnet, Gland Flange and Stuffing Box: Ductile Iron ASTM A536.
2. Stem and Stem Nut: Low Zinc (<15%) Bronze or Stainless Steel.
   a. Stem: Non-rising stem (NRS), Minimum yield strength of 40,000 psi and elongation of 12%.
   b. Stem Nut: Minimum yield strength of 30,000 psi.
3. Wedge: Ductile Iron ASTM A536 fully encapsulated with EPDM rubber.
4. Bolts and Nuts: Stainless Steel.
5. Operating Nut: Square; open counterclockwise unless otherwise indicated.
6. Ends: Flanged or mechanical joint as directed by the Engineer.
7. Coating: Fusion bonded epoxy conforming to AWWA C550 with 10 mil or greater thickness; interior/exterior.
8. Working pressure: 250 psig.

C. Where waterline is buried at a depth greater than 4 feet, provide valve stem extensions, complete with extension stem stabilizers, until depth of extension nut at least matches depth of operating nuts on valves installed at four-foot depth.

2.2 PRESSURE REDUCING VALVE ASSEMBLIES

A. Manufacturers:

1. Singer Valve (Model S106-PR-AC-X107)
2. Substitutions: Not allowed, per Paragraph 1.44.B of Section 01 00 00 - Product Requirements.

B. Refer to Standard Detail in Plan set for dimensions and specifications for concrete vault that houses the unit.

C. Valve shall be a hydraulically operated globe valve. The inner valve assembly shall be top and bottom guided. The inner valve assembly shall be the only moving part and shall be securely mounted on a 316 stainless steel stem. The stainless steel stem shall be provided with wrench flats for ease of assembly and maintenance

D. All pressure containing components shall be constructed of ASTM A536-65/45/12 ductile iron. The flanges shall be designed to ANSI Class 125/150 standards.

E. Valve shall have a protective fusion bonded epoxy coated internally and externally. The protective fusion bonded epoxy coating shall conform to ANSI/AWWA C116/A21.16 specification.

F. Valve shall provide smooth motion and maximum low flow stability with actuation being achieved by the use of BUNA/EPDM material. Diaphragms shall not be used as a seating surface. No lip seals or packing may be used to seal the actuator. The valve cover shall have a separate stem cap giving access to the stem for alignment check, spring installation and ease of assembly.

G. Bonnets shall be accurately located to bodies utilizing locating pins.

H. The valve shall form a drip tight seal between the stationary stainless steal seat ring and the resilient disc, which has a rectangular cross-section and is retained by clamping on three and one half sides. The resilient disc shall be constructed of BUNA or EPDM.

I. All external fasteners shall be 18-8 stainless steel with 18-8 washers to protect the fusion bonded epoxy coating.

J. The valve shall be covered by a minimum three year (3) warranty against defects in materials and workmanship. The stainless steel seat ring shall be covered by a lifetime replacement warranty.

K. The valve shall maintain accurate control of the downstream pressure regardless of fluctuation in flow or upstream pressure.

L. Valve shall utilize a single rolling diaphragm designed to provide smooth "frictionless" movement throughout the full range of operation. Flat diaphragms will not be accepted.

M. Valve shall be constructed with an integral anti-cavitation trim designed for 111 psi inlet pressure and 21 psi outlet pressure with a maximum flow rate of 1,500 gpm

N. Outlet pressure factory set to 21 psi.

O. Each valve assembly shall include:

1. One (1) 6 inch pressure reducing valve, capable of a minimum continuous flow of 0.5 gpm and maximum continuous flow of 1,500 gpm.

2. Appropriate unions, tees, spigots, gate valves, isolation valves, pressure gauges, etc., as shown in the Standard Detail Drawing

2.3 COMBINATION AIR VALVES

A. Manufacturers:

1. Val-Matic.

2. Approved Equal

B. Valve to perform function of both air release and air/vacuum valves, and be furnished as a single body or dual body type, as indicated on the Design Drawings. Valve shall conform to AWWA C512.

C. Working pressure for all air valve assembly wetted components shall be not less than the working pressure rating of the pipe on which they are installed.

D. Air valve assemblies must be rated to withstand working, test and surge pressures. In the event that tapping saddles with adequate pressure rating are not available, the Contractor shall submit substitute materials that meet the pressure rating requirements, such as tees with tapping plugs, for Engineer's approval.

E. Cast iron body, cover and baffle; stainless steel trim and float.

1. Working pressure: 250 psi.
2. Seat: Buna-N.
3. 3" and smaller: NPT threaded outlet.
4. 4" and larger: Plain outlet with steel protector hood.

F. Coating: Fusion bonded epoxy conforming to AWWA C550 and NSF 61; interior/exterior.

2.4 WATER PRESSURE GAUGES

A. Manufacturers:

1. Winters Instruments.
2. WIKA.
3. Ashcroft.
4. Approved Equal

B. Must conform to ANSI B40.1 and have the following characteristics:

1. Liquid filled, altitude/psi process gauge.
2. Accuracy: 0.5% of full scale.
3. Wetted materials: 316 SS.
4. Case material: Polypropylene; safety glass window.
5. Connection: 1/4" NPT(M), bottom.
6. Dial Size: 4-1/2".
7. Mounting: Stem or surface.
8. Range: 0-160 psi and 0-50 psi, unless otherwise specified on Drawings.

2.5 VALVE BOXES

A. Manufacturers:

1. East Jordan Iron Works.
2. Tyler Pipe.

3. DL Foundry.
4. SIP Industries.
5. Approved Equal

B. 12-inch diameter Valves and Smaller: Domestic cast iron, two-piece, slip type.

C. Valves larger than 12-inch diameter: Domestic cast iron, three-piece, slip type; round base.

D. Where waterline is buried at a depth greater than 4 feet, provide valve box extensions as required.

E. Cast iron lid marked "Water".

F. All valve boxes and lids shall be extra heavy duty, traffic-rated.

2.6 ACCESSORIES

A. Joint Restraints: "EBAA Iron, Megalug®", or approved equal, for all pipe 4" diameter and greater, "EBAA Iron, Series 6500 and 7500", or approved equal, for all pipe from 2" to 3-1/2" diameter, installation and spacing as per manufacturer's specifications.

PART 3 EXECUTION

3.1 EXAMINATION

A. Determine exact location and size of valves from Drawings; obtain clarification and directions from Engineer prior to execution of work.

B. Verify invert elevations prior to excavation and installation of valves.

3.2 PREPARATION

A. Identify required lines, levels, contours and datum locations.

B. Locate, identify, and protect utilities to remain from damage.

C. Perform trench excavation, backfilling and compaction in accordance with Sections 31 23 17 and 31 23 23.

3.3 INSTALLATION

A. All buried steel pipe shall be cold-applied tape-wrapped, in accordance with AWWA C-209.

B. Pressure Reducing Valve

1. Prior to installing the pressure reducing valve (PRV), install a 6-inch diameter spool in place of the valve and flush the line to rid the line of rocks and debris. After the line is thoroughly flushed and free of rocks and debris, remove the spool and install the PRV. Contractor shall be responsible for any damage to the PRV caused by solid materials in the line upon start-up or during the warrantee period.

2. Verify factory outlet pressure setting and adjust as directed by Engineer in field.

3. Install dismantling joint such that flange face may be retracted at least 1-inch from PRV flange face after construction.

C. Gate Valves:

1. Install valves in conjunction with pipe laying; set valves plumb.

2. Provide buried valves with valve boxes installed flush with finished grade.

3. Install valve stem risers and collars, and valve box extensions as required to match finished grade.

4. All valve boxes must be centered over the operating nut. When valve key in use, key shall be centered in valve box.

5. Valves shall require the same joint restraint lengths as dead-ends of similar size and pipe material.

6. All buried metallic components shall be wrapped in 8-mil polyethylene.

D. Specialty Valves and Gauges:

1. Install pressure reducing valves, combination air valves, and gauges in accordance with Drawings and in accordance with manufacturer's instructions, and the following sections of NNMSSPWC, in total or in part, except where amended by these Technical Specifications:

   a. Section 801 – Installation of Water Transmission, Collector, and Distribution Lines.

   b. Section 802 – Installation of Water Service Lines.

E. Combination Air Valves:

1. Install valves at locations verified by Engineer. Valves shall be installed at system high points in the vertical position with the inlet down.

2. Provide plastic meter box with a removable frost lid, with concrete collar to match finished grade.

3. If unforeseen field conditions arise which necessitate the installation of additional air release valves, such valves shall be installed as directed by the Engineer.

   a. Additional air valves required due to unforeseen field conditions not the fault of the Contractor shall be paid for at established unit prices.

   b. Additional air valves required due to high points caused through fault of the Contractor shall be provided at no additional cost to the Owner.

4. PVC downspout shall have horizontal piece long enough to drip clear of the air valve.

5. Center both the air valve and the curb stop under the meter box lid so that both can be reached from above

6. Provide sufficient clearance between the curb stop and the air valve that the curb stop can be operated from above ground using a valve key.

F. Tracer Wire:

1. For direct buried valves, tape tracer wire to outside of valve box up to last section of box. Bring tracer wire into the valve box above the operating nut. Protect wire ends with wire caps and protect from corrosion. Provide extra length of tracer wire at each structure, so tracer wire can be pulled 3 feet out top of structure for connection to detection equipment.

3.4 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

A. Flush and disinfect system in accordance with Section 33 13 00.

3.5 FIELD QUALITY CONTROL

A. Section 01 00 00 - Execution Requirements: Field inspecting, testing, adjusting, and balancing.

B. Perform pressure test on domestic site water distribution system in accordance with AWWA C605.

C. All valves, including butterfly valves, gate valves, check valves and air valves shall be manually actuated through their full cycle to ensure proper operation prior to installation.

END OF SECTION

SECTION 33 12 19

HYDRANTS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Yard hydrants.

B. Related Sections:

1. Section 01 00 00 - Basic Requirements
2. Section 01 22 00 - Measurement and Payment
3. Section 33 11 00 - Water Utility Distribution Piping
4. Section 33 12 16 - Water Utility Distribution Valves
5. Section 33 13 00 - Disinfection of Water Utility Distribution

1.2 REFERENCES

A. American Water Works Association (AWWA):

1. AWWA C500 - Metal-Seated Gate Valves for Water Supply Service.
2. AWWA C550 - Protecting Epoxy Interior Coating for Valves and Hydrants.

B. National Sanitation Foundation (NSF):

1. NSF/ANSI Standard 61 - Drinking Water Components - Health Effects.

C. New Mexico Standard Specifications for Public Works Construction (NMSSPWC):

1. 801 - Installation of Water Transmission, Collector and Distribution Lines.
2. 802 - Installation of Water Service Lines.

1.3 SUBMITTALS

A. Section 01 00 00 - Submittal Procedures: Requirements for submittals.

B. Design Data: Submit manufacturer's latest published literature. Include illustrations, installation instructions, maintenance instructions and parts lists.

C. Manufacturer's Certificates: Submit Statement of Compliance, supporting data, from material suppliers attesting that valves, hydrants, and accessories provided meet or exceed AWWA Standards and specification requirements.

1.4 CLOSEOUT SUBMITTALS

A. Project Record Documents: Record actual locations of yard hydrants.

B. Provide Operation and Maintenance Data for hydrants.

1.5 QUALITY ASSURANCE

A. Perform work in accordance with applicable New Mexico Standards, standards and specifications of the Navajo Tribal Utility Authority, whichever is most stringent.

1.6 QUALIFICATIONS

A. Manufacturer: company specializing in manufacturing Products specified in this section with minimum three years experience.

1.7 DELIVERY, STORAGE AND HANDLING

A. Prepare valves, hydrants and accessories for shipment according to AWWA Standards and seal valve, hydrant and ends to prevent entry of foreign matter into product body.

B. Store products in areas protected from weather, moisture, or possible damage; do not store products directly on ground; handle products to prevent damage to interior or exterior surfaces.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Conduct operations not to interfere with, interrupt, damage, destroy, or endanger integrity of surface or subsurface structures or utilities, and landscape in immediate or adjacent areas.

1.9 MAINTENANCE MATERIALS

A. Furnish two (2) hydrant wrenches to Owner for each hydrant type, if hydrant requires.

PART 2 PRODUCTS

2.1 YARD HYDRANTS

A. Manufacturers; model number on the plans:

1. Merril – Model No. 7503
2. Approved Equal

B. Freezeless Self-Draining Dry-barrel.

1. 1 inch barrel.
2. Bury Depth: 4' bury.
3. Inlet Connection: 3/4 inch NPT in brass casting.
4. Outlet Opening: 3/4 inch brass male house thread.
5. Paint: Standard Blue above ground line.
6. Bolts and Nuts: Corrosion resistant.

2.2 ACCESSORIES

A. Vacuum Breaker
1. Wilkins - Model WILKINSHOSE-075, or approved equal
2. ¾ inch treaded Hose bibb type backflow preventer/vacuum breaker

3. Brass Construction with locking screw

B. Concrete for Thrust Restraints: Concrete type specified in Section 03 05 00.

C. Aggregate for Drainage and Surrounding Hydrant: ½" nominal with no fines.

PART 3 EXECUTION

3.1 EXAMINATION

A. Determine exact location and size of valves and hydrants from Drawings; obtain clarification and directions from Engineer prior to execution of work.

B. Verify invert elevations prior to excavation and installation of valves and hydrants.

3.2 PREPARATION

A. Identify required lines, levels, contours and datum locations.

B. Locate, identify, and protect utilities to remain from damage.

C. Do not interrupt existing utilities without permission and without making arrangements to provide temporary utility services.

1. Refer to Section 01 00 00 – Basic Requirements.

2. Do not proceed without written permission from the Engineer.

D. Perform trench excavation, backfilling and compaction in accordance with Sections 31 23 17 and 31 23 23.

3.3 INSTALLATION

A. Install hydrants in accordance with Drawings and manufacturer's instructions.

B. Yards Hydrants:

1. Thoroughly flush waterline prior to installation.

2. Install hydrants; provide support blocking and drainage gravel.

C. Vacuum Breaker

1. Screw on vacuum breaker and tighten to yard hydrant thread.

3.4 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

A. Flush and disinfect system in accordance with Section 33 13 00.

3.5 FIELD QUALITY CONTROL

A. Section 01 00 00 - Execution Requirements: Field inspecting, testing, adjusting, and balancing.

B. Perform pressure test on domestic site water distribution system in accordance with AWWA C605.

END OF SECTION

SECTION 33 13 00

DISINFECTION OF WATER UTILITY DISTRIBUTION

PART 1 GENERAL

1.1 SUMMARY

A. Section includes disinfection of potable water distribution and transmission system; and testing and reporting results.

B. Related Sections:

1. Section 01 00 00 - Basic Requirements
2. Section 01 22 00 - Measurement and Payment
3. Section 33 11 00 - Water Utility Distribution Piping
4. Section 33 12 13 - Water Service Connections
5. Section 33 12 16 - Water Utility Distribution Valves

1.2 REFERENCES

A. American Water Works Association (AWWA):

1. AWWA B300 - Hypochlorites.
2. AWWA B301 - Liquid Chlorine.
3. AWWA B302 - Ammonium Sulfate.
4. AWWA B303 - Sodium Chlorite.
5. AWWA C600 - Installation of Ductile-Iron Water Mains and Their Appurtenances.
6. AWWA C651 - Disinfecting Water Mains.

B. New Mexico Administrative Code (NMAC) - Title 20, Chapter 7, Part 10:

1. Section 201: Application for Public Water System Project Approval.
2. Section 400: General Operating Requirements.

1.3 SUBMITTALS

A. Section 01 00 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit procedures, proposed chemicals, and treatment levels for review.

C. Test Reports: Indicate results comparative to specified requirements.

D. Certificate: Certify cleanliness of water distribution system meets or exceeds specified requirements.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 00 00 - Execution Requirements: Requirements for submittals.

B. Disinfection Report:

1. Type and form of disinfectant used.
2. Date and time of disinfectant injection start and time of completion.
3. Test locations.
4. Name of person collecting samples.
5. Initial and 24 hour disinfectant residuals in treated water in ppm for each outlet tested.
6. Date and time of flushing start and completion.
7. Disinfectant residual after flushing in ppm for each outlet tested.

C. Bacteriological Report:

1. Date issued, project name, and testing laboratory name, address, and telephone number.
2. Time and date of water sample collection.
3. Name of person collecting samples.
4. Test locations.
5. Initial and 24 hour disinfectant residuals in ppm for each outlet tested.
6. Fecal and Total Coliform bacteria test results for each outlet tested.
7. Certify water conforms, or fails to conform, to bacterial standards of authority having jurisdiction.

D. Water Quality Certificate: Certify water conforms to quality standards of authority having jurisdiction, suitable for human consumption.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with AWWA C651 and the standards and specifications of the Navajo Tribal Utility Authority, whichever is more stringent.

1.6 QUALIFICATIONS

A. Testing Firm: Company specializing in testing potable water systems, certified by State of New Mexico.

B. Submit bacteriologist's signature and authority associated with testing.

PART 2 PRODUCTS

2.1 DISINFECTION CHEMICALS

A. Chemicals: AWWA B300, Hypochlorite, AWWA B301, Liquid Chlorine, AWWA B302, Ammonium Sulfate, and AWWA B303, Sodium Chlorite.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 00 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify piping system has been cleaned, inspected, and pressure tested.

C. Perform scheduling and disinfecting activity with start-up, water pressure testing, adjusting and balancing, demonstration procedures, including coordination with related systems.

3.2 INSTALLATION

A. Prior to disinfection, thoroughly flush the system with potable, disinfected water. Flushing may be accomplished either by gravity or by pumping, provided the pump is not damaged due to insufficient head. Any damage to the pump during flushing shall be the responsibility of the Contractor and shall be repaired or replaced at no additional expense to the Owner. A minimum flow velocity of 3 feet per second (fps) is required.

B. Introduce liquid chlorine into the system and perform disinfection in accordance with AWWA C651 using the continuous feed method, with the following modifications:

1. Initial chlorine concentration, as measured by water flowing out of representative points throughout the system, shall be at least 50 ppm.

2. Maintain disinfectant in system for 24 hours, or 48 hours if the temperature is less than 41 degrees Fahrenheit.

3. Upon completion of retention period required for disinfection but prior to collecting bacteriological samples, flush pipeline until chlorine concentration in water leaving pipeline is not more than 0.4 ppm.

C. Provide and attach required equipment to perform the Work of this section.

D. Flush, circulate, and clean until required cleanliness is achieved; use domestic water.

E. Legally dispose of chlorinated water. When chlorinated discharge may cause damage to environment, apply neutralizing chemical to chlorinated water to neutralize chlorine residual remaining in water.

F. Replace permanent system devices removed for disinfection.

3.3 FIELD QUALITY CONTROL

A. Section 01 00 00 - Execution Requirements: Field inspecting, testing, adjusting, and balancing.

B. Disinfection, Flushing, and Sampling:

1. After final flushing and before pipeline is connected to existing system, or placed in service, employ an approved independent testing laboratory, approved by the Engineer, to sample, test and certify water quality suitable for human consumption.

2. Contractor shall be reimbursed for the cost of laboratory tests upon submittal of the invoice(s). The laboratory results of all tests shall be submitted directly to the Engineer. Contractor shall pay for all failed tests.

3. Contractor shall not connect to existing system until all testing and disinfection is complete and shall obtain written permission from the Engineer to proceed with connection to the existing system.

C. Re-Disinfection:

1. In the event the performed water quality testing fails, the Contractor will disinfect the affected portions of the system again, and the approved testing laboratory shall sample, test and certify water quality as described in these specifications. Re-disinfection shall be performed at no additional cost to the Owner.

END OF SECTION