CHEROKEE SERVICE AREA INTERCONNECT AND BOOSTER STATION REPLACEMENT
IN
RUIDOSO, NEW MEXICO

AUGUST 2016

PREPARED FOR:

Village of Ruidoso, NM
313 Cree Meadows
Ruidoso, NM 88345
Phone (575) 258-4343

PREPARED BY:

Huitt-Zollars, Inc.
333 Rio Rancho Dr. SE, Suite 101
Rio Rancho, New Mexico 87124

Bid Package No. _____

ADVERTISEMENT FOR BIDS

Submissions of sealed bids are invited from Bidders for the Village of Ruidoso **Cherokee Service Area Interconnect and Booster System Replacement** IFB# 2017-001B in Ruidoso, NM. The nature of the work consists of installation of approximately 2,300 LF of C-900 PVC water line, installation of a water booster station, rehabilitation of the existing well house including above ground piping and replacement of the Hellhole Booster Station.

Bids to complete this work will be received by the Village of Ruidoso, Purchasing Agent, Mr. Billy Randolph, 311 Center Street, Ruidoso, New Mexico 88345, until 2:00 p.m. (local time), Thursday September 22, 2016 at which time and place all bids will be publicly opened and tabulated. Bids received after the bid opening begins will not be accepted.

Bid Documents for this construction project may be obtained at the office of Huitt-Zollars, Inc., 333 Rio Rancho Dr., Rio Rancho, NM 87124, beginning September 6th, between 8:00 a.m. and 5:00 p.m. (local time), weekdays and the Village of Ruidoso Purchasing Department, 311 Center St, Ruidoso, NM 88345.

Printed sets require a *$50.00 deposit per set and will be refunded only to plan holders upon return of the documents in good condition, within fourteen (14) days after award of a contract or rejection of all Bids.* NO PARTIAL SETS WILL BE ISSUED. Contractors when obtaining plan sets must identify whether they are to be listed as a Prime Contractor or Sub Contractor.

A **Mandatory Pre-Bid Conference** will be held at 12:00 noon. (local time), on Monday September 12th , 2016 at Ruidoso Village Hall Council Chambers , 313 Cree Meadows Drive with a project walk through to follow. Bid Security in the amount of 5% of the total Bid shall accompany each Bid in accordance with instruction to bidders. All bidders shall hold their bids for Sixty one (61) days after actual date of bid opening.

Attention is called to the fact that not less than the minimum salaries and wages as set forth in the Bidding Documents must be paid on this project if the bid amount exceeds $60,000, and that the Contractor must insure that employees and applicants for employment are not discriminated against because of their race, color, religion, sex, or national origin. Bidders are reminded that all contractors and their subcontractors must submit certified weekly payroll records biweekly to Huitt-Zollars, Inc.

The Village reserves the right to reject any or all Bids and to waive informalities or irregularities in the Bidding.

NOTICE OF REGISTRATION REQUIREMENT. Bidders are reminded that in order to be considered for bid award, all contractors (including their subcontractors if at a specific cost threshold) must be registered under the *Labor Enforcement Fund* with the New Mexico Department of Workforce Solutions on the date bids are unconditionally accepted for consideration for bid award and must remain actively registered in order to perform work under this solicitation. The Contractor selected for award of a contract shall provide documentation to verify compliance with this paragraph prior to execution of a contract.

Bidders may obtain additional information on the requirements of the Labor Enforcement Fund program at www.dws.state.nm.us (Labor Relations - Public Works - Contractor Registration - Labor Enforcement Fund Form) or by calling (505) 841-4405.

_____

Village of Ruidoso
Mr. Billy Randolph, Purchasing Agent

Huitt-Zollars, Inc.
333 Rio Rancho Dr. SE, Suite 101
Rio Rancho, NM 87124
Phone (505) 892-5141

Bid Documents
For
Cherokee Service Area Interconnect and Booster Station Replacement
Ruidoso, NM 88345

The technical material and data contained in the specifications has been evaluated and revised under the supervision and direction of the undersigned, whose seal as a Professional Engineer, licensed to practice in the state of New Mexico, is affixed below.

Raymond D. De La Vega, PE 21078

RAYMOND D. DE LA VEGA
NEW MEXICO
21078
PROFESSIONAL ENGINEER
8/19/16

INSTRUCTIONS TO BIDDERS
CHEROKEE SERVICE AREA INTERCONNECT AND BOOSTER STATION REPLACEMENT
RFB# 2017-001B
BID DOCUMENTS

Village of Ruidoso, New Mexico
Village Hall
313 Cree Meadows Dr.
Ruidoso, NM 88345
(575) 258-4343

TABLE OF CONTENTS

ARTICLE 1 - DEFINED TERMS 1

ARTICLE 2 - COPIES OF BIDDING DOCUMENTS 1

ARTICLE 3 - QUALIFICATIONS OF BIDDERS 1

ARTICLE 4 - EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE 1

ARTICLE 5 - PRE-BID CONFERENCE 3

ARTICLE 6 - SITE AND OTHER AREAS 4

ARTICLE 7 - INTERPRETATIONS AND ADDENDA 4

ARTICLE 8 - BID SECURITY 4

ARTICLE 9 - CONTRACT TIMES 5

ARTICLE 10 - LIQUIDATED DAMAGES 5

ARTICLE 11 - SUBSTITUTE AND "OR-EQUAL" ITEMS 5

ARTICLE 12 - SUBCONTRACTORS, SUPPLIERS, AND OTHERS 5

ARTICLE 13 - PREPARATION OF BID 6

ARTICLE 14 - BASIS OF BID; COMPARISON OF BIDS 7

ARTICLE 15 - SUBMITTAL OF BID 7

ARTICLE 16 - MODIFICATION AND WITHDRAWAL OF BID 7

ARTICLE 17 - OPENING OF BIDS 8

ARTICLE 18 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE 8

ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT 8

ARTICLE 20 - CONTRACT SECURITY AND INSURANCE 9

ARTICLE 21 - SIGNING OF AGREEMENT 9

ARTICLE 22 - NOTICES 9

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TABLE OF ARTICLES (Alphabetical by Subject)

Subject	Article
Basis of Bid; Comparison of Bids	7
Bid Security	4
Bids to Remain Subject to Acceptance	8
Contract Security and Insurance	9
Contract Times	5
Copies of Bidding Documents	1
Defined Terms	1
Evaluation of Bids and Award of Contract	8
Examination of Bidding Documents, Other Related Data, and Site	1
Interpretations and Addenda	4
Liquidated Damages	5
Modification and Withdrawal of Bid	7
Opening of Bids	8
Notices	9
Pre-Bid Conference	3
Preparation of Bid	6
Qualifications of Bidders	1
Signing of Agreement	9
Site and Other Areas	4
Subcontractors, Suppliers and Others	5
Submittal of Bid	7
Substitute or "Or-Equal" Items	5

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ARTICLE 1 - DEFINED TERMS

1.01 Terms used in these Instructions to Bidders 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.

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 or Invitation to Bid 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 30 days after opening of Bids.

2.02 Complete sets of Bidding Documents shall 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, Bidder shall submit written evidence such as financial data, previous experience, present commitments, and such other data as may be called for below.

A. The Owner or their designated agent(s), may make any such investigation as deemed necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish the Owner or their designated agent(s) all such data and information for this purpose as the Owner or their designated agent(s) deem necessary.

B. Each Contractor who submits a bid (including their Subcontractors if at a specific cost threshold) must be registered under the Labor Enforcement Fund with the New Mexico Department of Workforce Solutions on the date bids are unconditionally accepted for consideration for bid award and must remain actively registered in order to perform work under this solicitation. The Contractor selected for award of a contract shall provide documentation to verify compliance with this paragraph prior to execution of a contract.

C. A current Certificate of Insurance shall be furnished by the successful Bidder in accordance with the Supplementary Conditions of the Contract.

D. Bidders must possess appropriate contracting license (GB-98 or other satisfactory classification as regulated by Construction Industries Division, 2550 Cerrillos Road, Santa Fe, NM 87505, Phone: (505) 476-4700.

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

4.01 *Subsurface and Physical Conditions*

A. The Supplementary Conditions identify:

1. Those reports of explorations and tests of subsurface conditions at or contiguous to the Site that Engineer has used in preparing the Bidding Documents.

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2. Those drawings of physical conditions in or relating to existing surface and subsurface structures at or contiguous to the Site (except Underground Facilities) that Engineer has used in preparing the Bidding Documents.

B. Copies of reports and drawings referenced in Paragraph 4.01.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 4.02 of the General Conditions has been identified and established in Paragraph 4.02 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.

4.02 *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.

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 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 excavation and utility locates.

4.06 Reference is made to Article 7 of the Supplementary Conditions for the identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request, Owner will provide to each Bidder for examination access to or copies of Contract Documents (other than portions thereof related to price) for such other work.

4.07 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;

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C. become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and 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;

E. obtain and carefully study (or accept consequences of 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.

4.08 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 the 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 - PRE-BID CONFERENCE

5.01 A **Mandatory Pre-Bid Conference** will be held at noon (12) p.m. local time on September 12th , 2016 at the Ruidoso Village Hall Council Chambers, 313 Cree Meadows, Ruidoso, New Mexico 88345 with a project walk through to follow. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are encouraged 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.

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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 ten 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 five (5) percent of Bidder's maximum Bid price and in the form of a certified check or bank money order or a Bid bond (on the form attached) issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.

8.02 If a bid bond is submitted, it shall be issued by a surety company authorized by the State of New Mexico to issue such bonds, and shall be submitted on EJCDC document No. C-430 provided. The attorney executing the bid bond on behalf of the surety company shall affix to the bond a certified and current copy of his or her Power of Attorney.

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, Milestones are to be achieved and the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

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ARTICLE 10 - LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages, if any, 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 those substitute or "or-equal" materials and equipment approved by 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. No item of material or equipment will be considered by Engineer as a substitute or "or-equal" 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 such 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 Bidder. Engineer's decision of approval or disapproval of a proposed item will be final. If Engineer approves any proposed 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 Each Contractor who submits a bid shall list on the form provided the name of each Subcontractor proposed to perform project work in excess of **$5,000 (Section 13-4-34, NMSA 1978)**, along with the Subcontractor's address, the nature of work to be performed by the Subcontractor, an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by Owner, and other relevant information. In addition, the Contractor shall also indicate on this form ***the New Mexico Department of Workforce Solutions Registration/Certification Number for those proposed Subcontractors whose bid amounts are $60,000.00 and above***. The Contractor shall list only one (1) Subcontractor for each category of work. The completed list shall be submitted along with the Contractor's sealed bid. Any bid submitted which fails to comply with this paragraph will be deemed a non-responsive bid and will not be accepted. When a bidder enters into a Contract and therefore becomes the Contractor, the City will promptly inform the Contractor whether or not the Owner (the City), after due investigation, has reasonable objection to any such proposed Subcontractor. Failure of the Owner (the City) to inform the Contractor promptly of its objections to each proposed Subcontractor shall not constitute notice of no reasonable objection. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may request apparent Successful Bidder to submit a substitute, in which case apparent Successful Bidder shall submit an acceptable substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

12.02 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest 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 or 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.

12.03 In compliance with Public Works Section 13-4-36 C & D, NMSA 1978, Substitution of Subcontractor, no Contractor whose bid is accepted shall permit any subcontract to be voluntarily assigned or transferred or allow it to be performed by anyone other than the original Subcontractor listed in the original bid without the consent of the Village of Ruidoso.

12.04 No Contractor whose bid is accepted, other than in the performance of change orders causing changes or deviations from the original contract, shall sublet or subcontract any portion of the work in excess of the listing threshold as to which his original bid did not designate a Subcontractor unless:

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A. The Contractor fails to receive a bid from a category of work. Under such circumstances, the Contractor may subcontract. The Contractor shall designate on the listing form that *NO BID WAS RECEIVED or;*

B. *The Contractor fails to receive more than one bid for a category of work. Under such circumstances, the Contractor may subcontract. The Contractor shall state on the listing form that ONLY ONE SUBCONTRACTOR'S BID WAS RECEIVED, together with the name of the subcontractor. This designation shall not occur more than one time on the subcontractor list.*

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

12.06 Per Article 4, Section 13-4-13.1 of NMSA 1978, in order to submit a bid valued at more than $60,000 the contractor, serving as prime contractor or not shall be registered with the department of labor. Registration forms can be located at www.dws.state.nm.us.

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 by printing in ink or by typewriter and the Bid signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each [section, Bid item, alternative, adjustment unit price item, and unit price 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 shown below the signature.

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 shown below the signature.

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 below the signature.

13.06 A Bid by an individual shall show the Bidder's name and official 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 shall be shown below the signature.

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

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

13.10 The address and telephone number for communications 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 where the Project is located or covenant to obtain such qualification prior to award of the Contract. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

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ARTICLE 14 - BASIS OF BID; COMPARISON 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 estimated 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 The Bid price shall include such amounts as the Bidder deems proper for overhead and profit on account of cash allowances, if any, named in the Contract Documents as provided in Paragraph 11.02 of the General Conditions.

ARTICLE 15 - SUBMITTAL OF BID

15.01 Bids shall be made on the Bid Proposal form that is included with the Bidding Documents and may be separated from the documents unless otherwise noted in these specifications.

15.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the Advertisement or Invitation to Bid 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 Bid Number, 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 as noted below.

Deliver Bids to: Village of Ruidoso, New Mexico
311 Center Street.
Ruidoso, NM 88345

Mailed Bids should read: (Bidder's Names and Address)
ATTN: Sealed Bid Enclosed
Bid Number: 2017-001B
Cherokee Interconnect Booster and Well House Rehabilitation

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, that Bidder will be disqualified from further bidding on the Work.

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ARTICLE 17 - OPENING OF BIDS

17.01 Bids will be opened at the time and place indicated in the Advertisement or Invitation to Bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base 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, in 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 not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. 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 New Mexico Resident Contractor Preference. It will be the sole responsibility of the Bidders requesting consideration for Resident Contractor Preference to obtain approval and a certification from the New Mexico Department of Taxation & Revenue prior to the bid opening date. To be eligible for the preference provided, a bidder must present, along with the bid, a resident contractor certification and certificate number, issued by the State of New Mexico Department of Taxation & Revenue. The application for preference may be downloaded at the following website http://www.tax.newmexico.gov/forms-and-publications/pages/recently-updated.aspx.

19.08 New Mexico Resident Veteran Preference. It will be the sole responsibility of the Bidders requesting consideration for Resident Veteran Contractor Preference to obtain approval and a certification from the New Mexico Department of Taxation & Revenue prior to the bid opening date. To be eligible for the preference, a bidder must present, along with the bid, a resident veteran contractor certification and certificate number, issued by the State of New Mexico Department of Taxation & Revenue. The application for preference may be downloaded at the following website http://www.tax.newmexico.gov/forms-and-publications/pages/recently-updated.aspx.

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19.09 New Mexico Department of Workforce Solutions: Labor Enforcement Fund Certification**.** In order to be considered for bid award, all Contractors (including their Subcontractors if at a specific cost threshold) must be registered under the Labor Enforcement Fund with the New Mexico Department of Workforce Solutions on the date bids are unconditionally accepted for consideration for bid award and must remain actively registered in order to perform work under this solicitation. The Contractor selected for award of a contract shall provide documentation to verify compliance with this paragraph prior to execution of a contract. Contractors may obtain additional information on the requirements of the Labor Enforcement Fund program at www.dws.state.nm.us (Labor Relations - Public Works - Contractor Registration - Labor Enforcement Fund Form) or by calling (505) 841-4405.

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

ARTICLE 22 - NOTICES

22.01 The New Mexico Procurement Code, N.M.S.A. 1978, §§13-1-28 through 13-1-199 (Repl. 1997)(as amended), imposes civil and criminal penalties for its violation. In addition, the New Mexico Criminal Code, N.M.S.A. 1978, §§ 30-1-1 et seq. (Repl. 1994)(as amended), imposes criminal penalties for illegal bribes, gratuities, and kickbacks. Bidders should carefully consider the consequences of their behavior during the pendency of this solicitation, and should seek the advice of legal counsel when in doubt.

22.02 Use of New Mexico Materials; New Mexico Timber. Preference shall be given to materials produced, grown, processed or manufactured in New Mexico by citizens or residents of New Mexico or provided or offered by a New Mexico state business enterprise, and such materials shall be used where they are deemed satisfactory for the intended use, pursuant to N.M.S.A. 1978, § 13-4-5. Whenever softwood species of timber, such as Douglas fir and ponderosa pine, grown in New Mexico, are necessary for construction, erection or repair and available in this state, such species shall be used, pursuant to N.M.S.A. 1978, §§ 13-4-6 and 13-4-7.

22.03 Ownership of Plans; The Contractor awarded the contract acknowledges that the reports, plans, specifications, field data, field notes, laboratory test data, calculations, estimates and other similar documents of the successful Bidder are instruments of service, not products. Plans, drawings, and other similar documents shall not be not be reproduced, copied or duplicated without the express written authorization of the City.

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BID FORM
FOR CONSTRUCTION CONTRACTS

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

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(703) 684-2882

American Consulting Engineers Council
1015 15th Street N.W., Washington, DC 20005
(202) 347-7474

American Society of Civil Engineers
1801 Alexander Bell Drive, Reston, VA 20191-4400
(800) 548-2723

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BID FORM

CHEROKEE SERVICE AREA INTERCONNECT AND BOOSTER STATION REPLACEMENT

RFB#2017-001B

TABLE OF ARTICLES

Page

Article 1 – Bid Recipient 1

Article 2 – Bidder's Acknowledgements 1

Article 3 – Bidder's Representations 1

Article 4 – Further Representations 2

Article 5 – Basis of Bid 3

Article 6 – Time of Completion 8

Article 7 – Attachments To This Bid 8

Article 8 – Defined Terms 6

Article 9 – Bid Submittal 6

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ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

VILLAGE OF RUIDOSO, NEW MEXICO

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 this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 61 days 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 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 Hazardous Environmental Conditions that have been identified in SC-4.06.

E. Bidder has obtained and carefully studied (or accepts the 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 the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.

F. 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 work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

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H. Bidder has correlated 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. 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.

J. 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.

K. Bidder will submit written evidence of its authority to do business in the state where the Project is located not later than the date of its execution of the Agreement.

ARTICLE 4 – FURTHER REPRESENTATIONS

4.01 Bidder further represents that:

A. this Bid is genuine and not made in the interest of or on 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 sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.

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ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s), items not listed below are considered incidental to contract price:

VILLAGE OF RUIDOSO
CHEROKEE SERVICE AREA INTERCONNECT AND BOOSTER SYSTEM REPLACEMENT
IFB# 2017-001B

BID. NO.	QUANT.	UNIT	DESCRIPTION (WITH UNIT PRICE IN WORDS)		UNIT PRICE	TOTAL PRICE
1	2,261	LF	Construction Staking, compl.			
			at _____	Dollars		
			and _____	Cents		
			per linear foot			
2	2	EA	Construction Project Sign, per Contract Special Provisions, cip			
			at _____	Dollars		
			and _____	Cents		
			per each			
3		%	Construction Mobilization, compl.			
			at _____	Dollars		
			and _____	Cents		
			per percent			
4		%	Construction Demobilization, compl.			
			at _____	Dollars		
			and _____	Cents		
			per percent			
5	2,261	LF	Construction Traffic Control & Barricading, compl.			
			at _____	Dollars		
			and _____	Cents		
			per linear foot			
6	1	LS	NPDES Permitting, compl.			
			at _____	Dollars		
			and _____	Cents		
			per lump sum			
7	8	EA	Pothole, 0-10' deep, Vacuum exploratory excavation, incl. pavement removal, disposal & replacement, vertical & horizontal utility location data, compl.			
			at _____	Dollars		
			and _____	Cents		
			per each			

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BID. NO.	QUANT.	UNIT	DESCRIPTION (WITH UNIT PRICE IN WORDS)		UNIT PRICE	TOTAL PRICE
8	2,261	LF	10" C-900 PVC Pipe, incl. restraint, trench & compacted backfill to 5' depth, cip.			
			at	Dollars		
			and	Cents		
			per linear foot			
9	60	LF	6" DI Pipe, incl. restraint, trench & compacted backfill to 5' depth, cip.			
			at	Dollars		
			and	Cents		
			per linear foot			
10	6	EA	10" DI 11.25 Degree Bend, incl. restraint, cip.			
			at	Dollars		
			and	Cents		
			per each			
11	4	EA	10" DI 45 Degree Bend, incl. restraints, cip.			
			at	Dollars		
			and	Cents		
			per each			
12	2	EA	10" DI 90 Degree Bend, incl. restraints, cip.			
			at	Dollars		
			and	Cents		
			per each			
13	1	EA	6" DI 90 Degree Bend, incl. restraints, cip.			
			at	Dollars		
			and	Cents		
			per each			
14	1	EA	6" DI 45 Degree Bend, incl. restraints, cip.			
			at	Dollars		
			and	Cents		
			per each			
15	1	EA	10" X 6"X 10" DI Tee, incl. restraints, cip.			
			at	Dollars		
			and	Cents		
			per each			

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BID. NO.	QUANT.	UNIT	DESCRIPTION (WITH UNIT PRICE IN WORDS)		UNIT PRICE	TOTAL PRICE
16	1	EA	8" X 6"X 8" DI Tee, incl. restraints, cip.			
			at	Dollars		
			and	Cents		
			per each			
17	1	EA	10" X 6" Eccentric Reducer, incl. restraints, cip.			
			at	Dollars		
			and	Cents		
			per each			
18	1	EA	10" X 6" Concentric Reducer, incl. restraints, cip.			
			at	Dollars		
			and	Cents		
			per each			
19	4	EA	10" Gate Valve w/Box, cip.			
			at	Dollars		
			and	Cents		
			per each			
20	1	EA	8" Gate Valve w/Box, cip.			
			at	Dollars		
			and	Cents		
			per each			
21	4	EA	6" Gate Valve w/Box, cip.			
			at	Dollars		
			and	Cents		
			per each			
22	1	EA	6" Dezurik Check Valve Assembly APCO Series 6000A			
			at	Dollars		
			and	Cents		
			per eacj			
23	2	EA	1" Combination Air Release Valve Assembly Including Vault, cip.			
			at	Dollars		
			and	Cents		
			per each			
24	6	EA	Tracer wire box, cip.			
			at	Dollars		
			and	Cents		
			per each			

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BID. NO.	QUANT.	UNIT	DESCRIPTION (WITH UNIT PRICE IN WORDS)		UNIT PRICE	TOTAL PRICE
25	5	EA	Fire Hydrant Assembly, Muller Super Centurion 250, cip.			
			at	Dollars		
			and	Cents		
			per each			
26	1	EA	Aquaris One-O-One HH 2" Flushing Hidden Hydrant, cip.			
			at	Dollars		
			and	Cents		
			per each			
27	1	EA	Kupferle #66 Sampling Station, incl. connection, cip.			
			at	Dollars		
			and	Cents		
			per each			
28	2	EA	72" Diameter Concrete Manhole, 6' in depth, cip.			
			at	Dollars		
			and	Cents		
			per each			
29	2,261	LF	12 Gauge tracer wire, direct bury, cip.			
			at	Dollars		
			and	Cents		
			per linear foot			
30	2,261	LF	2" Wide blue non-detectable locator tape located above pipe in trench, complete			
			at	Dollars		
			and	Cents		
			per linear foot			
31	100	SY	Asphalt Saw cut/Remove/Dispose, Replacement by others.			
			at	Dollars		
			and	Cents		
			per square yard			
32	100	CY	Rock Removal/Excavation and Disposal, cip.			
			at	Dollars		
			and	Cents		
			per cubic yard			

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BID. NO.	QUANT.	UNIT	DESCRIPTION (WITH UNIT PRICE IN WORDS)		UNIT PRICE	TOTAL PRICE
33	1	LS	Furnish and Install Water Booster Station including, but not limited to, all appurtenances including water meter, piping and valves, electrical and specified enclosure, foundation work, all electrical work, re-plumbing the existing pipe, furnish and installation of a Horizon PTF-100 chlorination system incl. 1" Sch 80 PVC Chemical Feed and Connection, and Vent Kit, cip.			
			at	Dollars		
			and	Cents		
			per lump sum			
34	1	LS	Demo Existing Well House and Replace with New Well House and equipment including, but not limited to, all exposed piping and valves, replacement of water meter, and removal and disposal of the existing chlorination system			
			at	Dollars		
			and	Cents		
			per lump sum			
35	1	LS	Remove the existing Hell Hole Water Booster Station including, but not limited to, all appurtenances including water meter, piping and valves, and electrical equipment, cip.			
			at	Dollars		
			and	Cents		
			per lump sum			
36	1	LS	Remove and Dispose of the existing water tank structure including foundation and ring, cip.			
			at	Dollars		
			and	Cents		
			per lump sum			

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BID. NO.	QUANT.	UNIT	DESCRIPTION (WITH UNIT PRICE IN WORDS)		UNIT PRICE	TOTAL PRICE
37	1	LS	Remove and dispose of pit vault including all piping, cip.			
			at	Dollars		
			and	Cents		
			per lump sum			
38	1	LS	Furnish and Install Water Booster Station including, but limited to, all appetences including water meter, piping and valves, electrical and specified enclosure, foundation work, all electrical work, re-plumbing the existing pipe, cip.			
			at	Dollars		
			and	Cents		
			per lump sum			
BID SCHEDULE TOTAL AMOUNT: $						
NMGRT @ 8.4375%						
PROJECT TOTAL AMOUNT: $						

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

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.

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete within 65 calendar days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 14.07.B of the General Conditions within 75 calendar days after the date when the Contract Times commence to run.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the Contract Times.

ARTICLE 7 – ATTACHMENTS TO THIS BID

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

A. Required Bid security in the form of a certified check, bank money order, bank draft payable to the Village of Ruidoso or a Bid bond (on the form attached) issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.

B. List of Proposed Subcontractors

C. Bidder Qualification Form

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ARTICLE 8 – DEFINED TERMS

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

ARTICLE 9 – BID SUBMITTAL

9.01 This Bid submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____ (SEAL)
(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____ (SEAL)

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

Name (typed or printed): _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____
Type (General Business, Professional, Service, Limited Liability): _____

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

Name (typed or printed): _____

Title: _____
(CORPORATE SEAL)

Attest: _____
(Signature of Corporate Secretary)

Date of Qualification to do business in _____ *[State Where Project is Located]* is ____________.

A Joint Venture

Name of Joint Venturer: _____

First Joint Venturer Name: _____ (SEAL)

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

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of second 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 a party to the joint venture should be in the manner indicated above.)

Bidder's Business address: _____
_____

Phone: _____ Facsimile: _____

Submitted on _____, 20_____.

State Contractor License No. _____. (If applicable)

New Mexico Workforce Solutions Registration No. _____. (If applicable)

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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): Village of Ruidoso
313 Cree Meadows Dr.
Ruidoso, NM 88345

BID: Cherokee Service Area Interconnect and Booster Station Replacement
Bid Due Date: September 22nd, 2016
Project (Brief Description Including Location): The nature of the work consists of installation of approximately 2,300 LF of C-900 PVC water line, installation of a water booster station, rehabilitation of the existing well house including above ground piping and replacement of the Hellhole Booster Station in Ruidoso, NM.

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

Surety and Bidder, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Bid Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

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

Note: Above addresses are to be used for giving required notice.

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 Surety's liability.

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 by 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.

Resident Business Preference or Resident Veteran Business Preference:

Points will be awarded based on Offeror's ability to provide a copy of a current Resident Business certificate or Resident Veteran Business certificate.

1. Resident Business Preference
   For the Offeror to receive a Resident Business Preference, the business shall submit, with this proposal, a copy of a valid Resident Business certificate issued by the New Mexico Taxation & Revenue Department. The application for preference may be downloaded at the following website: http://www.tax.newmexico.gov/forms-and- publications/pages/recently-updated.aspx.

   Five (5) percent (%) of the total weight of all the factors used in evaluating the proposals may be awarded to an Offeror who qualifies as a Resident Business. These points are added to the total points received for the Evaluation Criteria. Five (5) percent (%) lower than the (IFB) bid actually submitted by the Resident Business.

2. Resident Veteran Business Preference For the Offeror to receive a Resident Veteran Business Preference, the business shall complete, sign, and include with the proposal the attached certification form, along with a copy of a valid Resident Veteran Business Preference certificate issued by the New Mexico Taxation & Revenue Department. The application for preference may be downloaded at the following website: http://www.tax.newmexico.gov/forms-and-publications/pages/recently-updated.aspx.

   Offerors seeking a Resident Veteran Business Preference will be evaluated as follows:

A. Resident Veteran Businesses with annual revenues of $3M or less are to receive a 10% preference on their proposals.

   The Resident Veteran Business Preference is separate from the Resident Business Preference and is not cumulative with that preference. However, Resident Veteran Businesses can still receive the Resident Business Preference once the Resident Veteran Business Preference cap is exceeded.

Example: An RFP has a total value of 1,000 points. Five proposals are received: one from a Resident Business, one from a Resident Veteran Business with 10% preference, and three non-resident businesses. The Resident Business would receive 50 points and the Resident Veteran Business would receive 100 points which would be added to their already evaluated scores, thereby making it possible for the highest score to be 1,100.

Note: Neither the Resident Business Preference nor the Resident Veteran Business Preference can be awarded for any project/contract if it includes federal funds.

Veterans Preference Certification

_____(Name of Business) hereby certifies the following in regard to application of the resident veteran preference to this formal request for proposals process:

Please check box:

☐ I declare under penalty of perjury that my business prior year revenue starting January 1 ending December 31 is up to $3M allowing me the 10% preference discount on this bid or

proposal. I understand that knowingly giving false or misleading information about this fact constitutes a crime.

"I agree to submit a report, or reports, to the State Purchasing Division of the General Services Department declaring under penalty of perjury that during the last calendar year starting January 1 ending December 31, the following to be true and accurate:

"In conjunction with this procurement and the requirements of this business' application for a Resident
Veteran Business Preference/Resident Veteran Contractor Preference under Sections 13-1-21 or 13-1-22
NMSA 1978, when awarded a contract which was on the basis of having such veteran's preference, I agree to report to the State Purchasing Division of the General Services Department the awarded amount involved. I will indicate in the report the award amount as a purchase from a public body or as a public works contract from a public body as the case may be."

"I declare under penalty of perjury that this statement is true to the best of my knowledge. I understand that giving false or misleading statements about material fact regarding this matter constitutes a crime."

_____ _____

(Signature of Business Representative)* (Date)

*Must be an authorized signatory for the Business.

The representation made in checking the boxes constitutes a material representation by the business that is subject to protest and may result in denial of an award or unaward of the procurement involved if the statements are proven incorrect.

VILLAGE OF RUIDOSO, NEW MEXICO

BIDDER QUALIFICATION FORM

PROJECT: Cherokee Service Area Interconnect and Booster Station Replacement
Ruidoso, NM 88345

The Bidder shall complete this form providing all required information. The completed form shall be submitted with the Contractor's Bid. Failure to submit the completed form may render the bid non responsive and the bid may be rejected at the discretion of the **Owner**.

1. Provide the name and address of the **Contractor** or subcontractor to perform the work to construct the Cherokee Interconnect Booster and Well House Rehabilitation.
   _____
   _____
   _____.
2. How many years has this organization been in business as a Contractor or Subcontractor under the present business name? _____years.
3. **Contractor's** or Subcontractor's field superintendent's experience. Information shall include at least two (2) successfully completed projects, within the last (20) years. The proposed superintendent must have been the field Superintendent for the two listed projects. Use additional sheets if necessary.

A. Project Name:_____

   a. Location of Project:_____
   b. Date of Installation:_____
   c. Project Owner's Name:_____
   d. Contract Name, Address, and Phone No.:_____
      _____
      _____
   e. Superintendents Name:_____
   f. Diameter(s) or Pipeline and Total Length:_____
   g. Construction Cost (for pipeline only):_____

B. Project Name:_____

   a. Location of Project:_____
   b. Date of Installation:_____
   c. Project Owner's Name:_____

d. Contract Name, Address, and Phone No.:_____

_____

_____

e. Superintendents Name:_____

f. Diameter(s) or Pipeline and Total Length:_____

g. Construction Cost (for pipeline only):_____

C. Project Name:_____

a. Location of Project:_____

b. Date of Installation:_____

c. Project Owner's Name:_____

d. Contract Name, Address, and Phone No.:_____

_____

_____

e. Superintendents Name:_____

f. Diameter(s) or Pipeline and Total Length:_____

g. Construction Cost (for pipeline only):_____

This Bidder Qualification Form is hereby respectfully submitted by:

_____

Name of Bidder (Company)

By: _____ _____

(Signature) Date

_____

(Printed Name)

SUBCONTRACTOR LIST

Subcontractor Listing Threshold for this project **$5,000**

Bidders shall submit the following information pursuant to Section 13-4-31 through 13-4-43 NMSA 1978 with emphasis added for completion of this form.

Each Contractor who submits a bid **shall** list on this form, the name of each Subcontractor proposed to perform work in excess of **$5,000** for each category of the work that will be done by each Subcontractor, the City or County of the place of business of each Subcontractor, the License Number of each Subcontractor, and other relevant information. In addition, the Contractor shall also indicate on this form ***the New Mexico Department of Workforce Solutions Registration/Certification Number for those proposed Subcontractors whose bid amounts are $60,000.00 and above***. The Contractor shall list only one (1) Subcontractor for each category/nature of work.

Pursuant to the Public Works Section 13-4-33, NMSA 1978, Definitions, a "Subcontractor" means a contractor who contracts directly with the contractor.

(Emphasis Added) In compliance with Public Works Section 13-4-36 C & D, NMSA 1978, Substitution of Subcontractor, no Contractor whose bid is accepted shall permit any subcontract to be voluntarily assigned or transferred or allow it to be performed by anyone other than the original Subcontractor listed in the original bid without the consent of San Juan County.

No Contractor whose bid is accepted, other than in the performance of change orders causing changes or deviations from the original contract, shall sublet or subcontract any portion of the work in excess of the listing threshold as to which his original bid did not designate a Subcontractor unless:

(1) The Contractor fails to receive a bid from a category of work. Under such circumstances, the Contractor may subcontract. The Contractor shall designate on the listing form that *NO BID WAS RECEIVED or;*

(2) *The Contractor fails to receive more than one bid for a category of work. Under such circumstances, the Contractor may subcontract. The Contractor shall state on the listing form that ONLY ONE SUBCONTRACTOR'S BID WAS RECEIVED, together with the name of the Subcontractor. This designation shall not occur more than one time on the subcontractor list.*

Subcontractor:	**Category of Work:**	**City or County of Business:**	**Phone #:**	**License No.:**	**Over $60,000?** √	**NM Workforce Solutions No. (if over $60,000)**

SUBCONTRACTOR LIST Continued

Subcontractor:	Category of Work:	City or County of Business:	Phone #:	License No.:	Over $60,000? √	NM Workforce Solutions No. (if over $60,000)

STATE OF NEW MEXICO
NEW MEXICO DEPARTMENT OF
WORKFORCE SOLUTIONS
Labor Relations Division
121 Tijeras Ave NE, Suite 3000
Albuquerque, NM 87102
www.dws.state.nm.us

PUBLIC WORKS PROJECT REQUIREMENTS

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

Contracting Agency

- Ensure that all Contractors wishing to bid on a Public Works project when the project is $60,000 or more are actively registered with the Public Works and Apprenticeship Application (PWAA) website: http://www.dws.state.nm.us/pwaa (Contractor Registration) prior to bidding.
- Please submit Notice of Award (NOA) and Subcontractor List(s) to the PWAA website promptly after the project is awarded.
- Please update the Subcontractor List(s) on the PWAA website whenever changes occur.

General Contractor

- Provide a complete Subcontractor List and Statements of Intent (SOI) to pay Prevailing Wages for each Contractor to the Contracting Agency within 3 (three) days of award.
- Ensure that all Subcontractors wishing to bid on a Public Works project have an active Contractor Registration with the Public Works and Apprenticeship Application (PWAA) website: http://www.dws.state.nm.us/pwaa prior to bidding when their bid will exceed $60,000.
- Submit bi-weekly certified payrolls to the Contracting Agency.
- Make certain the Public Works Apprentice and Training Act contributions are paid either to an approved Apprenticeship Program or to the Public Works Apprentice and Training Fund.
- Confirm the Wage Rate poster, provided in PWAA, is displayed at the job site in an easily accessible place.
- Make sure, when a project has been completed, the Affidavits of Wages Paid (AWP) is sent to the Contracting Agency.

Subcontractor

- Ensure that all Subcontractors wishing to bid on a Public Works project have an active Contractor Registration with the Public Works and Apprenticeship Application (PWAA) website: http://www.dws.state.nm.us/pwaa prior to bidding when their bid will exceed $60,000.
- Submit bi-weekly certified payrolls to the General Contractor(s).

- Make certain the Public Works Apprentice and Training Act contributions are paid either to an approved Apprenticeship Program or to the Public Works Apprentice and Training Fund.

Additional Information

Reference material and forms may be found at New Mexico Department of Workforce Solutions Public Works web pages at: http://www.dws.state.nm.us/new/Labor_Relations/publicworks.html.

CONTACT INFORMATION

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

TYPE "A" - STREET, HIGHWAY, UTILITY & LIGHT ENGINEERING

Effective January 1, 2016

Trade Classification	Base Rate	Fringe Rate
Bricklayer/Blocklayer/Stonemason	23.32	8.04
Carpenter/Lather	23.40	9.02
Cement Mason	17.11	6.32
Ironworker	26.50	14.32
Painter (Brush/Roller/Spray)	16.00	5.58
Electricians (outside)		
Groundman	21.28	10.53
Equipment Operator	30.54	12.94
Lineman/Wireman or Tech	35.94	14.34
Cable Splicer	39.52	15.28
Plumber/Pipefitter	28.30	4.07
Laborers		
Group I	12.20	5.30
Group II	12.50	5.30
Group III	12.90	5.30
Operators		
Group I	16.69	6.16
Group II	17.44	6.16
Group III	17.55	6.16
Group IV	17.63	6.16
Group V	17.75	6.16
Group VI	17.89	6.16
Group VII	18.27	6.16
Group VIII	18.50	6.16
Group IX	25.45	6.16
Group X	28.35	6.16
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, ZONE AND INCENTIVE PAY APPLY ACCORDING TO THE PARTICULAR TRADES COLLECTIVE BARGAINING AGREEMENT. DETAILS ARE LOCATED AT WWW.DWS.STATE.NM.US.

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 Law.

SUGGESTED FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT (STIPULATED PRICE) FUNDING AGENCY EDITION

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly By

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AMERICAN COUNCIL OF ENGINEERING COMPANIES

AMERICAN SOCIETY OF CIVIL ENGINEERS

This document has been approved and endorsed by

The Associated General Contractors of America

and the

Construction Specification Institute

This document has been accepted by
United States Department of Agriculture
Rural Utilities Service, Water and Waste Programs

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1420 King Street, Alexandria, VA 22314-2794
(703) 684-2882

American Council of Consulting Engineers
1015 15th Street N.W., Washington, DC 20005
(202) 347-7474

American Society of Civil Engineers
1801 Alexander Bell Drive, Reston, VA 20191-4400
(800) 548-2723

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SUGGESTED FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT (STIPULATED PRICE) FUNDING AGENCY EDITION

THIS AGREEMENT is by and between Village of Ruidoso, New Mexico ("Owner") and

_____ ("Contractor").

Owner and Contractor, in consideration of the mutual covenants hereinafter set forth, 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 nature of the work consists of installation of approximately 2,300 LF of C-900 PVC water line, installation of a water booster station, rehabilitation of the existing well house including above ground piping and replacement of the Hellhole Booster

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:

The nature of the work consists of installation of approximately 2,300 LF of C-900 PVC water line, installation of a water booster station, rehabilitation of the existing well house including above ground piping and replacement of the Hellhole Booster

ARTICLE 3 – ENGINEER

3.01 The Project has been designed by Huitt-Zollars, Inc. (Engineer), who 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 75 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 85 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 of this Agreement 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 $1,000.00 for each day that expires after the time specified in Paragraph 4.02 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 $1,000.00 for each day that expires after the time specified in Paragraph 4.02 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 Paragraph 5.01.A below:

A. For all Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the estimated quantity of that item as indicated in this paragraph 5.01.A: As provided in Paragraph 11.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer as provided in Paragraph 9.07 of the General Conditions. Unit prices have been computed as provided in Paragraph 11.03 of the General Conditions. Unit prices are provided and are on attached bid form EJCDC C-410.

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 45th day after submission of an undisputed request during performance of the Work as provided in Paragraphs 6.02.A.1 and 6.02.A.2 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:

a. 100 percent of Work completed (with the balance being retainage); and

b. 100 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

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2. 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.

6.03 *Final Payment*

A. Upon receipt of the final Application for Payment accompanied by Engineer's recommendation of payment in accordance with Paragraph 14.07 of the General Conditions, Owner shall pay Contractor as provided in Paragraph 14.07 of the General Conditions the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 14.07, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages.

ARTICLE 7 – INTEREST

7.01 All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest at the maximum legal rate.

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 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 a Hazardous Environmental Condition, if any, at the Site which has been identified in the Supplementary Conditions as provided in Paragraph 4.06 of the General Conditions.

E. Contractor has obtained and carefully studied (or assumes responsibility for 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 Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto.

F. Contractor does not consider that any 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 correlated the information known to Contractor, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

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I. 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.

J. 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 6, inclusive).

2. Performance bond (pages _____ to _____, inclusive).

3. Payment bond (pages _____ to _____, inclusive).

4. Other bonds (pages _____ to _____, inclusive).

   a. _____ (pages _____ to _____, inclusive).

   b. _____ (pages _____ to _____, inclusive).

   c. _____ (pages _____ to _____, inclusive).

5. General Conditions (pages 1 to 57, inclusive).

6. Supplementary Conditions (pages 1 to 4, inclusive).

7. Specifications as listed in the table of contents of the Project Manual.

8. Drawings consisting of 32 sheets with each sheet bearing the following general title: Cherokee Service Area Interconnect and Booster Station Replacment.

9. Addenda (numbers 1 to 1, inclusive).

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

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

    b. Documentation submitted by Contractor prior to Notice of Award (pages _____ to _____, inclusive).

    c. _____.

11. 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 (pages 1 to 2, inclusive).

    b. Work Change Directives.

    c. Change Order(s).

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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 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 *Other Provisions*

A. The New Mexico Gross Receipts levied on the amounts payable under this Agreement shall be paid to the State of New Mexico by the Contractor.

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IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement in four copies. One counterpart each has been delivered to Owner, Contractor, Engineer, and Agency. All portions of the Contract Documents have been signed, initialed, or identified by Owner and Contractor or identified by Engineer on their behalf.

This Agreement is dated _____. This Agreement shall not be effective unless and until Agency's designated representative concurs.

OWNER:	CONTRACTOR
Village of Ruidoso	_____
By: _____	By: _____
Title: Tom Battin, Mayor	Title: _____
[CORPORATE SEAL]	[CORPORATE SEAL]
Attest: _____	Attest: _____
Title: Irma Devine, Village Clerk	Title: _____
Address for giving notices:	Address for giving notices:
313 Cree Meadows	_____
Ruidoso, NM 88345	_____
_____	_____
	Agent for service of process:
	_____
	(If Contractor is a corporation or a partnership, attach evidence of authority to sign.)
_____	_____
_____	_____

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Notice to Proceed

Dated _____

Project: Cherokee Service Area Interconnect and Booster Station Replacement	Owner: Village of Ruidoso	Owner's Contract No.:2017-011B
Contract: Cherokee Service Area Interconnect and Booster Station Replacement		Engineer's Project No.:R303231.07

Bidder:

Bidder's Address:

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 number of days to achieve Substantial Completion is 75, and the number of days to achieve readiness for final payment is 85.

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) 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:

Submit Schedule of Values, Project Schedule

Submit Submittal Log

Attend Pre-Construction Meeting

Village of Ruidoso

Owner

Given by:

Authorized Signature

Billy Randolph, Purchasing Agent

Title

Date

Copy to Engineer

PERFORMANCE BOND

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

CONTRACTOR (Name and Address):

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

OWNER (Name and Address): Village of Ruidoso
313 Cree Meadows Dr.
Ruidoso, NM 88345

CONTRACT: Cherokee Service Area Interconnect and Booster Station Replacement
Date:
Amount:
Description (Name and Location): The nature of the work consists of installation of approximately 2,300 LF of C-900 PVC water line, installation of a water booster station, rehabilitation of the existing well house including above ground piping and replacement of the Hellhole Booster

BOND
Bond Number:
Date (Not earlier than Contract Date):
Amount:
Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL
Company:

Signature: _____ (Seal)
Name and Title:

SURETY

_____ (Seal)
Surety's Name and Corporate Seal

By: _____
Signature and Title
(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

Attest: _____
Signature and Title

CONTRACTOR AS PRINCIPAL
Company:

Signature: _____ (Seal)
Name and Title:

SURETY

_____ (Seal)
Surety's Name and Corporate Seal

By: _____
Signature and Title
(Attach Power of Attorney)

Attest: _____
Signature and Title:

EJCDC No. C-610 (2002 Edition)
Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, and the American Institute of Architects.

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

2. If Contractor performs the Contract, Surety and Contractor have no obligation under this Bond, except to participate in conferences as provided in Paragraph 3.1.

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

3.1. Owner has notified Contractor and Surety, at the addresses described in Paragraph 10 below, that Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with Contractor and Surety to be held not later than 15 days after receipt of such notice to discuss methods of performing the Contract. If Owner, Contractor and Surety agree, Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive Owner's right, if any, subsequently to declare a Contractor Default; and

3.2. Owner has declared a Contractor Default and formally terminated Contractor's right to complete the Contract. Such Contractor Default shall not be declared earlier than 20 days after Contractor and Surety have received notice as provided in Paragraph 3.1; and

3.3. Owner has agreed to pay the Balance of the Contract Price to:

1. Surety in accordance with the terms of the Contract;

2. Another contractor selected pursuant to Paragraph 4.3 to perform the Contract.

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

4.1. Arrange for Contractor, with consent of Owner, to perform and complete the Contract; or

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

4.3. Obtain bids or negotiated proposals from qualified contractors acceptable to Owner for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by Owner and Contractor selected with Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to Owner the amount of damages as described in Paragraph 6 in excess of the Balance of the Contract Price incurred by Owner resulting from Contractor Default; or

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

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

2. Deny liability in whole or in part and notify Owner citing reasons therefor.

5. If Surety does not proceed as provided in Paragraph 4 with reasonable promptness, Surety shall be deemed to be in default on this Bond 15 days after receipt of an additional written notice from Owner to Surety demanding that Surety perform its obligations under this Bond, and Owner shall be entitled to enforce any remedy available to Owner. If Surety proceeds as provided in Paragraph 4.4, and Owner refuses the payment tendered or Surety has denied liability, in whole or in part, without further notice Owner shall be entitled to enforce any remedy available to Owner.

6. After Owner has terminated Contractor's right to complete the Contract, and if Surety elects to act under Paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of Surety to Owner shall not be greater than those of Contractor under the Contract, and the responsibilities of Owner to Surety shall not be greater than those of Owner under the Contract. To a limit of the amount of this Bond, but subject to commitment by Owner of the Balance of the Contract Price to mitigation of costs and damages on the Contract, Surety is obligated without duplication for:

6.1. The responsibilities of Contractor for correction of defective Work and completion of the Contract;

6.2. Additional legal, design professional, and delay costs resulting from Contractor's Default, and resulting from the actions or failure to act of Surety under Paragraph 4; and

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

7. Surety shall not be liable to Owner or others for obligations of Contractor that are unrelated to the 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 Owner or its heirs, executors, administrators, or successors.

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

9. 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 Contractor Default or within two years after Contractor ceased working or within two years after 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 period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

10. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the address shown on the signature page.

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

12. Definitions.

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

12.2. Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.

12.3. Contractor Default: Failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.

12.4. Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or comply with the other terms thereof.

FOR INFORMATION ONLY – Name, Address and Telephone
Surety Agency or Broker
Owner's Respresentative (engineer or other party)

PAYMENT BOND

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

CONTRACTOR (Name and Address):

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

OWNER (Name and Address): Village of Ruidoso
313 Cree Meadows Dr.
Ruidoso, NM 88345

CONTRACT: Cherokee Service Area Interconnect and Booster Station Replacement
Date:
Amount:
Description (Name and Location): The nature of the work consists of installation of approximately 2,300 LF of C-900 PVC water line, installation of a water booster station, rehabilitation of the existing well house including above ground piping and replacement of the Hellhole Booster.

BOND
Bond Number:
Date (Not earlier than Contract Date):
Amount:
Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Payment Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL
Company:

Signature: _____ (Seal)
Name and Title:

SURETY

_____ (Seal)
Surety's Name and Corporate Seal

By: _____
Signature and Title
(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

Attest: _____
Signature and Title

CONTRACTOR AS PRINCIPAL
Company:

Signature: _____ (Seal)
Name and Title:

SURETY

_____ (Seal)
Surety's Name and Corporate Seal

By: _____
Signature and Title
(Attach Power of Attorney)

Attest: _____
Signature and Title:

EJCDC No. C-615 (2002 Edition)
Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, the American Institute of Architects, the American Subcontractors Association, and the Associated Specialty Contractors.

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

2. With respect to Owner, this obligation shall be null and void if Contractor:

2.1. Promptly makes payment, directly or indirectly, for all sums due Claimants, and

2.2. Defends, indemnifies, and holds harmless Owner from all claims, demands, liens, or suits alleging non-payment by Contractor by any person or entity who furnished labor, materials, or equipment for use in the performance of the Contract, provided Owner has promptly notified Contractor and Surety (at the addresses described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens, or suits to Contractor and Surety, and provided there is no Owner Default.

3. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly, for all sums due.

4. Surety shall have no obligation to Claimants under this Bond until:

4.1. Claimants who are employed by or have a direct contract with Contractor have given notice to Surety (at the addresses described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

4.2. Claimants who do not have a direct contract with Contractor:

1. Have furnished written notice to Contractor and sent a copy, or notice thereof, to Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials or equipment were furnished or supplied, or for whom the labor was done or performed; and

2. Have either received a rejection in whole or in part from Contractor, or not received within 30 days of furnishing the above notice any communication from Contractor by which Contractor had indicated the claim will be paid directly or indirectly; and

3. Not having been paid within the above 30 days, have sent a written notice to Surety and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to Contractor.

5. If a notice by a Claimant required by Paragraph 4 is provided by Owner to Contractor or to Surety, that is sufficient compliance.

6. When a Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at Surety's expense take the following actions:

6.1. Send an answer to that Claimant, with a copy to Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.

6.2. Pay or arrange for payment of any undisputed amounts.

7. Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by Surety.

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

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

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

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Paragraph 4.1 or Paragraph 4.2.3, 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.

12. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, Owner, or Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

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

14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. DEFINITIONS

15.1. Claimant: An individual or entity having a direct contract with Contractor, or with a first-tier subcontractor of Contractor, to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of Contractor and 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.

15.2. Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3. Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or comply with the other terms thereof.

FOR INFORMATION ONLY – Name, Address and Telephone
Surety Agency or Broker:
Owner's Representative (engineer or other party):

Contractor's Application For Payment No. _____

	Application Period:	Application Date:
To (Owner): Village of Ruidoso	From (Contractor):	Via (Engineer)
Project: Cherokee Service Area Interconnect and Booster Station Replacement	Contract: Cherokee Service Area Interconnect and Booster Station Replacement	
Owner's Contract No.:	Contractor's Project No.:	Engineer's Project No.: R303231.07

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. _____ % x $_____ Work Completed	$	
b. _____ % 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	$	
9. BALANCE TO FINISH, PLUS RETAINAGE (Column G on Progress Estimate + Line 5 above)	$	

CONTRACTOR'S CERTIFICATION

The undersigned Contractor certifies that: (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 8 or other - attach explanation of other amount)

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

Payment of: $_____
(Line 8 or other - attach explanation of other amount)

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

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

Progress Estimate

Contractor's Application

For (contract): Cherokee Service Area Interconnect and Booster Station Replacement	Application Number:
Application Period:	Application Date:

A		B	Work Completed		E	F		G
Item			C	D		Total Completed	%	Balance to
Specification Section No.	Description	Scheduled Value	From Previous Application (C + D)	This Period	Materials Presently Stored (not in C or D)	and Stored to Date (C + D + E)	(F) B	Finish (B - F)
	Totals							

Progress Estimate

Contractor's Application

For (contract): Cherokee Service Area Interconnect and Booster Station Replacement	Application Number:
Application Period:	Application Date:

A				B	C	D	E	F		G
Item		Bid Quantity	Unit Price	Bid Value	Estimated Quantity Installed	Value	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									
	Totals									

Stored Material Summary

Contractor's Application

For (contract): Cherokee Service Area Interconnect and Booster Station Replacement	Application Number:
Application Period:	Application Date:

A	B	C	D		E		F		G
Invoice No.	Shop Drawing Transmittal No.	Materials Description	Stored Previously		Stored this Month		Incorporated in Work		Materials Remaining in Storage ($) (D + E - F)
			Date (Month/Year)	Amount ($)	Amount ($)	Subtotal	Date (Month/Year)	Amount ($)	
		Totals							

Certificate of Substantial Completion

Project: Cherokee Service Area Interconnect and Booster Station Replacement	Owner: Village of Ruidoso	Owner's Contract No.:
Contract: Cherokee Service Area Interconnect and Booster Station Replacement		Date of Contract:
Contractor:		Engineer's Project No.: R303231.07

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

Change Order

No. _____

Date of Issuance: _____ Effective Date: _____

Project: Cherokee Service Area Interconnect and Booster Station Replacement	Owner: Village of Ruidoso	Owner's Contract No.:2017-001B
Contract: Cherokee Service Area Interconnect and Booster Station Replacement		Date of Contract:
Contractor:		Engineer's Project No.:R303231.07

The Contract Documents are modified as follows upon execution of this Change Order:

Description:

Attachments: (List documents supporting change):

CHANGE IN CONTRACT PRICE:

Original Contract Price:

$_____

[Increase] [Decrease] from previously approved Change Orders No._____ to No._____:

$_____

Contract Price prior to this Change Order:

$_____

[Increase] [Decrease] of this Change Order:

$_____

Contract Price incorporating this Change Order:

$_____

CHANGE IN CONTRACT TIMES:

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._____:

Substantial completion (days): _____

Ready for final payment (days): _____

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:

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

Contract Times with all approved Change Orders:

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

RECOMMENDED:	ACCEPTED:	ACCEPTED:
By: _____	By: _____	By: _____
Engineer (Authorized Signature)	Owner (Authorized Signature)	Contractor (Authorized Signature)
Date: _____	Date: _____	Date: _____

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

Change Order

Instructions

A. GENERAL INFORMATION

This document was developed to provide a uniform format for handling contract changes that affect Contract Price or Contract Times. Changes that have been initiated by a Work Change Directive must be incorporated into a subsequent Change Order if they affect Price or Times.

Changes that affect Contract Price or Contract Times should be promptly covered by a Change Order. The practice of accumulating Change Orders to reduce the administrative burden may lead to unnecessary disputes.

If Milestones have been listed in the Agreement, any effect of a Change Order thereon should be addressed.

For supplemental instructions and minor changes not involving a change in the Contract Price or Contract Times, a Field Order should be used.

B. COMPLETING THE CHANGE ORDER FORM

Engineer normally initiates the form, including a description of the changes involved and attachments based upon documents and proposals submitted by Contractor, or requests from Owner, or both.

Once Engineer has completed and signed the form, all copies should be sent to Owner or Contractor for approval, depending on whether the Change Order is a true order to the Contractor or the formalization of a negotiated agreement for a previously performed change. After approval by one contracting party, all copies should be sent to the other party for approval. Engineer should make distribution of executed copies after approval by both parties.

If a change only applies to price or to times, cross out the part of the tabulation that does not apply.

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 Law.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT FUNDING AGENCY EDITION

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

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This document has been approved and endorsed by

The Associated General Contractors of America

and the

Construction Specification Institute

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These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor Funding Agency Edition No. C-521 (2002 Edition). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the EJCDC Construction Documents, General and Instructions (No. C-001, 2002 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (No. C-800, 2002 Edition).

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1420 King Street, Alexandria, VA 22314-2794
(703) 684-2882

American Council of Engineering Companies
1015 15th Street N.W., Washington, DC 20005
(202) 347-7474

American Society of Civil Engineers
1801 Alexander Bell Drive, Reston, VA 20191-4400
(800) 548-2723

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TABLE OF CONTENTS

Page

Article 1 – Definitions and Terminology 6
1.01 Defined Terms 6
1.02 Terminology 9

Article 2 – Preliminary Matters 10
2.01 Delivery of Bonds and Evidence of Insurance 10
2.02 Copies of Documents 10
2.03 Commencement of Contract Times; Notice to Proceed 10
2.04 Starting the Work 11
2.05 Before Starting Construction 11
2.06 Preconstruction Conference 11
2.07 Initial Acceptance of Schedules 11

Article 3 – Contract Documents: Intent, Amending, Reuse 11
3.01 Intent 11
3.02 Reference Standards 12
3.03 Reporting and Resolving Discrepancies 12
3.04 Amending and Supplementing Contract Documents 13
3.05 Reuse of Documents 13
3.06 Electronic Data 13

Article 4 – Availability of Lands; Subsurface and Physical Conditions; Hazardous Environmental Conditions; Reference Points 13
4.01 Availability of Lands 13
4.02 Subsurface and Physical Conditions 14
4.03 Differing Subsurface or Physical Conditions 14
4.04 Underground Facilities 15
4.05 Reference Points 16
4.06 Hazardous Environmental Condition at Site 16

Article 5 – Bonds and Insurance 18
5.01 Performance, Payment, and Other Bonds 18
5.02 Licensed Sureties and Insurers 18
5.03 Certificates of Insurance 18
5.04 Contractor's Liability Insurance 18
5.05 Owner's Liability Insurance 19
5.06 Property Insurance 20
5.07 Waiver of Rights 21
5.08 Receipt and Application of Insurance Proceeds 21
5.09 Acceptance of Bonds and Insurance; Option to Replace 22
5.10 Partial Utilization, Acknowledgment of Property Insurer 22

Article 6 – Contractor's Responsibilities 22
6.01 Supervision and Superintendence 22
6.02 Labor; Working Hours 22
6.03 Services, Materials, and Equipment 22
6.04 Progress Schedule 23
6.05 Substitutes and "Or-Equals" 23
6.06 Concerning Subcontractors, Suppliers, and Others 25
6.07 Patent Fees and Royalties 26
6.08 Permits 26
6.09 Laws and Regulations 26
6.10 Taxes 27

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6.11 Use of Site and Other Areas 27
6.12 Record Documents 28
6.13 Safety and Protection 28
6.14 Safety Representative 28
6.15 Hazard Communication Programs 28
6.16 Emergencies 29
6.17 Shop Drawings and Samples 29
6.18 Continuing the Work 30
6.19 Contractor's General Warranty and Guarantee 30
6.20 Indemnification 31
6.21 Delegation of Professional Design Services 31

Article 7 – Other Work at the Site 32
7.01 Related Work at Site 32
7.02 Coordination 32
7.03 Legal Relationships 33

Article 8 – Owner's Responsibilities 33
8.01 Communications to Contractor 33
8.02 Replacement of Engineer 33
8.03 Furnish Data 33
8.04 Pay When Due 33
8.05 Lands and Easements; Reports and Tests 33
8.06 Insurance 33
8.07 Change Orders 34
8.08 Inspections, Tests, and Approvals 34
8.09 Limitations on Owner's Responsibilities 34
8.10 Undisclosed Hazardous Environmental Condition 34
8.11 Evidence of Financial Arrangements 34

Article 9 – Engineer's Status During Construction 34
9.01 Owner's Representative 34
9.02 Visits to Site 34
9.03 Project Representative 35
9.04 Authorized Variations in Work 35
9.05 Rejecting Defective Work 35
9.06 Shop Drawings, Change Orders and Payments 35
9.07 Determinations for Unit Price Work 35
9.08 Decisions on Requirements of Contract Documents and Acceptability of Work 35
9.09 Limitations on Engineer's Authority and Responsibilities 36

Article 10 – Changes in the Work; Claims 36
10.01 Authorized Changes in the Work 36
10.02 Unauthorized Changes in the Work 37
10.03 Execution of Change Orders 37
10.04 Notification to Surety 37
10.05 Claims 37

Article 11 – Cost of the Work; Allowances; Unit Price Work 38
11.01 Cost of the Work 38
11.02 Allowances 40
11.03 Unit Price Work 40

Article 12 – Change of Contract Price; Change of Contract Times 41
12.01 Change of Contract Price 41
12.02 Change of Contract Times 42
12.03 Delays 42

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Article 13 – Tests and Inspections; Correction, Removal or Acceptance of Defective Work 43
13.01 Notice of Defects 43
13.02 Access to Work 43
13.03 Tests and Inspections 43
13.04 Uncovering Work 43
13.05 Owner May Stop the Work 44
13.06 Correction or Removal of Defective Work 44
13.07 Correction Period 44
13.08 Acceptance of Defective Work 45
13.09 Owner May Correct Defective Work 45

Article 14 – Payments to Contractor and Completion 46
14.01 Schedule of Values 46
14.02 Progress Payments 46
14.03 Contractor's Warranty of Title 48
14.04 Substantial Completion 48
14.05 Partial Utilization 49
14.06 Final Inspection 49
14.07 Final Payment 49
14.08 Final Completion Delayed 50
14.09 Waiver of Claims 51

Article 15 – Suspension of Work and Termination 51
15.01 Owner May Suspend Work 51
15.02 Owner May Terminate for Cause 51
15.03 Owner May Terminate For Convenience 52
15.04 Contractor May Stop Work or Terminate 52

Article 16 – Dispute Resolution 53
16.01 Methods and Procedures 53

Article 17 – Miscellaneous 53
17.01 Giving Notice 53
17.02 Computation of Times 53
17.03 Cumulative Remedies 53
17.04 Survival of Obligations 54
17.05 Controlling Law 54
17.06 Headings 54

Article 18 – Federal Requirements 54
18.01 Agency Not a Party 54
18.02 Contract Approval 54
18.03 Conflict of Interest 54
18.04 Gratuities 54
18.05 Audit and Access to Records 55
18.06 Small, Minority and Women's Businesses 55
18.07 Anti-Kickback 55
18.08 Clean Air and Pollution Control Acts 55
18.09 State Energy Policy 55
18.10 Equal Opportunity Requirements 55
18.11 Restrictions on Lobbying 56
18.12 Environmental Requirements 56

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GENERAL CONDITIONS

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. *Agency* – The Federal or state agency named as such in the Agreement.

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

4. 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.

5. *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.

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

7. *Bidder* – The individual or entity who submits a Bid directly to Owner.

8. *Bidding Documents* – The Bidding Requirements and the proposed Contract Documents (including all Addenda).

9. *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.

10. *Change Order* – A document recommended by Engineer which is signed by Contractor and Owner and Agency 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.

11. *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.

12. *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.

13. *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's submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

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14. *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).

15. *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.

16. *Contractor* – The individual or entity with whom Owner has entered into the Agreement.

17. *Cost of the Work* – See Paragraph 11.01.A for definition.

18. *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.

19. *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.

20. *Engineer* – The individual or entity named as such in the Agreement.

21. *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.

22. *General Requirements* – Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

23. *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 in connection with the Work.

24. *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.

25. *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.

26. *Liens* – Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

27. *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.

28. *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.

29. *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.

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

31. *PCBs* – Polychlorinated biphenyls.

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32. *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.

33. *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.

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

35. *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.

36. *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.

37. *Related Entity* – An officer, director, partner, employee, agent, consultant, or subcontractor.

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

39. *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.

40. *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.

41. *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.

42. *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.

43. *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.

44. *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.

45. *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.

46. *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.

47. *Successful Bidder* – The Bidder submitting a responsive Bid to whom Owner makes an award.

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

49. *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 any Subcontractor.

50. *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.

51. Unit Price Work – Work to be paid for on the basis of unit prices.

52. *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.

53. *Work Change Directive* – A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and Agency upon recommendation of the Engineer ordering an 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 following words or terms are not defined but, when used in the Bidding Requirements or Contract Documents, have the following 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 requirements of and information in the Contract Documents and conformance with the design concept of the completed 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.

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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).

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 which 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.

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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;

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*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, Agency, 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.

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 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 may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage

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as being required to produce the intended 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, or Engineer, or any of their Related Entities, 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.

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 may discover 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 any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, 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 knew or reasonably should have known 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, code, or instruction (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).

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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;

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 Engineer's consultants, including electronic media editions; or

2. reuse any of 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 adaption by Engineer.

B. The prohibition 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. Copies of data furnished by Owner or Engineer to Contractor or 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 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,

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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 of explorations and tests of subsurface conditions at or contiguous to the Site that Engineer has used in preparing the Contract Documents; and

2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that Engineer has used in preparing the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general 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 Related Entities 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 at or contiguous to the Site 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

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

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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, Owner and Engineer, and any of their Related Entities 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.

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; 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,

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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 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:* Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the Engineer in the preparation of the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general 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 Related Entities 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

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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 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.

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 to Contractor written notice: (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, 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, 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.

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.

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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 current 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 must be accompanied by a certified copy of the agent's authority to act.

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 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.

B. Owner shall deliver to Contractor, with copies to each additional insured 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.

5.04 *Contractor's Liability Insurance*

A. Contractor shall purchase and maintain such liability and other 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;

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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.

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, 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, 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 completed operations insurance;

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

5. 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);

6. 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

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment.

   a. 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.

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5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (Contractor shall be responsible for any deductible or self-insured retention.). 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, partners, employees, agents, consultants and subcontractors of any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss 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 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 additional insured to whom a certificate of insurance has been issued.

B. Contractor shall purchase and maintain such boiler and machinery 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, 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 an insured or additional insured.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with 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 additional insured 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 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.

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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 to be listed as insureds or additional insureds (and the officers, directors, 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 additional insureds thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, 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 to be listed as insured or additional insured (and the officers, directors, 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 Contractor as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, 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.

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, 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 Contractor and made payable to Contractor as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Contractor 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.

B. Contractor 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 Contractor's exercise of this power. If such objection be made, Contractor 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, Contractor as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Contractor as fiduciary shall give bond for the proper performance of such duties.

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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 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. The superintendent will be Contractor's representative at the Site and shall have authority to act on behalf of Contractor. All communications given to or received from the superintendent shall be binding on Contractor.

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,

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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.

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;

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

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

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

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 that 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 procedure requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented in 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) will 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 or not 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 or not 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;

4) and 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

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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 either a Change Order for a substitute or 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 item so proposed or submitted by Contractor, Contractor shall reimburse Owner for the charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the 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 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 anything in the Contract Documents 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.

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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 an additional insured 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, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, 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.

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, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, 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.

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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 court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's primary 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, 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 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.

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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. 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. 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 , 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).

D. 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.

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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 acceptable Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

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 determined and verified:

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

b. the suitability of all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

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

d. shall also have 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.

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.

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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 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 Related Entities shall be entitled to rely on representation of Contractor's warranty and guarantee.

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

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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, 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 respective consultants, agents, officers, directors, partners, or employees 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 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, 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

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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.

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 via 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, a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and shall 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 their work and will only cut or alter their 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:

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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.

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 actions or inactions.

C. Contractor shall be liable to Owner and any other contractor for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's 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 in respect of 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 in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by Engineer in preparing the Contract Documents.

8.06 *Insurance*

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

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8.07 *Change Orders*

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

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility in 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. If and to the extent Owner has agreed to furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents, Owner's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

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 and will not be changed without written consent of Owner and Engineer.

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 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.

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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.

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.

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B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believe 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.

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.

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, subject to written approval by Agency 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.

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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.B.

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 notice 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) is required by the provisions of any bond to be given to a surety, 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 Time 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 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,

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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 include only the following items, and shall not include any of the costs itemized in Paragraph 11.01.B.

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 at the Site. 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 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.

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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, 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.

   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, expressages, 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.

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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 and 11.01.B.

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.

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.

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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.

D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the Bid price of a particular item of Unit Price Work amounts to more than 5 percent of the Contract Price and the variation in the quantity of that particular item of Unit Price Work performed by Contractor differs by more than 25 percent 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;

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 Paragraph 12.01.C.2.a 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;

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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 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.B.

1. delays caused by or within the control of Contractor; or

D. Owner, Engineer and the Related Entities of each of them 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.

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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. All 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, inspecting, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site 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 said Paragraph 13.04.C; and

3. as otherwise specifically provided in the Contract Documents.

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, it must, if requested by Engineer, be uncovered 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.

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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.

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 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

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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 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 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 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.

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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 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 on the Site 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;

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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, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and to 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. that 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

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.

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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. the Contractor's performance or furnishing of the Work is inconsistent with funding Agency requirements;

   d. there are other items entitling Owner to a set-off against the amount recommended; or

   e. 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 corrects to Owner's satisfaction the reasons for such action.

3. If it is subsequently determined 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.

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, Agency, Contractor, and Engineer shall make a prefinal 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.

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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 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 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 will certify to Owner and Engineer that such part of the Work is substantially complete and request Engineer to issue a certificate of Substantial Completion 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, Agency, 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.

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.

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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.7;

   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 or Owner's property might in any way be responsible 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.

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. The remaining balance of any sum included in the final Application for Payment but held by OWNER for Work not fully completed and accepted will become due when the Work is fully completed and accepted.

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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.

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 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

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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. 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 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.

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ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Owner and Contractor may mutually 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. 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 hall 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 their 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.

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.

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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.

ARTICLE 18 – FEDERAL REQUIREMENTS

18.01 *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.

18.02 *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.

18.03 *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.

B. 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.

18.04 *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

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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.

18.05 *Audit and Access to Records*

A. For all negotiated contracts and negotiated modifications (except those of $10,000 or less), Owner, Agency, the Comptroller General, or any of their duly authorized representatives, shall have access to any books, documents, papers, and records of the Contractor, which are pertinent to the Contract, for the purpose of making audits, examinations, excerpts and transcriptions. Contractor shall maintain all required records for three years after final payment is made and all other pending matters are closed.

18.06 *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.

18.07 *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.

18.08 *Clean Air and Pollution Control Acts*

A. If this Contract exceeds $100,000, Contractor shall comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 USC 7401 *et seq.*) and the Federal Water Pollution Control Act as amended (33 USC 1251 *et seq*.). Contractor will report violations to the Agency and the Regional Office of the EPA.

18.09 *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.

18.10 *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

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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.

18.11 *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.

18.12 *Environmental Requirements*

A. When constructing a project involving trenching and/or other related earth excavations, Contractor shall comply with the following environmental constraints:

1. Wetlands – When disposing of excess, spoil, or other construction materials on public or private property, Contractor shall not fill in or otherwise convert wetlands.

2. 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.

3. 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).

4. 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.

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EXHIBIT GC-A

Certificate of Owner's Attorney

I, the undersigned, _____, the duly authorized and acting legal representative of _____, 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: _____

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SUPPLEMENTARY CONDITIONS

The Supplementary Conditions amend or supplement, and are incorporated by reference into the Standard General Conditions of the Construction Contract, Funding Agency Edition, 2002, as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

ARTICLE 5

SC-5.04 Add the following new paragraph immediately after Paragraph 5.04.B:

C. The limits of liability for the 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 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.,Longshoreman's):	Statutory
c.	Employer's Liability:	Statutory

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 Contractor:

a.	Each Occurrence (Bodily Injury and Property Damage)	$_1,000,000
	Aggregate	$_2,000,000

3. 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 Accident	$_1,000,000
	Annual Aggregate	$_2,000,000
b.	Property Damage:	
	Each Accident	$_1,000,000
	Annual Aggregate	$_2,000,000

Add the following new Articles:

ARTICLE 19 ***State of New Mexico - Labor and Industrial Labor Requirements***

A. The minimum wages to be paid the various classes of mechanics and laborers engaged by the CONTRACTOR and Subcontractors for Work under this Contract including any additional, omitted or changed work, shall not be less than the amount as determined and established by the Office of the State Labor and Industrial Commission as provided by Section 13-4-11 NMSA 1978 and in full force and effect, without exception, on the date of the Contract and during the life time of this Contract.

B. The CONTRACTOR and each of his Subcontractors shall pay each of his employees working under this Contract in full, in cash, and not less than once a week, less all legally required deductions or withholdings. When circumstances are such that payment in cash is not feasible, or is impractical, payment may be made by check, provided, however, that adequate funds to cover the same are on deposit at the bank upon which the checks are drawn, and further that the checks may be cashed without charge, trade requirements or undue inconvenience to the payee.

C. The minimum wage rates, if any, specified for apprentices shall apply only to persons working with the tools of the trade that they are learning, and under the direct supervision of the journeyman or master mechanics. Except as otherwise required by law, the number of apprentices in each trade or occupation employed by the CONTRACTOR or any Subcontractor shall not exceed the number permitted under the usual practice prevailing between trade unions and Employers Association of the respective trades or occupations.

D. *Extra Work - Minimum Wage*

In case the OWNER orders the CONTRACTOR to perform extra work or additional work which may make it necessary for the CONTRACTOR or any Subcontractor under him, to employ in the performance of such work, any person in any trade or occupation for which no minimum wage rate is specified, the OWNER will include in the Contract Change Order for such extra or additional work the minimum wage rate for such trade or occupation, and insofar as such extra or additional work is concerned, there shall be paid each employee engaged in the Work in such trade or occupation, not less than the minimum wage rate included.

E. *Wage Underpayments and Adjustments*

The CONTRACTOR agrees that, in case of underpayment of wages to any worker on the project under this Contract, that the OWNER may withhold out of payments due, an amount sufficient to pay such worker the difference between the wages required to be paid under this Contract and the wages actually paid such worker for the total number of hours worked and that the OWNER may disburse such amount so withheld by it, for and on account of the CONTRACTOR to the employee to which such amount is due. The CONTRACTOR further agrees that the amounts to be withheld pursuant to this paragraph may be in addition to the percentages to be retained by the OWNER pursuant to other provisions of this Contract.

F. A copy of the New Mexico State Office of the Labor Commissioner Minimum Wage Rates and Apprentices minimum wage scales in effect at the time of the Contract shall be posted or otherwise made available to the CONTRACTOR's employees at all times on the job.

Article 20 ***Affirmative Action / Equal Employment Opportunity and Nondiscrimination***

During the performance of this Contract, the CONTRACTOR agrees as follows:

A. The CONTRACTOR will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age, national origin or ancestry, or physical or mental handicap. The CONTRACTOR will take affirmative action to ensure that applicants for employment are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, age, national origin or ancestry, physical or mental handicap. Such action shall include but not be limited to the following: employment, upgrading, demotion, transfer, recruitment, recruitment advertising, layoff, termination, disciplinary actions and grievances, rates of pay or other forms of compensation, other terms and conditions of employment and selection for training, including apprenticeship. The CONTRACTOR agrees to post, in conspicuous places available to employees and applicants for employment, notices required to be posted by State and Federal agencies, setting forth the provisions of this nondiscrimination clause.

B. The CONTRACTOR will make reasonable accommodation to the known physical or mental handicap of an otherwise qualified employee or applicant for employment as required by law, under the New Mexico State Human Rights Act (Sections 28-1-1 to 28-1-7, 28-1-9 to 28-1-14 NMSA 1978).

C. The CONTRACTOR will in all solicitations or advertisements for employees placed by or on behalf of the CONTRACTOR, state that all qualified applicants will receive consideration of employment without regard to race, color, religion, sex, age, national origin or ancestry, or physical or mental handicap.

D. The CONTRACTOR will send to each labor union, organization, or representative of workers, with which it has a collective bargaining agreement or other contract or understanding and training programs, a notice advising the labor union, organization or workers' representatives and training programs of its Equal Employment Opportunity (EEO) policy and request their cooperation in meeting its EEO obligations. The CONTRACTOR shall post copies of the notice in conspicuous places available to employees, applicants for employment, and the general public.

E. The CONTRACTOR will comply with all provisions of Title VII of the US Civil Rights Act of 1964, as amended.

F. In the event of the CONTRACTOR's noncompliance with the nondiscrimination clauses of this Contract or with any other applicable laws, rules or orders pertaining to Affirmative Action/Equal Employment Opportunity and Nondiscrimination, this Contract may be canceled, terminated or suspended in whole or in part, and such other sanctions may be imposed and remedies invoked as otherwise provided by law.

G. The CONTRACTOR will include the provisions of paragraph (A) through (F) in every subcontract or purchase order so that such provisions shall be binding upon every Subcontractor. The CONTRACTOR shall take such action, with respect to any subcontract, as necessary to enforce such provisions, including sanctions provided for noncompliance.

H. In the event that a state or federal agency is providing funding for this Contract and has specific Affirmative Action/Equal Opportunity and Nondiscrimination requirements, which are in conflict with these requirements, the specific state or federal requirements will govern.

Article 21 ***Compliance with Storm Drainage Discharge Requirements***

A. If the Project construction will disturb one acre or more, the Project is subject to the U.S. Environmental Protection Agency, National Pollutant Discharge Elimination System Regulations for Storm Water Discharges, 40 C.F.R., Parts 122, 123, and 124.

B. Information forms for the Project may be found by contacting the EPA at (202) 260-7786 or at the EPA Internet site www.epa.gov/owm/npdes.htm .

C. CONTRACTOR shall complete the information form and shall include the original with appropriate attachments in the contract documents. CONTRACTOR shall also complete an EPA General Permit Notice of Intent Form 3510-6 for the Project, and shall transmit the completed form to the following agency:

Storm Water Notice of Intent
P.O. Box 1215
Newington, VA 22122

D. CONTRACTOR shall submit to OWNER, at least 48 hours prior to Notice to Proceed, a copy of the completed Notice of Intent Form 3510-6, together with a copy of CONTRACTOR's transmittal letter of such form to the EPA.

E. CONTRACTOR is the designated "Operator" of the NPDES Permit, and is solely responsible for execution of the project construction in conformance with permit conditions and requirements, including work performed by any Subcontractors. CONTRACTOR shall immediately correct conditions related to the project

that are in violation of permit requirements. Failure by CONTRACTOR to correct such conditions in a timely manner shall subject CONTRACTOR to possible fines and penalties as defined by the permit.

F. CONTRACTOR shall indemnify, defend and hold OWNER harmless for any fines and/or penalties issued for violations of permit conditions.

G. In the event CONTRACTOR fails to comply with permit requirements, OWNER retains the right to enter upon the project site and perform corrective measures. The costs of such corrective measures shall be the responsibility of, and shall be paid by CONTRACTOR. OWNER shall be entitled to deduct such costs from remaining contract amounts, and if insufficient contract amounts exist, CONTRACTOR shall reimburse OWNER for any deficiency.

H. EPA Notice of Termination Form 3510-7 will be completed by CONTRACTOR and submitted to EPA at the above address after final acceptance of the Project Construction.

Article 22 ***Inspection by Others***

A. This project is subject to inspection by representatives of State and Federal agencies. The Contractor shall provide access, equipment and labor to uncover work if so directed and shall cooperate in every way with such inspections.

B. OWNER personnel or designated representative will be inspecting the work at various times through the construction period as one of the project permit conditions. These inspections include, but are not limited to: 1) construction of major structural features, and 2) at completion of construction.

C. Deviation from the plans and specifications will not be permitted without written approval of the Engineer.

STANDARD SPECIFICATIONS

INCORPORATION OF NEW MEXICO STANDARD SPECIFICATIONS: The New Mexico Standard Specifications for Public Works Construction, 2006 Edition, Technical Specifications, as updated, and the New Mexico State Department of Transportation Standard Specifications for Highway and Bridge Construction, including the Supplemental Specifications are in effect during this project are incorporated by reference, the same as if fully written herein and shall govern this project except where revised, updated or supplemented by the Supplemental Technical Specifications.

All items required for this project, except those listed in the unit price bid proposal, will be considered incidental to the Contract Work and no additional payment shall be made unless unanticipated conditions are uncovered requiring a change order.

Environmental Engineering Technical Specification

SECTION 01 01 9 CONTRACT CONSIDERATIONS .....01 01 90-1 to 01 01 90-2

SECTION 01 03 9 COORDINATION AND MEETINGS .....01 03 90-1 to 01 03 90-4

SECTION 01 06 00 REGULATORY REQUIREMENTS..... 01 06 00-1

SECTION 01 30 00 SUBMITTALS.....01 30 00-1 to 01 30 00-6

SECTION 01 32 16 CONSTRUCTION PROGRESS SCHEDULE.01 32 16-1 to 01 30 16-3

SECTION 01 40 00 QUALITY REQUIREMENTS .....01 40 00-1 to 01 40 00-4

SECTION 01 70 00 CONTRACT CLOSEOUT .....01 70 0-1 to 01 70 0-7

SECTION 01 70 20 PERMITS……..…01 70 20-1 to 01 40 20-2

SECTION 02 03 90 CHLORINATION EQUIPMENT…….02 03 90-1 to 02 03 90-3

SECTION 02 53 20 WATER BOOSTER PUMPING SYSTEM AND ENCLOSURE .....

.....02 53 2-1 to 02 53 2-21

SECTION 33 13 00 DISINFECTING OF WATER UTILITY DISTRIBUTION .....

.....33 13 00-1 to 33 13 00-3

SECTION 01 01 90
CONTRACT CONSIDERATIONS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Application for Payment.

B. Change procedures.

1.2 APPLICATIONS FOR PAYMENT

A. Submit three copies of each application on EJCDC C-620 (Form 00620 – 1 through 4 included herein). Contractor's electronic media driven form similar to EJCDC document may be considered.

B. Content and Format: Utilize Bid Tab for listing items in Application for Payment.

C. Payment Period: As specified in the Agreement.

D. Include an updated construction progress schedule and construction photographs as specified.

1.3 CHANGE PROCEDURES

A. Engineer will advise of minor changes in the Work not involving an adjustment to Contract Sum/Price or Contract Time as authorized by issuing supplemental instructions.

B. Engineer may issue a Notice of Change that includes a detailed description of a proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change and the period of time during which the requested price will be considered valid. Contractor will prepare and submit an estimate within 10 days.

C. The Contractor may propose a change by submitting a request for change to the Engineer, describing the proposed change and its full effect on the Work. Include a statement describing the reason for the change, and the effect on the Contract Sum/Price and Contract Time.

D. Stipulated Sum/Price Change Order: Based on Notice of Change and Contractor's fixed price quotation or Contractor's request for a Change Order as approved by Engineer.

E. Work Directive Change: Engineer may issue a directive, EJCDC 1910-8-F Work Directive Change signed by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute the change.

F. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract. Engineer will determine the change allowable in Contract Sum/Price and Contract Time as

provided in the Contract Documents.

G. Maintain detailed records of work done on Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.

H. Change Order Forms: Form CO-1 (included herein).

I. Execution of Change Orders: Engineer will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

1.4 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, not conforming to specified requirements.

B. If, in the opinion of the Engineer, it is not practical to remove and replace the Work, the Engineer will direct an appropriate remedy or adjust payment.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 03 90
COORDINATION AND MEETINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Coordination and project conditions.
B. Field engineering.
C. Preconstruction meeting.
D. Site mobilization meeting.
E. Progress meetings.
F. Pre-installation conferences.

1.2 COORDINATION AND PROJECT CONDITIONS

A. Coordinate scheduling, submittals, and Work of the various Sections of the Project Manual to assure efficient and orderly sequence of installation of interdependent construction.

B. Verify that utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

C. Coordinate space requirements and installation of mechanical and electrical Work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with line of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

D. In finished areas, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

E. Coordinate completion and clean up of Work of separate sections in preparation for Substantial Completion.

F. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.3 FIELD ENGINEERING

A. Employ a Land Surveyor registered in the State of New Mexico and acceptable to the Engineer.

B. Contractor to locate and protect survey control and reference points.

C. Control datum for survey is that shown on Drawings.

D. Confirm drawing dimensions and elevations.

E. Provide field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.

1.4 PRECONSTRUCTION MEETING

A. Engineer will schedule a conference after Notice of Award.

B. Attendance Required: Owner, Engineer, and Contractor.

C. Agenda:
1. Submission of executed bonds and insurance certificates.
2. Distribution of Contract Documents.
3. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
4. Designation of personnel representing the parties in Contract, and the Engineer.
5. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders.
6. Scheduling.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer, participants, and those affected by decisions made.

1.5 SITE MOBILIZATION MEETING

A. Engineer will schedule a meeting at the Project site prior to Contractor occupancy.

B. Attendance Required: Engineer, Contractor, Contractor's Superintendent, and major Subcontractors.

C. Agenda:
1. Use of premises by Owner and Contractor.
2. Owner's requirements.
3. Construction facilities and controls provided by Owner.
4. Temporary utilities provided by Owner.
5. Survey and site layout.
6. Security and housekeeping procedures.
7. Schedules.
8. Application for payment procedures.
9. Procedures for testing.
10. Procedures for maintaining record documents.
11. Requirements for start-up of equipment.
12. Inspection and acceptance of equipment put into service during construction period.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer, participants, and those affected by decisions made.

1.6 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work at maximum monthly intervals, or as directed by Owner.

B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

C. Attendance Required: Job superintendent, major Subcontractors and suppliers, Engineer, as appropriate to agenda topics for each meeting.

D. Agenda:
1. Review minutes of previous meetings.
2. Review of Work progress.
3. Field observations, problems, and decisions.
4. Identification of problems which impede planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of off-site fabrication and delivery schedules.
7. Maintenance of progress schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Coordination of projected progress.
11. Maintenance of quality and work standards.
12. Effect of proposed changes on progress schedule and coordination.
13. Other business relating to Work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer, participants, and those affected by decisions made.

1.7 PREINSTALLATION MEETING

A. When required in individual specification Sections, convene a pre-installation meeting at the site prior to commencing work of the Section.

B. Require attendance of parties directly affecting, or affected by, work of the specific Section.

C. Notify Engineer seven days in advance of meeting date.

D. Prepare agenda and preside at meeting:
1. Review conditions of installation, preparation and installation procedures.
2. Review coordination with related work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer, participants, and those affected by decisions made.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 06 00
REGULATORY REQUIREMENTS

PART 1 GENERAL

1.1 APPLICABLE CODES AND ORDINANCES

A. All Work shall conform to the current versions of all applicable building, mechanical, plumbing, and electrical codes.

B. Contractor is responsible for acquiring all applicable building, mechanical, plumbing, and electrical permits related to this project.

C. Comply with all local laws, ordinances, and regulations which may impact Contractor's Work.

1.2 OSHA REQUIREMENTS

A. All equipment and facilities provided, including but not limited to, handrails, grating, hoists, equipment guards, ladders, etc., shall meet OSHA requirements whether or not such requirements are specifically indicated or described in Contract Documents.

B. Any conflicts between OSHA requirements and Contract Documents shall be brought to the attention of the Engineer on a timely basis for resolution.

END OF SECTION 01 06 00

SECTION 01 30 00
SUBMITTALS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Submittal procedures.

B. Construction progress schedules.

C. Proposed Products list.

D. Product data.

E. Shop Drawings.

F. Samples.

G. Design data.

H. Test reports.

I. Certificates.

J. Manufacturer's instructions.

K. Manufacturer's field reports.

L. Erection drawings.

M. Construction photographs.

1.2 SUBMITTAL PROCEDURES

A. Transmit each submittal with Engineer accepted form, included at the end of this Section.

B. Sequentially number the transmittal forms. Resubmittals to have original number with a sequential alphabetic suffix.

C. Identify Project, Contractor, Subcontractor or supplier; pertinent Drawing and detail number(s), and specification Section number, as appropriate.

D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.

E. Schedule submittals to expedite the Project, and deliver to Engineer at business address. Coordinate submission of related items.

F. For each submittal for review, allow 15 days excluding delivery time to and from the

contractor.

G. Identify variations from Contract Documents and Product or system limitations, which may be detrimental to successful performance of the completed Work.

H. Provide space for Contractor and Engineer review stamps.

I. When revised for resubmission, identify all changes made since previous submission.

J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

K. Submittals not requested will not be recognized or processed.

1.3 CONSTRUCTION PROGRESS SCHEDULES

A. Submit initial Construction schedule in triplicate within 10 days after date of Notice to Proceed.

B. Revise and resubmit as required.

C. Submit revised schedules with each Application for Payment, identifying changes since previous version.

D. Submit a CPM-based, computer-generated, horizontal bar chart with separate line for each major section of Work or operation identifying first work day of each week, or other Engineer accepted chart.

E. Progress Schedule shall, at a minimum, contain the following:

1. Progress Schedule Heading:
   a. Name of Contractor
   b. Name of Engineer
   c. Name and Address of Project
   d. Engineer Project Number
   e. Current Date of submitted schedule

2. Calendar Months of construction
3. Start date of each task/activity
4. “Milestone” dates for each required inspection
5. Start and completion dates for critical tasks or activities
6. Percentage of total costs or work for each task/activity, etc.
7. Duration of time for each task/activity, start to finish
8. Percentage of completion, updated monthly
9. Proposed Construction Curve marked in black an actual construction curve marked in red
10. Payments project to expected per month
11. Accumulation of project payments per month
12. Actual payments per month

13. Submit updated Progress Schedule each month in conjunction with Certificate of Payment

F. CPM Software: Computer based programs which lend themselves to construction management and which are acceptable to the Owner are: Microsoft Project. Use of other software shall be approved by the Owner.

G. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.

H. Indicate estimated percentage of completion for each item of Work at each submission.

I. Indicate submittal dates required for Shop Drawings, product data, samples, and product delivery dates, including those furnished by Owner and under Allowances.

1.4 PROPOSED PRODUCTS LIST

A. Within 15 days after date of Owner-Contractor Agreement submit complete list of major Products proposed for use as defined in the Technical Specifications. Included in the list shall be the name of manufacturer, trade name, model number of each Product, and corresponding Section of the Contract Documents.

B. For Products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.5 PRODUCT DATA

A. Product Data for Review:
   1. Submitted to Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.

   2. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700 - CONTRACT CLOSEOUT.

B. Product Data for Information:
   1. Submitted for the Engineer's knowledge as contract administrator or for the Owner.

C. Product Data for Project Close-Out:
   1. Submitted for the Owner's benefit during and after project completion.

D. Submit the number of copies which the Contractor requires, plus four copies which will be retained by the Engineer. The number of copies submitted shall be no less than five copies.

E. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to this Project.

F. Indicate Product utility and electrical characteristics, utility connection requirements, and

location of utility outlets for service for functional equipment and appliances.

G. After review, distribute in accordance with Submittal Procedures article above and provide copies for Record Documents described in Section 01700.

1.6 SHOP DRAWINGS

A. Shop Drawings for Review:
   1. Submitted to Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
   2. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700.

B. Shop Drawings for Information:
   1. Submitted for the Engineer's knowledge as contract administrator or for the Owner.

C. Shop Drawings for Project Close-Out:
   1. Submitted for the Owner's benefit during and after project completion.

D. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

E. Submit the number of opaque reproductions which Contractor requires, plus four copies which will be retained by Engineer. The number of copies submitted shall be no less than five copies.

1.7 SAMPLES

A. Samples for Review:
   1. Submitted to Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
   2. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700.

B. Samples for Information:
   1. Submitted for the Engineer's knowledge as contract administrator or for the Owner.

C. Samples for Selection:
   1. Submitted to Engineer for aesthetic, color, or finish selection.
   2. Submit samples of finishes, textures, and patterns for Engineer selection.
   3. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01 70 00.

D. Submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

E. Include identification on each sample, with full Project information.

F. Submit the number or samples specified in individual specification Sections; one of which will be retained by Engineer.

G. Reviewed samples which may be used in the Work are indicated in individual specification Sections.

H. Samples will not be used for testing purposes unless specifically stated in the specification section.

1.8 DESIGN DATA

A. Submit for the Engineer's knowledge as contract administrator or for the Owner.

B. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.9 TEST REPORTS

A. Submit for the Engineer's knowledge as contract administrator or for the Owner.

B. Submit test reports for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.10 CERTIFICATES

A. When specified in individual specification Sections, submit certification by manufacturer, installation/application Subcontractor, or the Contractor to Engineer, in quantities specified for Product Data.

B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Engineer.

1.11 MANUFACTURER'S INSTRUCTIONS

A. When specified in individual specification Sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing to Engineer, 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. Refer to Section 01 40 00 - Quality Control, Manufacturer' Field Services article.

1.12 MANUFACTURER'S FIELD REPORTS

A. Submit reports for the Engineer's benefit as contract administrator or for the Owner.

B. Submit report in duplicate within 30 days of observation to Engineer for information.

C. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.13 ERECTION DRAWINGS

A. Submit drawings for the Engineer's benefit as contract administrator or for the Owner.

B. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

C. Data indicating inappropriate or unacceptable Work may be subject to action by the Engineer or Owner.

1.14 CONSTRUCTION PHOTOGRAPHS

A. Twice monthly submit photographs with Application for Payment.

B. Photographs: Two prints ; color, matte; 8 x 10 inch size; mounted on 8-1/2 x 11 inch soft card stock, with left edge binding margin for three hole punch.

C. Take photographs of site and construction, as directed by the Engineer or Construction Supervisor throughout progress of Work.

D. Identify photographs with date, time, orientation and project identification.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION 01 30 00

SECTION 01 32 16
CONSTRUCTION PROGRESS SCHEDULE

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Submittals.

B. Quality assurance.

C. Format for network analysis schedules.

D. Network analysis schedules.

E. Bar chart schedules.

F. Review and evaluation.

G. Updating schedules.

H. Distribution.

1.2 SUBMITTALS

A. Within 10 days after date established in Notice to Proceed, submit proposed preliminary planned operations for first 30 days of Work, with general outline for remainder of Work.

B. Submit updated work schedules with each Application for Payment.

C. Submit work schedules under transmittal letter form specified in Section 01 33 00 - Submittal Procedures.

D. Schedule Updates:

1. Overall percent complete, projected and actual.
2. Completion progress by listed activity and subactivity, to within **five working** days prior to submittal.
3. Changes in Work scope and activities modified since submittal.
4. Delays in submittals or resubmittals, deliveries, or Work.
5. Adjusted or modified sequences of Work.
6. Other identifiable changes.
7. Revised projections of progress and completion.

1.3 QUALITY ASSURANCE

A. Scheduler: Contractor's personnel specializing in CPM scheduling, and having use of computer facilities capable of delivering detailed graphic printout within 48 hours of request.

1.4 BAR CHART SCHEDULES

A. Format: Bar chart Schedule, to include at least:

1. Identification and listing in chronological order of those activities reasonably required to complete the Work, including:

   a. Subcontract Work.
   b. Major equipment design, fabrication, factory testing, and delivery dates including required lead times.
   c. Move-in and other preliminary activities.
   d. Equipment and equipment system test and startup activities.
   e. Project closeout and cleanup.
   f. Work sequences, constraints, and milestones.

1.5 REVIEW AND EVALUATION

A. Participate in joint review and evaluation of schedules with Engineer at each submittal.

B. Evaluate Project status to determine Work behind schedule and Work ahead of schedule.

1.6 UPDATING SCHEDULES

A. Maintain schedules to record actual start and finish dates of completed activities.

B. Indicate progress of each activity to date of revision, with projected completion date of each activity.

C. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.

D. Upon approval of a Change Order, include the change in the next schedule submittal.

E. Indicate changes required to maintain Date of Substantial Completion.

F. Submit sorts as required to support recommended changes.

G. Prepare narrative report to define problem areas, anticipated delays, and impact on schedule. Report corrective action taken or proposed and its effect.

1.7 DISTRIBUTION

A. Following joint review, distribute copies of updated schedules to Contractor's Project site file, to Subcontractors, suppliers, Engineer, and Owner.

B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION 01 32 16

SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Quality control.

B. Tolerances.

C. References.

D. Labeling.

E. Mockup requirements.

F. Testing and inspection services.

G. Manufacturers' field services.

1.2 QUALITY CONTROL

A. Monitor quality control over suppliers, manufacturers, products, services, Site conditions, and workmanship, to produce Work of specified quality.

B. Comply with specified standards as the minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

C. Perform Work using persons qualified to produce required and specified quality.

D. Products, materials, and equipment may be subject to inspection by Engineer and Owner at place of manufacture or fabrication. Such inspections shall not relieve Contractor of complying with requirements of Contract Documents.

E. Supervise performance of Work in such manner and by such means to ensure that Work, whether completed or in progress, will not be subjected to harmful, dangerous, damaging, or otherwise deleterious exposure during construction period.

1.3 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' recommended tolerances and tolerance requirements in reference standards. When such tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

A. For products or workmanship specified by association, trades, or other consensus standards, comply with requirements of standard except when more rigid requirements are specified or are required by applicable codes.

B. Conform to reference standard by date of issue current as of date for receiving Bids except where specific date is established by code.

C. Obtain copies of standards and maintain on Site when required by product Specification Sections.

D. When requirements of indicated reference standards conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.

E. Neither contractual relationships, duties, or responsibilities of parties in Contract nor those of Engineer shall be altered from Contract Documents by mention or inference in reference documents.

1.5 LABELING

A. Attach label from agency approved by authorities having jurisdiction for products, assemblies, and systems required to be labeled by applicable code.

B. Label Information: Include manufacturer's or fabricator's identification, approved agency identification, and the following information, as applicable, on each label:

1. Model number.
2. Serial number.
3. Performance characteristics.

C. Manufacturer's Nameplates, Trademarks, Logos, and Other Identifying Marks on Products: Not allowed on surfaces exposed to view in public areas, interior or exterior.

1.6 MOCK-UP REQUIREMENTS

A. Tests will be performed under provisions identified in this Section and identified in individual product Specification Sections.

B. Assemble and erect specified or indicated items with specified or indicated attachment and anchorage devices, flashings, seals, and finishes.

C. Accepted mockups shall be comparison standard for remaining Work.

D. Where mockup has been accepted by Engineer and is specified in product Specification Sections to be removed, remove mockup and clear area when directed to do so by Engineer.

1.7 TESTING AND INSPECTION SERVICES

A. Employ and pay for services of an independent testing agency or laboratory acceptable to Owner to perform specified testing.

1. Before starting Work, submit testing laboratory name, address, and telephone number, and names of full-time specialist and responsible officer.
2. Submit copy of report of laboratory facilities' inspection made by Materials Reference Laboratory of National Bureau of Standards during most recent inspection, with memorandum of remedies of deficiencies reported by inspection.

B. Independent firm will perform tests, inspections, and other services specified in individual Specification Sections and as required by Engineer, Owner, authorities having jurisdiction.

1. Laboratory: Authorized to operate in State of New Mexico.
2. Laboratory Staff: Maintain full-time specialist on staff to review services.
3. Testing Equipment: Calibrated at reasonable intervals with devices of accuracy traceable to National Bureau of Standards or accepted values of natural physical constants.

C. Testing, inspections, and source quality control may occur on or off Project Site. Perform off-Site testing as required by Engineer or Owner.

D. Reports shall be submitted by independent firm to Engineer, Owner, Contractor, and authorities having jurisdiction, in duplicate, indicating observations and results of tests and compliance or noncompliance with Contract Documents.

1. Submit final report indicating correction of Work previously reported as noncompliant.

E. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.

1. Notify Engineer and independent firm 24 hours before expected time for operations requiring services.
2. Make arrangements with independent firm and pay for additional Samples and tests required for Contractor's use.

F. Employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work according to requirements of Contract Documents.

G. Retesting or re-inspection required because of nonconformance with specified or indicated requirements shall be performed by same independent firm on instructions from Engineer. Payment for retesting or re-inspection will be charged to Contractor.

H. Agency Responsibilities:

1. Test Samples of mixes submitted by Contractor.
2. Provide qualified personnel at Site. Cooperate with Engineer and Contractor in performance of services.
3. Perform indicated sampling and testing of products according to specified standards.
4. Ascertain compliance of materials and mixes with requirements of Contract Documents.

5. Promptly notify Engineer and Contractor of observed irregularities or nonconformance of Work or products.
6. Perform additional tests required by Architect/Engineer.
7. Attend preconstruction meetings and progress meetings.

I. Agency Reports: After each test, promptly submit two copies of report to Engineer, Contractor, and authorities having jurisdiction. When requested by Engineer, provide interpretation of test results. Include the following:

1. Date issued.
2. Project title and number.
3. Name of inspector.
4. Date and time of sampling or inspection.
5. Identification of product and Specification Section.
6. Location in Project.
7. Type of inspection or test.
8. Date of test.
9. Results of tests.
10. Conformance with Contract Documents.

J. Limits on Testing Authority:

1. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Agency or laboratory may not approve or accept any portion of the Work.
3. Agency or laboratory may not assume duties of Contractor.
4. Agency or laboratory has no authority to stop the Work.

1.8 MANUFACTURER'S FIELD SERVICES

A. When specified in individual Specification Sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe Site conditions, conditions of surfaces and installation, quality of workmanship, startup of equipment, testing, adjusting, and balancing of equipment as applicable, and to initiate instructions when necessary.

B. Submit qualifications of observer to Engineer 10 days in advance of required observations. Observer is subject to approval of Owner.

C. Report observations and Site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturer's written instructions.

D. Refer to Section 01 33 00 - Submittal Procedures, "Manufacturer's Field Reports" Article.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION 01 40 00

SECTION 01 70 00
CONTRACT CLOSEOUT

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Closeout procedures.

B. Starting of systems.

C. Demonstration and instructions.

D. Project record documents.

E. Operation and maintenance.

F. Manual for equipment and systems.

G. Spare parts and maintenance bonds

H. Product warranties and product bonds.

I. Maintenance service.

J. Final cleaning.

1.2 CLOSEOUT PROCEDURES

A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer and New Mexico Environment Department review.

B. Provide submittals to Engineer that are required by governing or other authorities, including those specified in the General Conditions and including but not limited to the Certification of Labor standard, Affidavit of Wages Paid, and Surety for Final Payment.

C. Submit final Application for Payment identifying total adjusted Contract Sum/Price, previous payments, and amount remaining due.

1.3 STARTING OF SYSTEMS

A. Coordinate schedule for startup of various equipment and systems.

B. Notify Engineer and Owner seven days prior to startup of each item.

C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions which may cause damage.

D. Verify that tests, meter readings, and electrical characteristics agree with those required by equipment or system manufacturer.

E. Verify that wiring and support components for equipment are complete and tested.

F. Execute startup under supervision of manufacturer's representative or Contractors' personnel according to manufacturer's instructions.

G. When specified in individual Specification Sections, require manufacturer to provide authorized representative who will be present at Site to inspect, check, and approve equipment or system installation prior to startup and will supervise placing equipment or system in operation.

H. Submit a written report according to Section 01 33 00 - Submittal Procedures that equipment or system has been properly installed and is functioning correctly.

1.4 DEMONSTRATION AND INSTRUCTIONS

A. Demonstrate operation and maintenance of products to Owner's personnel two weeks prior to date of final inspection.

B. Demonstrate Project equipment instructed by qualified authorized manufacturer's representative who is knowledgeable about the Project.

C. Video Recordings: Provide high-quality color video recordings of demonstration and instructional sessions. Engage commercial videographer to record sessions. Include classroom instructions, demonstrations, board diagrams, and other visual aids. Include menu navigation.

D. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

E. Use operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.

F. Demonstrate startup, operation, control, adjustment, troubleshooting, servicing, maintenance, and shutdown of each item of equipment at project location.

G. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

1.5 PROJECT RECORD DOCUMENTS

A. Maintain on Site one set of the following record documents; record actual revisions to the Work:

1. Drawings.
2. Specifications.
3. Addenda.

4. Change Orders and other modifications to the Contract.
5. Reviewed Shop Drawings, product data, and Samples.
6. Manufacturer's instruction for assembly, installation, and adjusting.
7. New Mexico Wage Rate Determination. And Certified Payroll.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress, not less than weekly.

E. Specifications: Legibly mark and record, at each product Section, description of actual products installed, including the following:

1. Manufacturer's name and product model and number.
2. Product substitutions or alternates used.
3. Changes made by Addenda and modifications.

F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction as follows:

1. Include Contract modifications such as Addenda, supplementary instructions, change directives, field orders, minor changes in the Work, and change orders.
2. Include locations of concealed elements of the Work.
3. Identify depth of buried utility lines and provide dimensions showing distances from permanent facility components that are parallel to utilities.
4. Dimension ends, corners, and junctions of buried utilities to permanent facility components using triangulation.
5. Identify and locate existing buried or concealed items encountered during Project.
6. Measured depths of foundations in relation to finish floor datum.
7. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
8. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
9. Field changes of dimension and detail.
10. Details not on original Drawings.

G. Submit marked-up paper copy documents to Engineer with claim for final Application for Payment.

H. Submit PDF electronic files of marked-up documents to Engineer before Substantial Completion.

1.6 OPERATION AND MAINTENANCE DATA

A. Submit in PDF composite electronic indexed file.

B. Submit data bound in 8-1/2 x 11-inch text pages, three D side ring binders with durable covers.

C. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS," title of Project, and subject matter of binder when multiple binders are required.

D. Internally subdivide binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.

E. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

F. Contents: Prepare table of contents for each volume, with each product or system description identified, typed on white paper, in three parts as follows:

1. Part 1: Directory, listing names, addresses, and telephone numbers of Contractor, Subcontractors, and major equipment suppliers.
2. Part 2: Operation and maintenance instructions arranged by system and subdivided by Specification Section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Include the following:

    a. Significant design criteria.
    b. List of equipment.
    c. Parts list for each component.
    d. Operating instructions.
    e. Maintenance instructions for equipment and systems.
    f. Maintenance instructions for finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
    g. Safety precautions to be taken when operating and maintaining or working near equipment.

3. Part 3: Project documents and certificates, including the following:

    a. Shop Drawings and product data.
    b. Air and water balance reports.
    c. Certificates.
    d. Photocopies of warranties and bonds.

1.7 MANUAL FOR EQUIPMENT AND SYSTEMS

A. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Engineer will review draft and return one copy with comments.

B. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.

C. Submit one copy of completed volumes before Substantial Completion. Draft copy will be reviewed and returned after Substantial Completion, with Engineer comments. Revise content of document sets as required prior to final submission.

D. Submit two sets of revised final volumes within ten days after final inspection.

E. Submit in PDF composite electronic indexed file of final manual within ten days after final inspection.

F. Each Item of Equipment and Each System: Include description of unit or system and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.

G. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed or by label machine.

H. Include color-coded wiring diagrams as installed.

I. Operating Procedures: Include startup, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shutdown, and emergency instructions. Include summer, winter, and special operating instructions.

J. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

K. Include servicing and lubrication schedule and list of lubricants required.

L. Include manufacturer's printed operation and maintenance instructions.

M. Include sequence of operation by controls manufacturer.

N. Include original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

O. Include control diagrams by controls manufacturer as installed.

P. Include Contractor's coordination drawings with color-coded piping diagrams as installed.

Q. Include charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

R. Include list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

S. Include test and balancing reports as specified in Section 01 40 00 - Quality Requirements.

T. Additional Requirements: As specified in individual product Specification Sections.

U. Include listing in table of contents for design data with tabbed dividers and space for insertion of data.

1.8 SPARE PARTS AND MAINTENANCE PRODUCTS

A. Furnish spare parts, maintenance, and extra products in quantities specified in individual Specification Sections.

B. Deliver to place in location as directed by Owner; obtain receipt prior to final payment.

1.9 PRODUCT WARRANTIES AND PRODUCT BONDS

A. Obtain warranties and bonds executed in duplicate by responsible Subcontractors, suppliers, and manufacturers within ten days after completion of applicable item of Work.

B. Execute and assemble transferable warranty documents and bonds from Subcontractors, suppliers, and manufacturers.

C. Verify documents are in proper form, contain full information, and are notarized.

D. Co-execute submittals when required.

E. Include table of contents and assemble in three D side ring binder with durable cover.

F. Submit prior to final Application for Payment.

G. Time of Submittals:

1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within ten days after acceptance.
2. Make other submittals within ten days after date of Substantial Completion, prior to final Application for Payment.
3. For items of Work for which acceptance is delayed beyond Substantial Completion, submit within ten days after acceptance, listing date of acceptance as beginning of warranty or bond period.

1.10 MAINTENANCE SERVICE

A. Furnish service and maintenance of components indicated in Specification Sections for one year from date of Final Acceptance or during warranty period, whichever is longer.

B. Examine system components at frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

C. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by manufacturer of original component.

D. Do not assign or transfer maintenance service to agent or Subcontractor without prior written consent of Owner.

1.11 FINAL CLEANING

A. Owner will provide final cleaning after final acceptance.

B. Clean interior and exterior glass and surfaces exposed to view; remove temporary labels, stains and foreign substances, and polish transparent and glossy surfaces.

C. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

D. Clean or replace filters of operating equipment.

E. Clean debris from roofs, gutters, downspouts, and drainage systems.

F. Clean site; sweep paved areas, rake clean landscaped surfaces.

G. Remove waste and surplus materials, rubbish, and construction facilities from the site.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION 01 70 00

SECTION 01 70 20
PERMITS

PART 1 – GENERAL

1.01 Description of Work

A. The work under this section includes the miscellaneous construction as required to satisfy the requirements of various permits from local, state, and federal agencies to build within public rights-of-way and to address storm water runoff from new development and redevelopment projects.

PART 2 – PRODUCTS / MATERIALS

No products or materials are described in this section.

PART 3 – EXECUTION

3.01 Storm Water NPDES Requirements

A. The Contractor shall be solely responsible for conforming with all requirements of the "National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges", as published December 8, 1999, as required by Section 402(p) of the Clean Water Act (CWA).

B. Contractor shall be solely responsible for conforming with the Phase II Final Rule, including:

a. Preparation and filing of the Notice of Intent (NOI)
b. Preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP).
c. Preparation and implementation of a Temporary Erosion and Sediment Control Plan (TESCP).
d. Utilizing recognized Best Management Practices (BMP) to prevent sediment laden run-off from leaving the project site.
e. Preparation and submittal of the Notice of Termination (NOT).

PART 4 – MEASUREMENT AND PAYMENT

4.01 Payment for Storm Water NPDES Requirements

A. Payment shall be made for this item as shown in the Bid Form. The item "NPDES Permitting" shall be paid as a lump sum and shall include all costs incurred by the Contractor associated with preparation, filing, and publishing of all written documents required by the Phase II Final Rule. The item "Erosion Controls/SWPPP" shall be paid as a lump sum and shall include all costs incurred by the Contractor associated with implementation, placing, inspecting, maintaining, and removing of temporary erosion controls required under the Phase II Final Rule.

END OF SECTION

SECTION 02 03 90
CHLORINATION EQUIPMENT

PART 1 GENERAL

1.1 SUMMARY

A. Scope:

1. The Supplier shall furnish and Contractor install a factory designed and assembled, chlorination system including all necessary pumps, internal valves, piping, electrical controls.
2. To insure total quality control, the complete unit shall be designed, fabricated, assembled and tested in-house by the system manufacturer.

1.2 SUBMITTALS

A. Design Data: Submit manufacturer's latest published literature including 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 specification requirements.

C. Manufacturer's Warranty: Submit manufacturer's warranty information. The warranty period shall be a non-prorated period of 24 months from date of installation, not to exceed 30 months from date of manufacture.

1.3 SUBSTITUTIONS

A. Any substitutions or deviations in equipment or arrangement from that shown on the drawings specified herein shall be the responsibility of the Manufacturer. Any deviations must be accompanied by detailed structural, mechanical, electrical drawings and data for review by the Engineer. All costs associated with review of the substitutions or deviations and costs associated with project drawing changes as a result of approval shall be borne by the Manufacturer. There shall be no additional costs to the Owner due to substitutions or deviations.

PART 2 PRODUCTS

2.1 CHLORINATION EQUIPMENT

A. Furnish a complete chlorination system to treat drinking water at the Cherokee Well House.

B. An ANSI/NSF Standard 61 Tri-Chlor Tablet Chlorinator based on the following parameters:

1. Well Flow Rate 350 GPM
2. Peak Flow Daily
3. Typical Well Run Time
4. Required Chlorine Dose Rate
5. Well Water Temperature

C. Chlorination System Design

1. System must be a horizontal spray type design
2. System must use NSF Standard 60 listed 1" diameter Trichloroisocyanuric Acid tablets.
3. System must be a two chamber design. An upper chamber to hold the chlorine tablets and a lower chamber for holding and dispensing the available chlorine solution.
4. System must contain a high water level shut off mechanism. The switch mechanism/device should be located externally to the lower and upper chambers. All materials of construction located in either the upper or lower chambers must be PVC or PE constructed components.
5. The system should utilize a chemical feed pump to deliver the solution.
6. The system should utilize low voltage 12V DC solenoid valves.
7. The tablet feed system shall be sized by the supplier to supply sufficient free available chlorine to comply with local and regulatory requirements.
8. Plumbing connections to and from chlorination system well be complete in 1" PVC pipe in accordance with the manufacture's guidelines and all applicable regulations.
9. Chemical feed pump used to deliver chlorine solution shall inject available chlorine solution against a maximum system pressure of 225 psig. Pump will operate with an 110 volt-ac, 1 ø power, 20 amp service. Temperature and dosing requirements will be coordinated with the Village of Ruidoso Water Production Staff.

D. Ventilation Equipment

1. System must be a venture/educator type system.
2. The venture operation should have sufficient suction airflow to remove the volume of the feeder a minimum of 150 times per day.
3. System should attach to the chlorination solution tank using 2" diameter PVC pipe.
4. Blower/Fan should be approved for outdoor installation.
5. Blower fan will be operated with 120 VAC power and be UL/ETL certified.

PART 3 EXECUTION

3.1 INSTALLATION AND START-UP

A. Install the system and perform system start-up according to the manufacturer's recommendations.

B. Installation, start-up, final programming shall be supervised by manufacturer's representative.

3.2 TESTING

A. The entire system shall be factory performance tested as a complete unit prior to shipment. Job-site programming shall be entered into the controller prior to shipment. A verified performance test report shall be made available from the system manufacturer.

3.3 PUMP ENCLOSURE INSTALLATION

B. Installed per manufacturer recommendation and per Plans.

END OF SECTION 02 03 90

SECTION 02 53 20
WATER BOOSTER PUMPING SYSTEM AND ENCLOSURE

PART 1 GENERAL

1.02 WORK INCLUDED

A. Furnish, install, connect, and test all pumps, motors, manifolds, piping, valves, gauges, electric controls, pressure tank, and all related appurtenances, including steel skid, to complete a booster pumping system, all enclosed in a building, as shown on Drawings.
B. System consists of close coupled end suction centrifugal pumps, motors, hydro-pneumatic tank, piping, isolation valves, check valves, pressure gauges, PLC-based control system, VFD's, motor controls, and appurtenances
C. Provide 480 VAC/ 3/ 60 power source connection to the pump station.

1.03 SUBMITTALS

A. Submit in accordance with the requirements of Section 01300.
B. Product Data:
   1. Dimensioned elevation and plan views of skid assembly and building.
   2. Dimensioned piping drawings showing connection to distribution system.
   3. Materials of construction.
   4. Building erection drawings showing the exact location of all roof and wall accessories, and exact anchor bolt locations for each accessory.
   5. Characteristic curves for each model of pump, showing total dynamic head, efficiency and brake horsepower plotted against capacity in gpm for conditions of head and capacity with required impeller. Provide motor derating calculations for project site conditions.
   6. Certification that installation is ready for use.

C. Manufacturer's literature, including rating information for electrical components.

   1. Connection diagram showing location of each component (identified by function), terminal boards, wiring on the skid, and notation beside terminal board identifying the function of each terminal intended for a field connection.

D. Nameplate schedule.

E. Wiring Diagrams: Power and control wiring. Differentiate between manufacturer- installed and field-installed wiring and between components provided by manufacturer and those provided by others.

F. Qualification Data: Include list of completed projects with project names. Include address and contact name for Three (3) similar systems in operation in New Mexico.

G. The complete Packaged Booster Pumping System, including pumps, motors, control equipment, tank, valves, fittings and manifolds must be UL Listed under Category QCZJ (Packaged Pumping Systems). In addition to the UL Listing for the complete domestic system, the control panel assembly must be separately listed under UL 508A (Industrial Control Panels). Confirming statements shall be included in skid supplier submittal package. ETL shall not be an acceptable substitute.

H. The packaged pumping system manufacturer shall provide a copy of a valid insurance certificate providing a minimum of $5,000,000 liability insurance.

I. The packaged system manufacturer shall have in place an ISO9001 compliant Quality Assurance program to assure the quality of the engineering design, components, materials and workmanship provided in the packaged pumping system. Upon request, the procedure shall be submitted to the Engineer.

J. The system manufacturer shall have a minimum of ten years manufacturing and application experience and shall be responsible for the proper pressure and flow in the system.

K. The packaged pumping system manufacturer must have experience with the programming, wiring and testing of controller as specified. Proof of this experience, including a list of similar installations, shall be provided to the Engineer on request.

L. Pre-Approval Requirements: Pre-submittal data as listed from paragraphs 1.03.A through 1.3.K, to include certified AutoCAD drawing, to include electrical wiring diagrams for the entire prepackaged unit.

1.04 WARRANTY

A. Five year warranty of pump.

B. One year warranty for the complete system.

C. Manufacturer's authorized warranty repair station: Located within a 150 mile radius of installation; repair station to have been appointed at least five years prior to this project's bid date, to have service trucks with cranes for jobsite service, and factory trained service mechanics and technicians. Repair facility must show that they have in-house machining and fabrication capabilities to insure these processes are not sub-contracted out.

1.05 PROJECT SITE CONDITIONS

A. Altitude: 6,613 and 7,081 above MSL

B. Maximum dry bulb temperature: 100°F

1.06 DIMENSIONAL LAYOUT

A. Fabricate package booster pumping system to dimensions shown on Drawings to maintain layout and clearances.

B. Include in the bid all costs associated with *any changes or modifications* required to install equipment from an alternate manufacturer which has not been fabricated to the dimensions shown or is not in accordance with these specifications.

PART 2 PRODUCTS

2.02 ACCEPTABLE MANUFACTURERS

A. Package Booster Pumping System:
1. Canariis Corporation.
2. Or Engineer reviewed and approved equivalent.

2.03 PACKAGE PUMPING SYSTEM

A. All of the below equipment shall be mounted on an open I-Beam / C Channel frame. All pipes, piping components, and the pressure sensing lines shall be firmly anchored to the steel base by means of structural steel supports.
B. All electrical wiring between pumps, controllers, and motors shall be completed and tested at the factory. All controls, pump sequencing devices, alarms and instrumentation shall be tested and calibrated for proper operation during factory testing.
C. The entire package shall be hydrostatically tested at the factory prior to shipment.
D. All equipment is to be tested in accordance with the requirements of NFPA, UL and FM. All parts shall be new and free from all defects or imperfections.

E. Domestic Service Centrifugal Pumps
1. The pump shall be a centrifugal vertical multi-stage pump, Grundfos Pump Model CR64-5-2.
2. Pump shall be Lead Free compliant for drinking water applications.
3. Design
   a. Vertical multistage centrifugal pumps
      1) Acceptable Manufacturers:
         a) Grundfos vertical multi-stage CR series centrifugal pump.
         b) Engineer approved equal
   b. With ANSI flanged connections, 304 stainless steel impellers and diffusers
   c. Self adjusting mechanical seals
   d. Pumps shall have a shaft designed for 0.002” deflection at the seal face with the pump running under maximum load condition.
   e. Grease lubricated bearings, having a 3-year minimum B10 life under the maximum condition of load.
4. Materials:
   a. Pump Head: Ductile iron
   b. Motor Stool: Cast iron
   c. Bottom bearing ring: Tungsten Carbide / Tungsten Carbide
   d. Shaft, impeller, Chamber, Outer Sleeve: 304SS
   e. Ductile Iron Base/ Flange Rings.
   f. Mechanical seal assembly:
      1) Carbon vs tungsten carbide faces
   g. EDPM elastomers, 316 stainless steel wetted parts
5. Domestic Booster Pump Motors:
   a. NEMA C face motor design, mounted directly to the pump, coupled with all metal rigid coupling.
   b. TEFC enclosure
   c. 460VAC/3/60 power
   d. Manufacturer standard premium motor, VFD rated
   e. Non-overloading (without use of service factor and when derated for site elevation and VFD operation) over complete range of system head and curve.
   f. 3450 rpm maximum output speed.

   g. Each motor shall have a sufficient horsepower rating to operate the pump at any point on the pump's head-capacity curve without overloading the nameplate horsepower rating of the motor, regardless of service factor.

F. Pressure Reducing and Pressure Relief valve:
1. Relief Valve: 3" Cla-Val Model 52G-01BYKCKDKOKXWC with X105LCW, globe pattern, surge anticipator/ pressure relief service.
2. No exceptions will be allowed.
3. The main relief valve shall be UL listed.
4. Valve design to be Angle style single diaphragm type; edges of diaphragm shall be exposed
   a. Main Valve Seat:
      1) Single, removable seat with a 5° taper, shall serve as lower stem guide, and include a precision machined O-ring gland.
      2) In full port valves 6" and smaller, the seat shall be a screw-in design (to not cause damage to the O-ring).
      3) 8" and larger full port valves, seat shall be held in place with screws.
      4) Slanted seats are not allowed.
      5) Main Valve disc to be retained on 3-1/2 sides, o-ring type discs are not allowed.
   b. Main Valve Stem:
      1) Guided by bearings at the top in the valve cover at the bottom in the valve seat.
      2) Stem to be drilled and tapped at cover end to accept accessories (X105LCW limit switch).
   c. Control system components shall be manufactured by the same company as the main valve. Main valve and control system components shall be cast and assembled in the United States (U.S.-made).
5. Main Valve Diaphragm:
   a. Vulcanized at stemhole and not used as the seating surface.
   b. Capable of withstanding Mullins Burst test of 600 psi per nylon layer.
   c. Fully supported in full open and full closed positions by precision machined surfaces.
   d. Protected from over–extension in full open poison by contact of precision machined surfaces of diaphragm washer and cover stops.
   e. All necessary repairs and/or modification shall be possible without removing the main valve from the line. Valve to be hydraulically operated, pilot-controlled diaphragm type.
   f. Valve Cover and Body Mating Surfaces: Precision machined with register fits and serrated surfaces to grip and seal the diaphragm and center the cover without use of locating or alignment pins; valve cover shall be of a single-piece design.
   g. Rolled diaphragms not allowed.
6. Single-Chamber Type Valves:
   a. Single operating chambers sealed from each other by the diaphragm.
   b. Removable guide bearings for main stem.
7. Disc Guide:
   a. One-piece design with straight edges and radius on top edge; hourglass-shaped designs are not allowed.
8. Materials:
   a. Main Valve and Body Cover: Ductile Iron ASTM A536, interior and exterior coated with NSF fusion bonded epoxy
   b. Main Valve Stem, Nut Spring: 303 SS
   c. Main Valve and Seat Bearings: 316SS
   d. Diaphragm and Disc: BUNA N Rubber
   e. Tubing/ Fittings: Copper
   f. Pilot Valve Body and Cover: Bronze, ASTM B62
   g. Pilot Seat: 303 SS

h. Disc Retainer and Diaphragm Washer: Cast Iron, coated with NSF fusion bonded epoxy

G. Air Relief Valves:
1. All valves by same manufacturer.
   a. Main Valve body and Cover: Ductile Iron ASTM A536, interior and exterior coated with NSF fusion bonded epoxy
   b. Float and internal Nut Spring: 304 SS
   c. Elastomers: Delrin
2. Cla-Val series 33A KC Combination air relief; valves installed as follows:
   a. One located on suction header, one located on discharge header.

H. Piping:
1. Include required piping and fittings for two (2) domestic water pumps
2. 6” 304SS suction / discharge manifolds and interconnecting piping (ASTM/ASME A312/SA312)
3. All pipe welds shall be performed by certified welders employed by the pump manufacturer (welders certified per ASME Section IX). Copies of welder certificates can be supplied on request.
4. Properly support, suspend or anchor exposed pipe, fittings, valves, and appurtenances to prevent sagging, overstressing, or movement of piping and to prevent thrusts or loads on or against connected pumps, valves, meters and other equipment.
5. Support Spacing (unless otherwise specified on drawings):
   a. Support 2 inch and smaller piping on horizontal and vertical runs at maximum 5 feet on center, unless otherwise specified.
   b. Support larger than 2 inch piping on horizontal and vertical runs at maximum8 feet on center, unless otherwise specified.
   c. Support exposed polyvinyl chloride and other plastic pipes at maximum 5feet on center, regardless of size.
   d. Support tubing, copper pipe and tubing, fiber-reinforced plastic pipe or duct, and rubber hose and tubing at intervals close enough to prevent sagging greater than 1/4 inch between supports.
   e. Install Supports at the following Locations (unless otherwise shown on Drawings):
      1) Horizontal bends.
      2) Both sides of flexible pipe connections.
      3) Base of risers.
      4) Floor penetrations.
      5) Connections to pumps, blowers and other equipment.
      6) Valves and appurtenances
   f. Isolation valves:
      1) Ductile iron butterfly, lug style body, with BUNA N seat, stainless steel shaft, and aluminum bronze disc.
      2) Butterfly Valves 6" and smaller shall be provided with lever operators and valves 8" and larger shall be provided with hand wheel and gear operator.
      3) Furnish one isolation valve for the suction and one for the discharge of each pump.
6. Check valve on domestic service pumps:
   a. globe style, center guided, silent check valve, installed on the discharge of each pump.
   b. The check valve shall be cast iron body with a pressure rating exceeding the pump shut-off head plus maximum suction pressure.
   c. Valve shall have a bronze disc, stainless steel shaft and spring and a resilient seat.

7. Sufficient quantity of adapters and/ or couplings shall be supplied to allow easy removal of all plumbed devices within the prefabricated station which will require future service.
8. Suction and discharge manifold piping shall terminate with flanged connections
9. Pressure Gauges:
    a. Connect pressure gages and pressure switches with Type L copper tubing.
    b. Provide shutoff cock and drain cock for each.
    c. System suction, individual pump discharge, and system discharge pressure gauges: Min. 4 1/2" diameter dial for each pump, liquid filled quality gauge. All gauges will be panel mounted off the pipeline, flexible connected to their respective sensing point.
    d. Gauges shall have protective diaphragm seal, pulsation dampener and shut-off valve.
    e. Suction gauge shall indicate from 30-in Hg vacuum to 30 psi.
    f. Discharge gauges shall indicate 0 to 200 psi.
10. Hose bib: provide standard hose bib on the discharge piping
11. Provide other piping and appurtenances as shown on the Drawings.

I. Skid:
1. Structural steel frame of sufficient section specifically designed to limit deflection to L/360 inches at span shown on Drawings with all pump components, motors, and piping installed.
2. All components shall be mounted on a structural steel base. The base shall be large enough to support the packaged pumping system's pumps, piping, controls and electrical. Steel supports shall be welded to the base to support the piping, controls and electrical. Both the base and supports shall consist of structural steel components, all welded per the AISC Manual of Steel Construction, Part 4, "Welded Joints".
3. Base shall include structural steel plate mounted under pumps and motors.
4. Perimeter structural and inner structural steel = 8" x 13.75 lb/ft channel
5. Inner structural steel = 6" x 13.75 lb/ft channel
6. All structural steel welds shall be performed by certified welders employed by the pump manufacturer (Structural welders certified per AWSD1.1). Copies of welder certificates can be supplied on request.
7. Factory mount and assemble pumps and piping and components on common base.
8. Floor Drain: Cast iron floor drains with non corrosive grate shall be provided in the floor with a minimum 4 inch drain line through exterior of skid. The end of the drain line shall be provided with a stainless steel removable insect screen and flap gate.
9. Properly support pumps, motors, manifold, piping, valves, Process Panel, Termination Enclosures, and accessories.

J. Wiring:
1. All wiring in conduit.
2. AC wiring: Stranded #14 red for hot, white for neutral, black for switched power.

K. Coating:
1. Paint steel and iron components with primer and 2 mil finish coat of a protective coating specifically recommended by the coating manufacturer for the respective service.

L. Pressure and Flow Transmitters:
1. Provide one pressure transmitter that provides a 4 to 20 mA DC output, compatible with the system controls, temperature, and pressure requirements.
2. Pressure transmitter shall have zero, span, and damping adjustability. The transmitter shall be installed on the system discharge header and factory wired to the control panel.
3. Flow Transmitter

M. Low Suction Pressure Switch:
1. Provide an adjustable low-pressure switch on the suction header to facilitate shutdown in the event of low storage tank water level.

N. Magnetic Flow Meter:
   1. Provide one magnetic flow meter integrated with the pump station Suction header with flow transmitter that provides a 4 to 20 mA DC output, compatible with the system controls, temperature, and pressure requirements
   2. Flow Meter to be Badger Meter Model M2000 with remote mounted display.
   3. Flow transmitter shall have zero, span, and damping adjustability.
   4. The transmitter shall be installed adjacent to the control panel and factory wired to the magnetic flow meter installed on the Suction header.

O. Strainer
   1. Provide one strainer on the pump station Suction header
   2. Strainer to be Cla-Val Model X43H
   3. Max Pressure Rating, ANSI CL-150 flanged ends = 250 psi
      Materials:
      Body & Cover: Ductile Iron ANSI B16.42; Fusion Bonded Epoxy Coating
      Seal: Buna-N® Synthetic Rubber
      Strainer: 316 Stainless Steel;
      Strainer Frame: Ductile Iron, Epoxy Coated
      Mesh Sizes: Standard 10 mesh / 2000 Micron / Openings 0.078 inch
      Drain/Blow-Off Connection: Furnished with Stainless Steel Plug as Standard.
      Cover Fasteners:Stainless Steel

P. Electrical;
   1. Panelboard:
      a. Manufacturer:
         1) Eaton
      b. Panelboard Ratings
         1) Panelboards rated 240 Vac or less shall have short-circuit ratings as shown on the drawings or as herein scheduled, but not less than 10,000 amperes RMS symmetrical.
         2) Panelboards rated 480 Vac shall have short-circuit ratings as shown on the drawings or as herein scheduled, but not less than 14,000 amperes RMS symmetrical.
         3) Panelboards shall be labeled with a UL short-circuit rating. When series ratings are applied with integral or remote upstream devices, a label or manual shall be provided. It shall state the conditions of the UL series ratings including:
         4) Size and type of upstream device
         5) Branch devices that can be used
         6) UL series short-circuit rating
      c. Panelboard Construction
         1) Interiors shall be completely factory assembled. They shall be designed such that switching and protective devices can be replaced without disturbing adjacent units and without removing the main bus connectors.
         2) Trims for branch circuit panelboards shall be supplied with a hinged door over all circuit breaker handles.
         3) Doors in panelboard trims shall not uncover any live parts.
         4) Doors shall have a semi flush cylinder lock and catch assembly.
         5) Door-in-door trim shall be provided.
         6) Both hinged trim and trim door shall utilize three point latching.
         7) No tools shall be required to install or remove trim.
         8) Trim shall be equipped with a door-actuated trim locking tab.

9) Equip locking tab with provision for a screw such that removal of trim requires a tool, at the owner's option.
10) Installation shall be tamper resistant with no exposed hardware on the panelboard trim.
11) Distribution panelboard trims shall cover all live parts. Switching device handles shall be accessible.
12) Surface trims shall be same height and width as box. Flush trims shall overlap the box by 3/4 of an inch on all sides.
13) A directory card with a clear plastic cover shall be supplied and mounted on the inside of each door.
14) All locks shall be keyed alike.

2. Bus:
   A. Main bus bars shall be [copper] sized in accordance with UL standards to limit temperature rise on any current carrying part to a maximum of 65 degrees C above an ambient of 40 degrees C maximum.
   B. A system ground bus shall be included in all panels.
   C. Full-size (100%-rated) insulated neutral bars shall be included for panelboards shown with neutral. Bus bar taps for panels with single-pole branches shall be arranged for sequence phasing of the branch circuit devices. Neutral busing shall have a suitable lug for each outgoing feeder requiring a neutral connection. 200%-rated neutrals shall be supplied for panels designated on drawings with oversized neutral conductors.
3. Branch Circuit Panelboards:
   A. The minimum short-circuit rating for branch circuit panelboards shall be as specified herein or as indicated on the drawings.
   B. Panelboards shall be Eaton type Pow-R-Line 3a.
4. Breakers:
   A. Bolt-on type, heavy-duty, quick-make, quick-break, single- and multi-pole circuit breakers of the types specified herein, shall be provided for each circuit with toggle handles that indicate when unit has tripped.
   B. Circuit breakers shall be thermal-magnetic type with common type handle for all multiple pole circuit breakers. Circuit breakers shall be minimum 100-ampere frame and through 100-ampere trip sizes shall take up the same pole spacing.
   C. Circuit breakers shall be UL listed as type SWD for lighting circuits
   D. Circuit breaker handle locks shall be provided for all circuits that supply exit signs, emergency lights, energy management, and control system (EMCS) panels and fire alarm panels.
   E. Circuit breakers shall have a minimum interrupting rating of 10,000 amperes symmetrical at 240 volts, and 14,000 amperes symmetrical at 480 volts, unless otherwise noted on the drawings.
5. Distribution Panelboards – Circuit Breaker Type:
   a. Distribution panelboards with bolt-on devices contained therein shall have interrupting ratings as specified herein or indicated on the drawings.
   b. Panelboards shall be Eaton type Pow-R-Line 3a or Panelboards shall have molded case circuit breakers as indicated below.
   c. Where indicated, provide circuit breakers UL listed for application at 100% of their continuous ampere rating in their intended enclosure.
   d. Provide shunt trips, bell alarms, and auxiliary switches as shown on the contract drawings.
6. Panelboard Enclosure:

a. Enclosures shall be at least 20 inches wide made from galvanized steel. Provide minimum gutter space in accordance with the National Electrical Code. Where feeder cables supplying the mains of a panel are carried through its box to supply other electrical equipment, the box shall be sized to include the additional required wiring space.
b. At least four interior mounting studs with adjustable nuts shall be provided.
c. Enclosures shall be provided with blank ends.
d. Where indicated on the drawings, branch circuit panelboards shall be column width type.

7. Nameplates:
   a. Provide an engraved nameplate for each panel section.

10. Control Panel:
    a. Include controls for two (2) domestic water pumps
    b. Control Panel Enclosure:
    c. Each system shall include a UL-listed enclosed industrial control panel in a NEMA 12 enclosure, factory mounted and wired on the steel skid. The panel shall be furnished with individual pump disconnects with through-the-door handles, pump run lights, H/O/A selector switches, and 115 volt fused control transformer.

11. VFD's – Domestic Service
    a. Manufacturer:
       i. Grundfos CUE Series.
    b. Enclosure: NEMA 12.
    c. Furnish complete VFD as specified herein or in the equipment schedule for loads designated to be variable speed. VFD's shall be user-selectable for either constant or variable torque loads.
    d. The VFD shall convert incoming fixed frequency three-phase AC power into a variable frequency and voltage for controlling the speed of three-phase AC induction motors. The VFD shall be a six-pulse input design, and the input voltage rectifier shall employ a full wave diode bridge; VFD's utilizing controlled SCR rectifiers shall not be acceptable. The output waveform shall closely approximate a sine wave. The VFD shall be of a PWM output design utilizing current IGBT inverter technology and voltage vector control of the output PWM waveform.
    e. The VFD shall include a full-wave diode bridge rectifier and maintain a displacement power factor of near unity regardless of speed and load.
    f. The VFD shall produce an output waveform capable of handling maximum motor cable distances of up to 1,000 ft. (unshielded) without tripping or derating.
    g. The VFD shall utilize an output voltage-vector switching algorithm, or equivalent, in both variable and constant torque modes. VFD's that utilize Sine-Coded PWM or Look-up tables shall not be acceptable.
    h. VFD shall automatically boost power factor at lower speeds.
    i. The VFD will be capable of running either variable or constant torque loads. In either CT or VT mode, the VFD shall be able to provide its full rated output current continuously and 110% of rated current for 60 seconds.
    j. VFD shall offer 1 PI controller. One controller shall operate the drive in closed loop
    k. An empty pipe fill mode shall be available to fill an empty pipe in a short period of time, and then revert to the PID controller for stable operation.

l. Switching of the input power to the VFD shall be possible without interlocks or damage to the VFD at a minimum interval of 2 minutes.
m. Switching of power on the output side between the VFD and the motor shall be possible with no limitation or damage to the VFD and shall require no additional interlocks
n. The VFD shall have temperature controlled cooling fans for quiet operation, minimized internal losses, and greatly increased fan life.
o. VFD shall provide full torque to the motor given input voltage fluctuations of up to +10% to -15% of the rated input voltage.
p. Harmonics
    i. The VFD shall provide internal DC link reactors to minimize power line harmonics and to provide near unity power factor. VFD's without a DC link reactor shall provide a 5% impedance line side reactor.
q. Protective Features:
    i. VFD shall have input surge protection utilizing MOV's, spark gaps, and Zener diodes to withstand surges of 2.3 times line voltage for 1.3 msec.
    ii. VFD shall include circuitry to detect phase imbalance and phase loss on the input side of the VFD.
    iii. VFD shall include current sensors on all three-output phases to detect and report phase loss to the motor. The VFD will identify which of the output phases is low or lost.
    iv. VFD shall auto-derate the output voltage and frequency to the motor in the presence of sustained ambient temperatures higher than the normal operating range, so as not to trip on an inverter temperature fault. The use of this feature shall be user-selectable and a warning will be exported during the event. Function shall reduce switching frequency before reducing motor speed.
    v. VFD shall auto-derate the output frequency by limiting the output current before allowing the VFD to trip on overload. Speed can be reduced, but not stopped.
    vi. The VFD shall have the option of an integral RFI filter. VFD enclosures shall be made of metal to minimize RFI and provide immunity
r. Interface Features:
    i. VFD shall provide an alphanumeric backlit display keypad, which may be remotely mounted using standard 9-pin cable. VFD may be operated with keypad disconnected or removed entirely. Keypad may be disconnected during normal operation without the need to stop the motor or disconnect power to the VFD.
    ii. VFD shall display all faults in plain text; VFD's, which can display only fault codes, are not acceptable.
    iii. All VFD's shall be of the same series, and shall utilize a common control card and LCP (keypad/display unit) throughout the rating range. The control cards and keypads shall be interchangeable through the entire range of drives used on the project.
    iv. VFD keypad shall be capable of storing drive parameter values in non-volatile RAM uploaded to it from the VFD, and shall be capable of downloading stored values to the VFD to facilitate programming of multiple drives in similar applications, or as a means of backing up the programmed parameters.

v. A red FAULT light, a yellow WARNING light and a green POWER-ON light shall be provided. These indications shall be visible both on the keypad and on the VFD when the keypad is removed.

vi. A start guide menu with factory preset typical parameters shall be provided on the VFD to facilitate commissioning.

vii. VFD shall provide full galvanic isolation with suitable potential separation from the power sources (control, signal, and power circuitry within the drive) to ensure compliance with PELV requirements and to protect PLC's and other connected equipment from power surges and spikes.

viii. All inputs and outputs shall be optically isolated. Isolation boards between the VFD and external control devices shall not be required.

ix. There shall be three programmable digital inputs for interfacing with the systems external control and safety interlock circuitry. An additional digital input is preprogrammed for start/stop.

x. The VFD shall have two analog signal inputs. One dedicated for sensor input and one for external set point input.

xi. One programmable analog output shall be provided for indication of a drive status.

xii. The VFD shall provide two user programmable relays with selectable functions. Two form 'C' 230VAC/2A rated dry contact relay outputs shall be provided.

xiii. The VFD shall store in memory the last 5 faults with time stamp and recorded data.

xiv. The VFD shall be equipped with a standard RS-485 serial communications port.

s. Adjustments:

i. VFD shall include an automatic acceleration and deceleration ramp-time function to prevent nuisance tripping and simplify start-up.

ii. The VFD should include control modes for easy operation of different application. Choosing a control mode should select predefined values for the PID controller. Based on the typical performance of pumps in the specified application. Open loop is also a control mode.

iii. The VFD will include a user-selectable Auto-Restart function that enables the VFD to power up in a running condition after a power loss, to prevent the need to manually reset and restart the VFD.

iv. Service Conditions:

v. Ambient Temperature of the VFD, -10 to 45ºC (14 to 113°F)

vi. 0 to 95% relative humidity, non-condensing.

vii. Elevation to 1000 meters (3,300 feet) without derating.

viii. VFD's shall be rated for line voltage of 525 to 690VAC, 380 to 480VAC, or 200 to 240VAC; with +10% to -15% variations. Line frequency variation of ± 2% shall be acceptable.

ix. No side clearance shall be required for cooling of the units

t. Quality Assurance:

i. The manufacturer shall be both ISO-9001 and ISO-14001 certified.

ii. All products shall be CE marked; UL labeled, and meet the requirements of UL-508C.

iii. To ensure quality and minimize infantile failures on the jobsite, all VFD's shall be completely tested by the manufacturer. The VFD shall operate a dynamometer at full load and speed under elevated temperature conditions

iv. All optional features shall be functionally tested at the factory for proper operation.

v. Factory test documentation shall be available upon request.

12. Standard Control Panel Features:
    a. UL-Listed Enclosed Industrial Control Panel
    b. Individual Fused Disconnects with External Handle
    c. Fuse block with fuses
    d. Control power ON/OFF switch and lights
    e. Pump Running Lights
    f. Pump run time indication
    g. H/O/A Selector Switches
    h. 115 Volt Fused Control Circuit Transformer
    i. Pump Minimum Run Timers
    j. Auto alternate equal pumps
    k. Mounted and Wired on Skid
    l. Pump Operating and Sequence Controls
    m. Audible alarm with silence push button
    n. NEMA 12 Enclosure
    o. Low-Suction Pressure Shutdown Circuit with Auto Reset, Delay Timer, and Light
    p. Low-System Pressure Alarm with Manual Reset and indication
    q. High -System Pressure Alarm and Shutdown with Manual Reset and indication
    r. Thermal purge valves
    s. Auxiliary Relay Alarm Contacts, Low Press, High Flow
    t. Auxiliary relay pump status contacts
    u. Power / undervoltage monitor
    v. Transient Voltage Surge Suppressor

2.04 ENCLOSURE SYSTEM CONSTRUCTION

1.01 Summary

A. The work covered by this specification consists of labor, materials, accessories and services for the design, fabrication, supply, delivery and installation of Fabricated, Engineered Floorless Pump House Structures.

B. Packaged Booster Pumping System shall be enclosed in these structures. Structures shall be completely assembled pre-fabricated, self-framing buildings free from defects in both appearance and performance and sized correctly for housed equipment.

C. Enclosure shall be furnished by the Packaged Booster Pumping System supplier, factory-assembled with the pumping system equipment, and delivered as a single unit.

D. The fabricator shall provide drill-in foundation anchors, interior and exterior finishes, doors and door hardware, building signage, heating and ventilation, electrical lighting fixtures and receptacles, required seismic restraints, fire extinguishers, and accessories included in the Drawings.

E. Related Work:
1. Work of this Section is subject to the requirements of Division 01.
2. Division 03: Concrete and Concrete Reinforcement
3. Division 10: Portable Fire Extinguishers
4. Division 26: Electrical
5. Division 44: Section 44 42 56.33 – Packaged Booster Pumping System

1.02 SUBMITTALS AND QUALITY ASSURANCE

A. Submit Shop Drawings and Product Data in accordance with Section 01 33 23:
1. Indicate profiles, sizes, spacing, and locations of structural members, connections, attachments, openings, fasteners, cambers, loads, and all other building details.
2. Indicate welded connections using standard AWS welding symbols. Indicate net weld lengths.
3. Indicate framing anchor bolt settings, sizes, and locations from datum.
4. Prepare Shop Drawings, design calculations, and letter of certification under seal of a professional engineer registered in New Mexico.
5. Indicate wall and roof system dimensions, roof plan and structural support details for roof equipment, panel layout, general construction details, anchorages and method of anchorage, and method of installation.

B. Provide ten-year manufacturer's warranty for exterior and interior prefinished surfaces.
1. Warranty: Cover prefinished color coat against chipping, cracking or crazing, blistering, peeling, chalking, or fading.

C. Manufacturer's installation manual, three (3) copies.

D. Manufacturer's structural engineering design:
1. Computations to verify design building codes and design loads.
2. Computations and shop drawings to be stamped by a Professional Engineer registered in the state of New Mexico.

E. Proof of design in compliance with IBC, AISC Specifications, and MBMA Design Practices Manual and other applicable specifications and codes.

F. Installer's qualifications.

G. Manufacturer's qualifications:
1. Unit supplied by single manufacturer experience in their manufacturer.
   a. Manufacturer must have a minimum of five (5) years of experience with 100 installations of equal or larger size of the same type of unit as specified herein.

H. Color selection chart for interior and exterior surfaces.

I. Samples of veneer panels.

1.03 REFERENCES

A. ASTM A36 - Structural Steel

B. ASTM A307 - Carbon Steel Externally Threaded Standard Fasteners

C. ASTM A325 - High Strength Bolts for Structural Steel Joints

D. ASTM A386 - Zinc-Coating (Hot-Dip) on Assembled Steel Products

E. ASTM A490 - Quenched and Tempered Alloy Steel Bolts for Structural Tubing in Rounds and Shapes

F. ASTM A500 - Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes

G. ASTM A501 - Hot-Formed Welded and Seamless Carbon Steel Structural Tubing

H. ASTM A529 - Structural Steel with 42,000 psi Minimum Yield Point

I. AWS D1.1 - Structural Welding Code

J. FS HH-I-521 - Insulation Blankets, Thermal, Mineral Fiber

K. FS TT-P-31 - Paint, Oil: Iron-Oxide, Ready Mixed, Red and Brown

L. ANSI A58.1 – Building Code Requirements for Minimum Design Loads in Buildings and Other Structures

1.04 DESIGN CRITERIA

A. The enclosure must contain a New Mexico seal of construction sticker.
B. Design Members to withstand dead load, applicable snow load, and design loads due to pressure and suction of wind calculated in accordance with current adopted editions of the New Mexico Commercial Building Code and the International Building Code.
C. Design structure to permit movement of components without buckling, failure of joint seals, undue stress on fasteners, or other detrimental effects, when subject to temperature range of 120 F degrees
D. Design exterior wall and roof system to withstand imposed loads with a maximum allowable deflection of span divided by 180.
E. Design roof system with thermal resistance of R30 sq/ft/hour/degree F, unless otherwise scheduled.
F. Design exterior wall drainage for water entering or condensation occurring within cladding system.
G. Design wall system with thermal resistance of R19 sq ft/hour/degree F, unless otherwise scheduled.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Pre-Engineered Structure: Dupont Building, Inc.
B. Exterior wall finish: Fullerton Finish Systems, Inc.
C. Engineer approved equivalent

2.02 Structure MATERIALS

A. Structures shall be constructed with no floors.

B. Walls:
1. Factory-fabricated veneer panels over fiberglass – see Exterior Veneer Paneling description below. Install per wall finish System Manufacturer's installations instructions and include:
   a. Sealant type and application per manufacturer's recommendations.
   b. Backer Rod prior to joint sealant, or
   c. Bond breaker tape (slick-faced polyvinyl chloride tape), minimum of ¾" wide and equal to #50 by All Type field-applied to surface behind panel joint before panel erection.
   d. Fasteners: Low profile self-drilling stainless steel or zinc and clear chromate plated for rust resistance.
2. Exterior Weatherproofing: 1/8" of fiberglass reinforced polyester resin applied to exterior surface.
   a. Openings in walls shall be trimmed with fiberglass for a complete seal.
   b. Joints and cracks in the exterior sheathing shall be filled with polyester resin filler prior to application of fiberglass.
3. Exterior Sheathing: AC fir exterior grade plywood
4. Base Channel: Steel Perimeter Channel for attachment to concrete footings.
5. Framing: 2x6 at 16", height as shown on the Drawings.
6. Cavity Insulation: Maximum 25/450 flame spread/smoke developed index thermal batts tested in accordance with ASTM E84.
   a. Where insulation materials are installed in Construction Type III, Type IV, and Type V, the flame spread and smoke developed limitations do not apply to facings that are installed behind and in substantial contact with the unexposed surface of the ceiling wall or floor finish.
7. Interior Sheathing: 15/32" AC plywood.
8. Interior Wall Finish: Pre-finished metal wall panels, color white.

C. Exterior Veneer Panels:
1. Block-Cast panels shall be color as selected by the Owner from the manufacturer's offered range of colors.
2. Inorganic Fillers shall meet requirements of Federal Specification TTP-P-403A.
3. Block-Cast panels shall have the following attributes:
   a. Nominal Thickness: 1" at block and 9/16" at joint
   b. Dimensional Tolerances:
      1) Length and Width: +1/8"
      2) Thickness at block: +5/16"
      3) Thickness at joint: +1/8"
   c. Flexural Strength: 1,000 psi
   d. Flame Spread Index: 0 in accordance with ASTM E-84.
   e. Smoked Developed Index: 40 in accordance with ASTM E-84.
   f. Coefficient of Thermal Expansion: 5.14 x 10-6 in accordance with ASTM D-696.

4. Performance: Block-Cast panel shall withstand the 500 hour carbon exposure test per ASTM method G23.
5. Testing shall have been performed by an independent testing facility.

D. Roof:
1. Framing: Minimum 2x6 rafters sloped from a center ridge
2. Roof Deck Sheathing: AC fir exterior grade plywood
3. Weather Barrier: 30# asphaltic roofing felt
4. Metal Roofing:
   a. Base Metal: Roof panels shall be formed from min 26 gauge conforming to ASTM A792, Gr80 with a minimum yield strength of 80,000 PSI with a coating of hot-dipped zinc-aluminum alloy in accordance with AZ50 and Az5.
   b. Style: Factory formed ribbed roof "R" Panels or factory formed corrugated "C" roof panels, roll formed, of continuous length, with exposed self tapping fasteners.
5. Insulation: Maximum 25/450 flame spread/smoke developed index thermal batts tested in accordance with ASTM E84, type II PSK (white) Class A faced glass fiber thermal insulation complying with ASTM C 665.

E. Gutter And Downspout:
1. Fabricate of same material and finish as roofing metal.
2. Form gutters and downspouts to collect and remove water. Fabricate with connection pieces.
3. Form sections in maximum possible lengths. Hem exposed edges. (Allow for expansion at joints.)
4. Fabricate support straps of same material and finish as roofing metal, color as selected.

F. Structural joints between wall sections and the roof, both inside and out, shall be secured with polyester resin adhesive and stainless steel bolts.

G. Exterior hardware shall be attached with stainless steel bolts or screws.

H. Doors and Frames:
1. Frames shall be constructed of heavy extruded 6063-TS alloy aluminum sections with anchors, thickness of 1/8" or greater. Screws, nuts, and anchors shall be stainless steel. Finish shall be in accordance with the "Alumilite" Specification No. 204-A1R1. Joints shall be cut to fit flush. Hardware preparation shall be fabricated and installed in a workmanlike manner, accurately milled, and properly reinforced.
2. Door: Copper-free heavy-duty aluminum by JRJ Alumfab (or an approved equal) with two coats of clear colorless lacquer, fully insulated.
3. Finish hardware: Provide the following:
   a. Hinges
   b. Lever
   c. Closer
   d. Weatherstripping
   e. Sill
   f. Cylinder keyed to Owner's masterkey system and two keys.

I. Mechanical Components:
1. Building heater
2. Wall louver and trim sized and placed as recommended by the Packaged Booster Pump Equipment Manufacturer

3. Exhaust Fan and trim sized and placed as recommended by the Packaged Booster Pump Equipment Manufacturer

J. Electrical Components:
1. Provide exterior motion-detecting overhead light at each door shielded to meet the requirements of Night-Sky Protection Act.
2. Interior lighting: two tube, electronic start, switch operated, 32 watt, 48" length fluorescent light fixtures, rated for wet locations.
3. Interior emergency lights.
4. All switches shall be 20 Amp, wall-mounted, with standard ivory coverplates. Switches shall be standard single except lighting if more than one door is used, switches shall be three-way type
5. Power distribution: Four (4) duplex GFCI receptacles, one per wall.
6. (3) spare 120 volt, 20 amp breakers labeled as spares
7. Smoke Detector Alarm: ceiling mounted 120 VAC, smoke detector and relay shall

2.03 STRUCTURE FABRICATION

A. Exercise care when cutting prefinished material to ensure cuttings do not remain on finish surface.
B. Fasten sheathing, weatherproofing and Veneer Paneling system to structural supports, aligned level and plumb.
C. Provide expansion joints where indicated or as required by manufacturer.
D. Use exposed fasteners.
E. Install sealant and gaskets to prevent weather penetration.
F. System shall be free of rattles, noise due to thermal movement, and wind whistles.

2.04 TOLERANCES

A. Siding and Roofing: 1/8 inch from true position.

2.05 INSTALLATION OF ACCESSORIES

A. Install door frame, door, overhead door, window and glass, accessories, trim, and mechanical and electrical components in accordance with manufacturer's instructions.
B. Seal wall and roof accessories watertight and weathertight with sealant.

2.06 GUTTER AND DOWNSPOUT ERECTION

A. Rigidly support and secure components. Joint lengths with formed seams sealed watertight. Flash and seal gutters to downspouts.
B. Slope gutters minimum 1/4 inch per foot.

PART 3 EXECUTION

3.01 Product Delivery, Storage and Handling
A. Provide drawings and signage to indicate center of gravity and proper handling method for structures.
B. Provide bracing and restraints to permit shipment of structures to sites without damage.
C. Provide indication of shipping material and bracing to be removed from the installation at site prior to start-up.

D. Protruding or exposed fittings, fixtures, openings, etc shall be protected to prevent damage due to dust, moisture, excessive heat or vibration prior to and during shipment.
E. Loose parts required for assembly shall be properly boxed, labeled and securely fastened for shipment to site.
F. Provide complete protection from damage during shipping. Close openings with appropriate material to prevent rain, water, dust and debris from entering the structure.
G. Vendor shall ensure that each "shipping" package meets State and Government regulations with respect to size and weight restrictions. Where over-sized loads are included, cost of "escorts" shall be included in the bid.

2.04 FACTORY TESTS

A. Notify Engineer minimum one week prior to execution of tests.
B. Factory Test:
   1. The booster system shall be hydrostatically tested (at 50 psig over maximum system working pressure or to 150 psig (whichever is greater) for a minimum of one hour.
   2. The booster system shall undergo a complete electric and hydraulic test from 0 to 100% design flow at the factory. Each pump shall be individually tested for performance while at full speed. Pump performance measurements shall include shut-off pressure and pump TDH and motor full load amps at 25%, 50%, 75% and 100% of pump design capacity
   3. The testing facility shall include Flow Meters, Test Gauges, Watt Meter, Digital Multi-Meter, Tachometer and Differential Pressure Transmitters for measuring system performance which are traceable to the National Institute of Standards and Technology (NIST). All control devices, including transmitters and all safety features, shall be factory calibrated and tested.
   4. Each control panel must be designed, built and tested per UL508A prior to integrating with the pumping system. The testing includes verification of wiring, component operation, programming and sequence testing.
   5. The pumping system must be connected to a test tank with the actual components, valves and sensors specific for this project. Any calibrations or adjustments that are required for proper system operation will be performed. All sequencing controls, alarms and system operation must be tested and verified to be functional prior to removal from the test tank. These tests may be witnessed by the engineer, owner or a representative if required.
   6. Test results shall be provided to Engineer for review and approval prior to shipment of the station.
C. Correct all defects before shipping.

2.05 OPERATION AND MAINTENANCE MANUAL

A. Operation and Maintenance Data
B. Preliminary submittal required for engineer review/ acceptance. Additional copies of final, corrected submittals supplied on approval.
C. Manufacturer's complete operations and maintenance manuals for pumps, motors, pump control valves, flow switches/capacity indicators, and pressure transmitter.

2.06 INSTALLATION

A. As required by manufacturer's instructions/recommendations.
B. As shown on Drawings.
C. Unload using crane. Use spreader bars to protect structure from damage
D. Lock skid in proper position on slab with four **XXXX"** anchor bolts, 12" in from each side of each corner of the perimeter channel. Tighten nuts to just snug, then back off one turn and lock in place with a jam nut.

E. The Contractor shall obtain necessary permits, certificates and approvals for execution of his work and pay fees including inspection and re-inspection fees.
F. Install in accordance with manufacturer's and fabricator's instructions.
G. The Owner shall have the right to reject any work that in the opinion of the Engineer does not conform to acceptable standards of quality, appearance and performance. The Contractor shall, at no additional cost to the Owner, rectify said unacceptable work.
H. Qualified tradesmen experienced in this type of work shall perform the installation.

3.02 Acceptance

A. Inspection and acceptance of the Work will be made by the Owner and his Engineer to verify conformance with Drawings and specifications.

2.07 FIELD TEST

A. Furnish the services of the Package Booster Pumping System supplier's Field Service Representative to verify and certify that the installation and alignment is done in accordance with the manufacturer's instruction.
B. With the assistance of the Field Service Representative, demonstrate that all pumps, valves, gauges, and the low flow protection system operate properly and all elements of the sequence of operations have been programmed as specified.
C. The service of a factory-trained representative shall be made available on the jobsite for start-up and instructing operating personnel: 8 hours start-up per station, 8 hour follow-up trip for training and system tuning

2.08 SCHEDULE

A. Ruidoso Cherokee Transfer Pump Stations:

1. Canariis Prefabricated Booster Skid
    a. Model: DM-300-219-2VS-CLR

2. Grundfos Vertical Multi-Stage Centrifugal Pumps:
    a. Model: CR64-5-2
    b. Design Point: 300 gpm at 506 feet TDH
    c. Shutoff Head: 620 feet
    d. Stages: 5
    e. Efficiency at design condition: 75%
    f. Maximum NPSHr at design condition: 9 ft
    g. Motor: 60 HP, 1800 rpm, ODP, 1.0 service factor, 460 VAC, 3 phase, 60 Hz, inverter duty for VFD
    h. Site Elevation: 6,613 feet above MSL
    i. Number of Pumps: Two (2)

3. Main Relief and Surge Anticipator Valve:
    a. Size: 3"
    b. Quantity = 1
    c. Design Basis: Cla-Val Model No.: 52G-01BYKCKDKOKXWC with X105LCW closed indication limit switch
    d. Adjustable Range: Relief: 100 to 300 psig; Surge: 15 to 75 psig

e. End Connections and Pressure Class: 3" flanges, ANSI Class 150
f. Mounting Position: Globe Pattern
g. Coating, Inside and Outside: NSF fusion bonded Epoxy Coating
h. Chamber Design: Single Diaphragm
i. Options Included:
    1) 52-01 = Surge anticipator/pressure relief
    2) g = Globe pattern
    3) B = Isolation cocks in piloting
    4) KC = NSF fusion bonded epoxy interior / exterior
    5) KD = Valve stem for hard water service
    6) KO = Anti-cav trim
    7) KX = project specific features
    8) X105LCW = Closed position indication limit switch
    9) Electrical Requirements: Limit switch only
    10) Conformance: UL listed for relief valve function

B. Ruidoso Hell Hole Transfer Pump Stations:

1. Canariis Prefabricated Booster Skid
    a. Model: DM-300-190-2VS

2. Grundfos Vertical Multi-Stage Centrifugal Pumps:
    a. Model: CR64-5-2
    b. Design Point: 300 gpm at 438 feet TDH
    c. Shutoff Head: 620 feet
    d. Stages: 5
    e. Efficiency at design condition: 75%
    f. Maximum NPSHr at design condition: 9 ft
    g. Motor: 60 HP, 1800 rpm, ODP, 1.0 service factor, 460 VAC, 3 phase, 60 Hz, inverter duty for VFD
    h. Site Elevation: 6,613 feet above MSL
    i. Number of Pumps: Two (2)

3. Main Relief and Surge Anticipator Valve:
    a. Size: 3"
    b. Quantity = 1
    c. Design Basis: Cla-Val Model No.: 52G-01BYKCKDKOKXWC with X105LCW closed indication limit switch
    d. Adjustable Range: Relief: 100 to 300 psig; Surge: 15 to 75 psig
    e. End Connections and Pressure Class: 3" flanges, ANSI Class 150
    f. Mounting Position: Globe Pattern
    g. Coating, Inside and Outside: NSF fusion bonded Epoxy Coating
    h. Chamber Design: Single Diaphragm
    i. Options Included:
        1) 52-01 = Surge anticipator/pressure relief
        2) g = Globe pattern
        3) B = Isolation cocks in piloting
        4) KC = NSF fusion bonded epoxy interior / exterior
        5) KD = Valve stem for hard water service

6) KO = Anti-cav trim
7) KX = project specific features
8) X105LCW = Closed position indication limit switch
9) Electrical Requirements: Limit switch only
10) Conformance: UL listed for relief valve function

END OF SECTION

SECTION 33 13 00
DISINFECTING OF WATER UTILITY DISTRIBUTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Disinfection of potable water distribution and transmission system.
2. Testing and reporting of results.

1.2 REFERENCE STANDARDS

A. American Water Works Association:

1. AWWA B300 - Hypochlorites.
2. AWWA B302 - Ammonium Sulfate.
3. AWWA B303 - Sodium Chlorite.
4. AWWA C651 - Disinfecting Water Mains.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit procedures, proposed chemicals, and treatment levels.

C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

D. Certify that cleanliness of water distribution system meets or exceeds New Mexico Environment Department specified requirements.

E. Certify that water conforms or fails to conform to bacterial standards of the New Mexico Environment Department Drinking Water Bureau.

F. Certify that water conforms to quality standards of the New Mexico Environment Department Drinking Water Bureau.

G. Test and Evaluation Reports: Indicate testing results comparative to specified requirements.

H. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

I. Qualifications Statements:

1. Submit qualifications for water treatment firm and testing firm.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout 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. Coliform bacteria test results for each outlet tested.
7. Submit bacteriologist's signature and authority associated with testing.

1.5 QUALITY ASSURANCE

A. Perform Work according to AWWA C651.

B. Maintain two copies of each standard affecting Work of this Section on Site.

1.6 QUALIFICATIONS

A. Water Treatment Firm: Company specializing in disinfecting potable water systems specified in this Section with minimum two years' experience.

PART 2 - PRODUCTS

2.1 DISINFECTION CHEMICALS

A. Chemicals:

1. Hypochlorite: Comply with AWWA B300.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation examination.

B. Verify that piping system has been cleaned, inspected, and pressure tested.

C. Perform scheduling and disinfecting activity with startup, water pressure testing, adjusting and balancing, and demonstration procedures, including coordination with related systems.

3.2 INSTALLATION

A. Provide and attach required equipment to perform Work of this Section.

B. Perform disinfection of water distribution system and installation of system and pressure testing as specified in Section 33 11 16 - Site Water Utility Distribution Piping.

C. Maintain disinfectant in system for 24 hours.

D. Flush, circulate, and clean until required cleanliness is achieved using municipal drinking water.

E. Replace permanent system devices that were removed for disinfection.

3.3 FIELD QUALITY CONTROL

A. Section 017000 - Execution and Closeout Requirements: Requirements for testing, adjusting, and balancing.

B. Disinfection, Flushing, and Sampling:

1. Disinfect pipeline installation according to AWWA C651.
2. Use of liquid chlorine is not permitted.
3. Upon completion of retention period required for disinfection, flush pipeline until chlorine concentration in water leaving pipeline is no higher than that generally prevailing in existing system or is acceptable for domestic use.
4. Disposal:

    a. Legally dispose of chlorinated water.
    b. When chlorinated discharge may cause damage to environment, apply neutralizing chemical to chlorinated water to neutralize chlorine residual remaining in water.

5. After final flushing and before pipeline is connected to existing system or placed in service, employ an approved independent testing laboratory to sample, test, and certify that water quality meets quality standards of authority having jurisdiction.

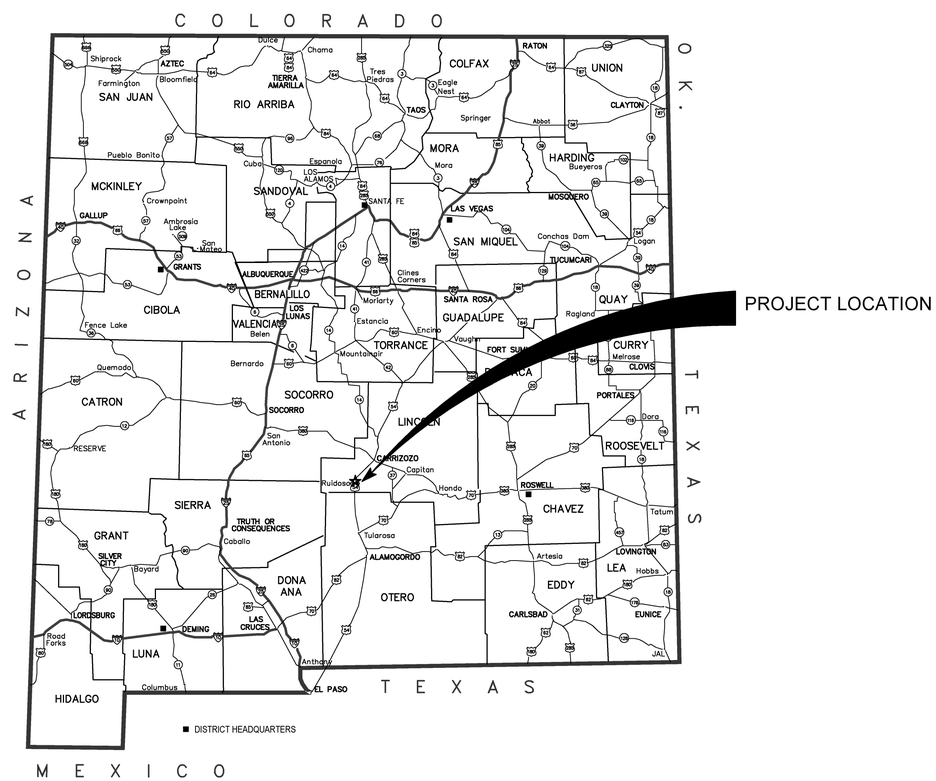
END OF SECTION 331300

CHEROKEE SERVICE AREA INTERCONNECT & BOOSTER STATION REPLACEMENT

LINCOLN COUNTY, NEW MEXICO

Construction Plans

August 18, 2016



INDEX

SHEET NO.	DESCRIPTION
G-OO1	COVER SHEET
G-002	GENERAL NOTES
G-003	OVERALL SYSTEM LAYOUT
G-004	OVERALL SYSTEM HYDRAULICS
G-005	CHEROKEE PIPELINE LAYOUT
G-006	HELLHOLE OVERALL PLAN
C-101 - 103	CHEROKEE CONNECTION P & P
C-104	CHEROKEE BOOSTER CONNECTION
C-105	CHEROKEE CONNECTION PLAN
C-106	CHEROKEE DEMO PLAN
C-107	HELLHOLE DEMP PLAN
C-108	HELLHOLE GRADING PLAN
C-109	HELLHOLE BOOSTER LAYOUT
C-110	CHEROKEE WELL HOUSE
C-501 - 502	UTILITY DETAILS SHEET
C-503	CHEROKEE BOOSTER DETAIL
C-504 - 505	CHEROKEE WELL EQUIPMENT
C-506	HELLHOLE BOOSTER DETAIL
C-507	INTERIOR BUILDING PHOTOS
C-508	HELLHOLE WATER TANK PHOTOS
C-509	VALVE VAULT PHOTOS
C-510	CHEROKEE/HELLHOLE BOOSTER PUMP DETAIL
C-511 - 512	TEMPORARY TRAFFIC CONTROL GENERAL NOTES AND STANDARDS
E-101 - 103	CHEROKEE BOOSTER ELECTRICAL
E-104	HELLHOLE BOOSTER ELECTRICAL

VILLAGE OF RUIDOSO PUBLIC WORKS

DIRECTOR OF PUBLIC WORKS DATE

WATER DEPARTMENT MANAGER DATE

APPROVED FOR RECORD DRAWINGS DATE

NO.	DESCRIPTION	DATE	BY
1			
2			
3			
4			
5			
6			
7			

REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
VILLAGE OF RUIDOSO

COVER SHEET

CHEROKEE SERVICE AREA INTERCONNECT & BOOSTER STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21078
PROFESSIONAL ENGINEER
8/18/16

PROJECT NO.	R303231.08
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

SHEET:
G-001

Plotted: 8/18/2016 1:04:27 PM, By:Montoya, Arthur
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Last Saved:8/18/2016 11:39:29 AM, amontoya

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH 1) THE PROJECT CONSTRUCTION PLANS, 2) THE PROJECT SPECIFICATIONS, AND 3) THE "*NEW MEXICO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION*" AND DETAILS, AS PREPARED BY THE NEW MEXICO CHAPTER, AMERICAN PUBLIC WORKS ASSOCIATION, LATEST EDITION, IN THAT ORDER OF PRECEDENCE AT THE TIME OF CONSTRUCTION BID.

2. THE CONTRACTOR AGREES THAT HE/SHE SHALL ASSUME THE SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

3. NO MODIFICATIONS TO THESE PLANS SHALL BE MADE WITHOUT THE WRITTEN CONSENT OF THE OWNER, ENGINEER AND ALL APPROVAL SIGNATORIES. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION METHODS OR TECHNIQUES OR FOR THE PROSECUTION OF THE WORK AS SHOWN ON THESE PLANS. THE ENGINEER SHALL NOT BE HELD RESPONSIBLE FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS OR OTHER PERSONS PERFORMING ANY WORK, AS SHOWN IN THE PROJECT CONTRACT DOCUMENTS.

4. A COMPLETE TRAFFIC CONTROL PLAN SHALL BE PREPARED BY THE CONTRACTOR WHEN ANY PORTION OF THE WORK IS IN THE PUBLIC RIGHT-OF-WAY. ALL CONSTRUCTION SIGNING, BARRICADING AND CHANNELIZATION SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" (MUTCD), LATEST EDITION. THE PLAN SHALL BE SUBMITTED TO NMDOT & THE VILLAGE OF RUIDOSO DEPARTMENT OF PUBLIC WORKS DIRECTOR FOR APPROVAL AT LEAST 7 DAYS PRIOR TO THE DESIRED START OF CONSTRUCTION. THE CONTRACTOR SHALL NOT IMPLEMENT THE TRAFFIC CONTROL PLAN UNTIL APPROVAL OF THE PLAN HAS BEEN RECEIVED.

5. THE CONTRACTOR SHALL DESIGNATE AT LEAST ONE EMERGENCY CONTACT PERSON, AND SHALL PROVIDE TELEPHONE NUMBERS WHERE THIS PERSON CAN BE CONTACTED AT ANY TIME. THIS INFORMATION SHALL BE PROVIDED TO THE OWNER, THE ENGINEER, THE VILLAGE OF RUIDOSO POLICE DEPARTMENT (575-258-7365) AND THE VILLAGE OF RUIDOSO DEPARTMENT OF PUBLIC WORKS (575-258-4343).

6. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM ALL JURISDICTIONAL AUTHORITIES PRIOR TO START OF CONSTRUCTION AT THE CONTRACTORS EXPENSE, AND WILL VERIFY THAT THE OWNER HAS SECURED THOSE PERMITS FOR WHICH THE OWNER IS RESPONSIBLE.

7. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY, HEALTH, AND ENVIRONMENTAL PROTECTION.

8. EXISTING SITE IMPROVEMENTS WHICH ARE DAMAGED OR DISPLACED BY THE CONTRACTOR SHALL BE REMOVED AND REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S OWN EXPENSE. THE WORK SHALL BE APPROVED BY THE OWNER PRIOR TO CONSTRUCTION OF THE REPAIRS. REPAIRS MUST BE ACCEPTED BY THE OWNER PRIOR TO FINAL PAYMENT.

9. THE CONTRACTOR SHALL ONLY UTILIZE THE DESIGNATED STAGING AREAS FOR STORAGE OF ALL EQUIPMENT AND MATERIALS. THE OWNER ASSUMES NO RESPONSIBILITY OR LIABILITY FOR CONTRACTOR'S EQUIPMENT AND MATERIAL IN THE STAGING AREA. SECURITY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. IF NO STAGING AREA IS DESIGNATED ON THESE PLANS, AN OFF-SITE STAGING AREA SHALL BE PROVIDED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE, OR THE CONTRACTOR MAY NEGOTIATE WITH THE OWNER TO USE AN ON-SITE AREA.

10. UNLESS OTHERWISE NOTED, ALL ROADWAY STATIONING IS ALONG THE CENTERLINE OF THE ROADWAY RIGHT-OF-WAY.

11. UNLESS OTHERWISE NOTED, STATIONING OF CHANNELS AND/OR PIPES IN DRAINAGE EASEMENTS IS ALONG THE CENTERLINE OF THE CHANNEL/PIPE.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING, IN ADVANCE OF HIS/HER CONSTRUCTION OPERATIONS, IF OVERHEAD UTILITY LINES, SUPPORT STRUCTURES, POLES, GUYS, ETC., ARE AN OBSTRUCTION TO CONSTRUCTION OPERATIONS. IF ANY OBSTRUCTION IS EVIDENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE APPROPRIATE UTILITY OWNER TO REMOVE OR SUPPORT THE UTILITY OBSTRUCTION. ANY COSTS ASSOCIATED WITH THIS EFFORT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

13. FACILITIES WHICH ARE NOT SPECIFICALLY LOCATED WITH ACTUAL VERTICAL AND HORIZONTAL CONTROLS ON THE CONSTRUCTION DOCUMENTS, ARE SHOWN APPROXIMATE AND IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION PROVIDED BY VARIOUS OWNERS OF THE FACILITIES, AND SUPPLEMENTED BY VISUAL SURFACE INFORMATION WHERE APPROPRIATE. ACCURACY, LOCATION, AND COMPLETENESS OF THIS INFORMATION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHOULD BE VERIFIED, BY ANY MEANS NECESSARY, PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE OWNER, ENGINEER, AND THE VILLAGE OF RUIDOSO PUBLIC WORKS DEPARTMENT (575-258-4343) IMMEDIATELY.

14. IT IS MANDATORY THAT A PRE-CONSTRUCTION MEETING BE HELD PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE VILLAGE OF RUIDOSO DEPARTMENT OF PUBLIC WORKS (575-258-4343) TO DETERMINE THE TIME AND LOCATION OF THE PRE-CONSTRUCTION MEETING.

15. AT THE PRE-CONSTRUCTION MEETING, THE CONTRACTOR SHALL SUBMIT A DETAILED CONSTRUCTION SCHEDULE TO THE VILLAGE OF RUIDOSO DEPARTMENT OF PUBLIC WORKS.

16. ANY WORK PERFORMED WITHOUT THE APPROVAL OF THE VILLAGE OF RUIDOSO AND/OR ALL WORK AND MATERIALS NOT IN CONFORMANCE WITH THE SPECIFICATIONS IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.

17. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS FOR CLEANING TRUCKS AND/OR OTHER EQUIPMENT OF MUD PRIOR TO ENTERING PUBLIC STREETS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CLEAN STREETS AND TAKE WHATEVER MEASURES ARE NECESSARY TO ENSURE THAT ALL ROADS ARE MAINTAINED IN A CLEAN, MUD AND DUST-FREE CONDITION AT ALL TIMES.

18. THE CONTRACTOR SHALL CONTACT NEW MEXICO ONE CALL AT 1-800-321-2537, FIVE (5) WORKING DAYS PRIOR TO CONSTRUCTION FOR UTILITY SPOTS IN ACCORDANCE WITH APPLICABLE STATE LAW.

19. CONTRACTOR WILL NOTIFY THE VILLAGE OF RUIDOSO DESIGNATED CONSTRUCTION MANAGER A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF WORK.

GENERAL NOTES CONTINUED)

20. THE CONTRACTOR SHALL CONFINE HIS WORK TO WITHIN THE CONSTRUCTION LIMITS AND/OR PUBLIC RIGHTS-OF-WAY TO PRESERVE EXISTING VEGETATION, LANDSCAPING, AND PRIVATE PROPERTY. APPROVAL OF THESE PLANS DOES NOT GIVE OR IMPLY ANY PERMISSION TO TRESPASS OR WORK ON PRIVATE PROPERTY. PERMISSION MUST BE GRANTED IN WRITING BY THE OWNER OF THAT PROPERTY.

21. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO KEEP THE JOB SITE FREE FROM TRASH ON A DAILY BASIS, AND ALL MATERIALS WILL BE NEATLY ORGANIZED. TRASH AND/OR NON-USED MATERIALS SHALL NOT BE BURIED ON-SITE.

22. CONTRACTOR SHALL PARK EQUIPMENT AND VEHICLES SO AS NOT TO INTERFERE WITH NORMAL ACTIVITIES OF PROPERTY OWNERS OR OTHER CONTRACTORS ON SITE.

23. CONTRACTOR/DEVELOPER SHALL PROVIDE CONSTRUCTION STAKING UTILIZING APPROVED CONSTRUCTION PLANS, THE APPROPRIATE RIGHT-OF-WAY MAPS, AND RECORDED PLATS. EACH REVISION TO THE PLANS SHALL BE RECORDED IN THE PLAN REVISION BLOCK. PLANS SHALL INCLUDE LOCATION MAP WITH LEGAL DESCRIPTION AND LOCATION GRID.

24. THE CONTRACTOR SHALL MAINTAIN AN UP TO DATE SET OF AS-BUILT PLANS FOR THE PROJECT. THE FINAL AS-BUILT PLANS, REFLECTING ANY AND ALL CHANGES TO THE ORIGINAL PLAN, SHALL BE SUBMITTED TO THE VILLAGE OF RUIDOSO DEPARTMENT OF PUBLIC WORKS PRIOR TO FINAL PAYMENT.

25. THE CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION ACTIVITIES, PERMITTING, AND SUBMITTALS ARE IN ACCORDANCE WITH ALL LOCAL AND STATE ORDINANCES.

26. NO WORK SHALL BE PERFORMED IN A FLOODPLAIN WITHOUT WRITTEN AUTHORIZATION FROM THE VILLAGE OF RUIDOSO FLOODPLAIN MANAGER.

27. ANY WORK PERFORMED IN A DRAINAGWAY, DRAINAGE CHANNEL, OR FLOODPLAIN MUST BE PROTECTED BY MEANS OF TEMPORARY PONDING OR DIVERSION OF STORM FLOWS UNTIL SUCH WORK HAS BEEN ACCEPTED BY THE VILLAGE.

28. THE CONTRACTOR IS RESPONSIBLE FOR THE TESTING OF THE WATER SYSTEM PRIOR TO ACCEPTANCE BY THE VILLAGE. TESTING SHALL BE PERFORMED TO DEMONSTRATE THE FUNCTIONALITY OF THE SYSTEM. THE COST OF THE TESTING SHALL BE INCIDENTAL TO THE CONTRACT.

SOILS

1. UNLESS OTHERWISE SPECIFIED SUBGRADE SOILS AND STRUCTURAL FILL MATERIALS SHALL BE COMPACTED TO THE FOLLOWING PERCENTAGES OF THE ASTM D-1557 MAXIMUM DENSITY.

MATERIALS	PERCENT (%) COMPACTION
STRUCTURAL FILL IN THE BUILDING AREA	95
SUB BASE FOR SLAB SUPPORT	95
MISCELLANEOUS BACKFILL BELOW STRUCTURAL FILL OR ROAD	95
MISCELLANEOUS BACKFILL BELOW UNPAVED, NON-BUILDING AREAS	90
ROAD SUB GRADE	95
SIDEWALK SUB GRADE	95
CURB AND GUTTER SUBGRADE	95

ROADWAY GENERAL NOTES

1. NO PAVING CONSTRUCTION ACTIVITIES SHALL BE STARTED UNTIL ALL UNDERGROUND UTILITIES WITHIN THE ROADWAY ARE COMPLETED, TESTED, AND APPROVED. ALL WATER VALVE BOXES AND ELECTRICAL, TELEPHONE, TELEVISION, AND SEWER MANHOLES IN THE CONSTRUCTION AREA SHALL BE ADJUSTED TO FINISHED GRADE.

2. ALL SIGNS, BARRICADES, CHANNELIZATION DEVICES, PAVEMENT MARKINGS, SIGN FRAMES AND ERECTION OF SUCH DEVICES SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" (MUTCD), LATEST EDITION.

3. ALL STREET STRIPING ALTERED OR DESTROYED DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR TO MATCH THE ORIGINAL CONDITIONS (I.E. TYPE, SPACING) AT THE LOCATION PRIOR TO CONSTRUCTION, OR AS SHOWN IN THIS PLAN SET.

4. STREET GRADES SHALL BE RESTORED BY THE CONTRACTOR TO THE EXISTING GRADES UNLESS OTHERWISE DIRECTED BY THE ENGINEER. SMOOTH TRANSITIONS SHALL BE MADE BETWEEN EXISTING PAVEMENT WHICH REMAINS IN PLACE AND PAVEMENT WHICH IS REPLACED. WHEN ABUTTING NEW PAVEMENT TO EXISTING, SAWCUT BACK EXISTING PAVEMENT TO A NEAT, STRAIGHT LINE AS REQUIRED TO REMOVE ANY BROKEN OR CRACKED PAVEMENT.

5. CONTRACTOR SHALL NOTIFY THE VILLAGE OF RUIDOSO PUBLIC WORKS DEPARTMENT (575-258-4343) OF ANY ROADWAY OR LANE CLOSURES AT LEAST 48 HOURS IN ADVANCE.

6. A STREET CUT PERMIT MUST BE ACQUIRED FROM, AND TRAFFIC CONTROL PLAN APPROVED BY, THE VILLAGE OF RUIDOSO DEPARTMENT OF PUBLIC WORKS & THE NMDOT PRIOR TO CONSTRUCTION.

7. ALL WORK IN PUBLIC RIGHT-OF-WAY SHALL BE CONSTRUCTED BY A LICENSED CONTRACTOR AND REQUIRES PERMIT AND APPROVAL BY THE VILLAGE OF RUIDOSO DEPARTMENT OF PUBLIC WORKS.

8. THE LOCATION OF ALL VALVES AND MANHOLES MUST BE REFERENCED AT ALL TIMES BY THE CONTRACTOR DURING CONSTRUCTION AND MADE VISIBLE UPON COMPLETION OF ALL PAVING ACTIVITIES.

EROSION CONTROL/ENVIRONMENTAL PROTECTION/STORM WATER POLLUTION PREVENTION PLAN

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULFILLING ALL NECESSARY NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS INCLUDING, BUT NOT LIMITED TO, OBTAINING AN NPDES PERMIT PRIOR TO CONSTRUCTION, FILLING OUT THE NOTICE OF INTENT (NOI) APPLICATION, AND FILLING OUT THE NOTICE OF TERMINATION (NOT) APPLICATION. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE IMPLEMENTATION OF AND INSPECTION REPORTS FOR THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL SUBMIT THE SWPPP WITH THE PROPOSED CONSTRUCTION STAGING AREA AND TEMPORARY SANITARY FACILITIES CLEARLY SHOWN. ANY CHECK DAMS, SILT FENCES, OR OTHER BEST MANAGEMENT PRACTICES (BMPS) THAT ARE REQUIRED IN THE APPROVED SWPPP SHALL BE INCLUDED IN AND ARE INCIDENTAL TO THE SWPPP BID AMOUNT.

2. THE CONTRACTOR SHALL MAINTAIN A COPY OF THE APPROVED SWPPP ON-SITE AT ALL TIMES, AND SHALL COMPLY WITH THE REQUIREMENTS INDICATED ON THAT PLAN.

3. THE CONTRACTOR SHALL CONFORM TO ALL VILLAGE, COUNTY, STATE AND FEDERAL DUST AND EROSION CONTROL REGULATIONS. THE CONTRACTOR SHALL PREPARE AND OBTAIN ANY NECESSARY DUST OR EROSION CONTROL PERMITS FROM THE REGULATORY AGENCIES.

4. THE CONTRACTOR SHALL EITHER PROMPTLY REMOVE ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY OR INSTALL BMPS IDENTIFIED IN THE APPROVED SWPPP TO PREVENT DISCHARGE OF EXCAVATED MATERIAL WITHIN THE PUBLIC RIGHT-OF-WAY DURING A RAIN OR WIND EVENT.

5. THE CONTRACTOR SHALL IMPLEMENT THE APPROVED SWPPP AND ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.

6. THE CONTRACTOR SHALL MITIGATE EROSION OF TEMPORARY OR PERMANENT DIRT SWALES BY INSTALLING BMPS IDENTIFIED IN THE APPROVED SWPPP IN THE SWALES PERPENDICULAR TO THE DIRECTION OF FLOW, AND AT INTERVALS AS SPECIFIED IN THE SWPPP.

7. CONSTRUCTION AREAS SHALL BE WATERED FOR DUST CONTROL IN COMPLIANCE WITH GOVERNMENT ORDINANCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND SUPPLYING WATER AS REQUIRED. WATERING, AS REQUIRED FOR CONSTRUCTION AND DUST CONTROL, SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION AND NO MEASUREMENT OR PAYMENT SHALL BE MADE THEREFOR.

8. ANY AREAS DISTURBED BY CONSTRUCTION AND NOT COVERED BY LANDSCAPING OR AN IMPERVIOUS SURFACE SHALL BE REVEGETATED WITH NATIVE GRASS SEEDING. WHEN CONSTRUCTION ACTIVITIES CEASE AND EARTH DISTURBING ACTIVITIES WILL NOT RESUME WITHIN 14 DAYS, STABILIZATION MEASURES MUST BE INITIATED. UNLESS INDICATED OTHERWISE ON THESE PLANS OR ON THE LANDSCAPING PLAN, NATIVE GRASS SEEDING SHALL BE CLASS A SEEDING PER SECTION 1012 OF THE NEW MEXICO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, APWA NM CHARTER, LATEST EDITION.

9. ALL WASTE PRODUCTS FROM THE CONSTRUCTION SITE, INCLUDING ITEMS DESIGNATED FOR REMOVAL, CONSTRUCTION WASTE, CONSTRUCTION EQUIPMENT WASTE PRODUCTS (OIL, GAS, TIRES, ETC.) GARBAGE, GRUBBING, EXCESS CUT MATERIAL, VEGETATIVE DEBRIS, ETC. SHALL BE APPROPRIATELY DISPOSED OF OFF-SITE AT NO ADDITIONAL COST TO THE OWNER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN PERMITS REQUIRED TO HAUL OR DISPOSE OF WASTE PRODUCTS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE WASTE DISPOSAL SITE COMPLIES WITH GOVERNMENT REGULATIONS REGARDING THE ENVIRONMENT, ENDANGERED SPECIES, AND ARCHAEOLOGICAL RESOURCES.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEANUP AND REPORTING OF SPILLS OF HAZARDOUS MATERIALS ASSOCIATED WITH THE CONSTRUCTION SITE. HAZARDOUS MATERIALS INCLUDE GASOLINE, DIESEL FUEL, MOTOR OIL, SOLVENTS, CHEMICALS, PAINTS, ETC. WHICH MAY BE A THREAT TO THE ENVIRONMENT. THE CONTRACTOR SHALL REPORT THE DISCOVERY OF PAST OR PRESENT SPILLS TO THE NEW MEXICO ENVIRONMENT DEPARTMENT EMERGENCY RESPONSE TEAM AT 505-827-9329.

11. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS CONCERNING SURFACE AND UNDERGROUND WATER. CONTACT WITH SURFACE WATER BY CONSTRUCTION EQUIPMENT AND PERSONNEL SHALL BE MINIMIZED. EQUIPMENT MAINTENANCE AND REFUELING OPERATIONS SHALL BE PERFORMED IN AN ENVIRONMENTALLY SAFE MANNER IN COMPLIANCE WITH GOVERNMENT REGULATIONS.

12. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS CONCERNING CONSTRUCTION NOISE AND HOURS OF OPERATION.

13. WHERE STORM INLETS ARE SUSCEPTIBLE TO INFLOW OF SILT OR DEBRIS FROM CONSTRUCTION ACTIVITIES, PROTECTION SHALL BE PROVIDED ON THEIR UPSTREAM SIDE UTILIZING BMPS IDENTIFIED IN THE APPROVED SWPPP.

WATER AND WASTEWATER GENERAL NOTES

1. SEWER/WATER LINES SHALL BE PLACED IN SEPARATE TRENCHES A DISTANCE OF 15 FEET TYPICALLY OR A MINIMUM OF 10 FEET APART HORIZONTALLY. THE WATER LINE SHALL BE PLACED A MINIMUM OF 1.5 FEET HIGHER IN ELEVATION THAN THE SEWER. AT ALL CROSSINGS OF WATER AND SEWER LINES, THE WATER LINE SHALL BE A MINIMUM OF 1.5 FEET HIGHER THAN THE SEWER OR THE SEWER LINE SHALL BE C-900 PRESSURIZED PIPE.

2. ALL MAIN LINE UTILITIES MUST HAVE TRACER WIRE.

3. FOR PRESSURE WATER CONNECTIONS TO EXISTING LINES, THE CONTRACTOR SHALL NOTIFY THE VILLAGE OF RUIDOSO DEPARTMENT OF PUBLIC WORKS A MINIMUM OF 48 HOURS PRIOR TO THE CONNECTION, AT (575-258-4343).

4. COMPRESSION JOINTS MAY BE USED ON COPPER SERVICE LINES EXCEPT FLARED JOINTS SHALL BE USED WHEN CONNECTING TO PLASTIC LINES.

5. THE 36" DEPTH OF SERVICE LINE BELOW FINISH SURFACE ELEVATION OF METER BOXES IS CRITICAL. METERS WILL NOT BE INSTALLED WHEN THIS DIMENSION VARIES.

6. VALVE BOXES SHALL BE BROUGHT TO SURFACE ELEVATION UPON COMPLETION OF SURFACE COURSE OF PAVEMENT. OCTAGONAL CONCRETE COLLARS SHALL BE CONSTRUCTED TO SURFACE ELEVATIONS.

7. FLUSHING OF WATER LINES SHALL BE METERED AND REPORTED TO THE DEPARTMENT OF PUBLIC WORKS CONSTRUCTION MANAGER ON A BIWEEKLY BASIS. PREFERENCE FOR DISPOSAL IS (1) ON AVAILABLE LAND SURFACE OR (2) IN STORM SEWERS. DISPOSAL METHOD SHALL BE DISCUSSED WITH MANAGER.

8. FLUSHING, DISINFECTION AND TESTING OF WATERLINES SHALL BE COORDINATED WITH THE VILLAGE OF RUIDOSO DIRECTOR OF PUBLIC WORKS PER AWWA STD C651-14.

WATER AND WASTEWATER GENERAL NOTES (CONTINUED)

9. CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE VILLAGE OF RUIDOSO AND THESE PLANS.

10. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS PRIOR TO THE START OF CONSTRUCTION.

11. IT WILL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROTECT AND MAINTAIN IN SERVICE ALL EXISTING UTILITIES. THE CONTRACTOR SHALL ADEQUATELY SUPPORT AND PROTECT EXISTING UTILITIES AFFECTED BY THE CONTRACTOR'S TRENCHING ACTIVITY. IN THE EVENT THAT EXISTING UTILITIES ARE DAMAGED BY THE CONTRACTOR'S OPERATIONS, THE CONTRACTOR SHALL ARRANGE FOR AND COORDINATE PROMPT REPAIR BY THE RESPECTIVE UTILITY AND SHALL BEAR THE COST OF REPAIRS.

12. THE VILLAGE OF RUIDOSO AND ENGINEER SHALL APPROVE MATERIAL SUBMITTALS PRIOR TO CONSTRUCTION. ANY INSTALLED ITEMS PLACED PRIOR TO APPROVAL IS DONE AT CONTRACTOR'S OWN RISK. ANY MATERIALS NOT APPROVED WILL BE REMOVED AND REPLACED AT NO ADDITIONAL COST.

13. PRIOR TO THE WATER/SEWER LINE INSTALLATION, THE FOLLOWING CONDITIONS WILL OCCUR:

    A. THE WATER/SEWER LINE ROUTE WILL BE CLEARED AND GRUBBED AND THEN GRADED TO PLAN ELEVATION.
    B. THE WATER/SEWER LINE WILL BE STAKED WHEN OUTSIDE AN AREA WITH CURB AND GUTTER.

14. ALL LOT CORNERS WILL BE STAKED PRIOR TO SERVICE LINE INSTALLATION. IF THE STREET HAS CURB AND GUTTER IT WILL BE INSTALLED PRIOR TO THE WATER LINE INSTALLATION UNLESS OTHERWISE APPROVED BY THE VILLAGE OF RUIDOSO. IF A STREET IS NOT DESIGNED WITH CURB AND GUTTER AND HAS A SANITARY SEWER LINE THEN THE TRENCHES FOR THE SEWER LINE SHALL BE BACKFILLED AND COMPACTED AND TESTED BEFORE THE WATER LINE INSTALLATION.

15. A MECHANICAL RESTRAINT SYSTEM SHALL BE UTILIZED ON FITTINGS AND PIPING FOR THRUST RESTRAINT.

16. ALL WATER SERVICES SHALL HAVE DOUBLE YOKES BETWEEN COMMON LOT LINES UNLESS OTHERWISE APPROVED BY THE VILLAGE OF RUIDOSO.

17. THE CONTRACTOR SHALL MARK THE GUTTER PAN OF THE CURB WITH "W" FOR WATER AND "S" FOR SANITARY SEWER FOLLOWING SERVICE INSTALLATION AND PRIOR TO FINAL ACCEPTANCE.

18. WATER FROM FLUSHING MAINS IS NOT ALLOWED TO BE PUMPED INTO SANITARY SEWER MANHOLES.

19. THE VILLAGE OF RUIDOSO WATER DISTRIBUTION DEPARTMENT (575-258-4343) SHALL BE THE ONLY PERSONNEL AUTHORIZED TO OPERATE EXISTING VALVES, FIRE HYDRANTS, ETC. FOR CONSTRUCTION PURPOSES. ALL SHUTOFFS MUST BE COORDINATED SEVEN (7) DAYS PRIOR TO PROPOSED SHUTOFF.

20. THE CONTRACTOR SHALL PROVIDE A PROPOSED HYDROSTATIC TESTING PLAN. THE PLAN MUST BE APPROVED SEVEN (7) DAYS BEFORE TESTING OPERATIONS BEGIN.

21. SEWER SERVICE LATERAL LOCATIONS ARE SHOWN GRAPHICALLY (I.E. TYPICALLY 10 LF ABOVE LOWER RESIDENTIAL LOT LINE) AND MAY BE ADJUSTED IN THE FIELD TO AVOID DRIVEWAYS WHENEVER FEASIBLE.

22. 30 DAYS FOLLOWING INSTALLATION AND BACKFILL OF SEWER LINES, A DEFLECTION TEST USING A HAND PULLED MANDREL SHALL BE PERFORMED IN THE PRESENCE OF THE OBSERVER AND/OR ENGINEER.

23. AIR TESTING OF SEWER LINES SHALL BE CONDUCTED IN THE PRESENCE OF OBSERVER AND/OR ENGINEER.

24. ALL SEWER SERVICE LINES SHALL BE INSPECTED BY TV CAMERA AND A VIDEO TAPE PROVIDED TO THE DEPARTMENT OF PUBLIC WORKS INSPECTOR FOR REVIEW PRIOR TO ACCEPTANCE BY THE VILLAGE. IN THE EVENT THAT THE MANAGER'S FIRST INSPECTION OR SUBSEQUENT INSPECTIONS AFTER THAT DO NOT PASS, THE CONTRACTOR WILL BE REQUIRED TO PERFORM ADDITIONAL INSPECTIONS OF THE SEWER SERVICE LINES USING A TV CAMERA AT THE CONTRACTOR'S EXPENSE.

25. SERVICE LINES SHALL NOT BE CONNECTED TO MANHOLES.

CONTACT INFORMATION

VILLAGE HALL	(575) 258-4343
VILLAGE OF RUIDOSO PUBLIC WORKS DEPARTMENT	(575) 258-4343
VILLAGE OF RUIDOSO WATER DIVISION	(575) 258-4343
VILLAGE OF RUIDOSO STREETS DIVISION	(575) 258-4343
NEW MEXICO DEPARTMENT OF TRANSPORTATION DISTRICT 2	(575) 637-7200
RUIDOSO POLICE DEPT	(575) 258-7365
RUIDOSO FIRE DEPT	(575) 257-3473
NEW MEXICO ON-CALL	800-321-ALERT (2537)
CONSTRUCTION INDUSTRIES DIVISION	(505) 222-9813
PNM	(575) 258-5511

NO.	DESCRIPTION	DATE	BY
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REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc. Rio Rancho
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259
Designed For:

VILLAGE OF RUIDOSO

GENERAL NOTES

CHEROKEE SERVICE AREA INTERCONNECT & BOOSTER STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21075
PROFESSIONAL ENGINEER
8/18/16

PROJECT NO.	R303231.08
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	
SHEET:	G-002

Plotted: 8/18/2016 1:04:44 PM, By:Montoya, Arthur
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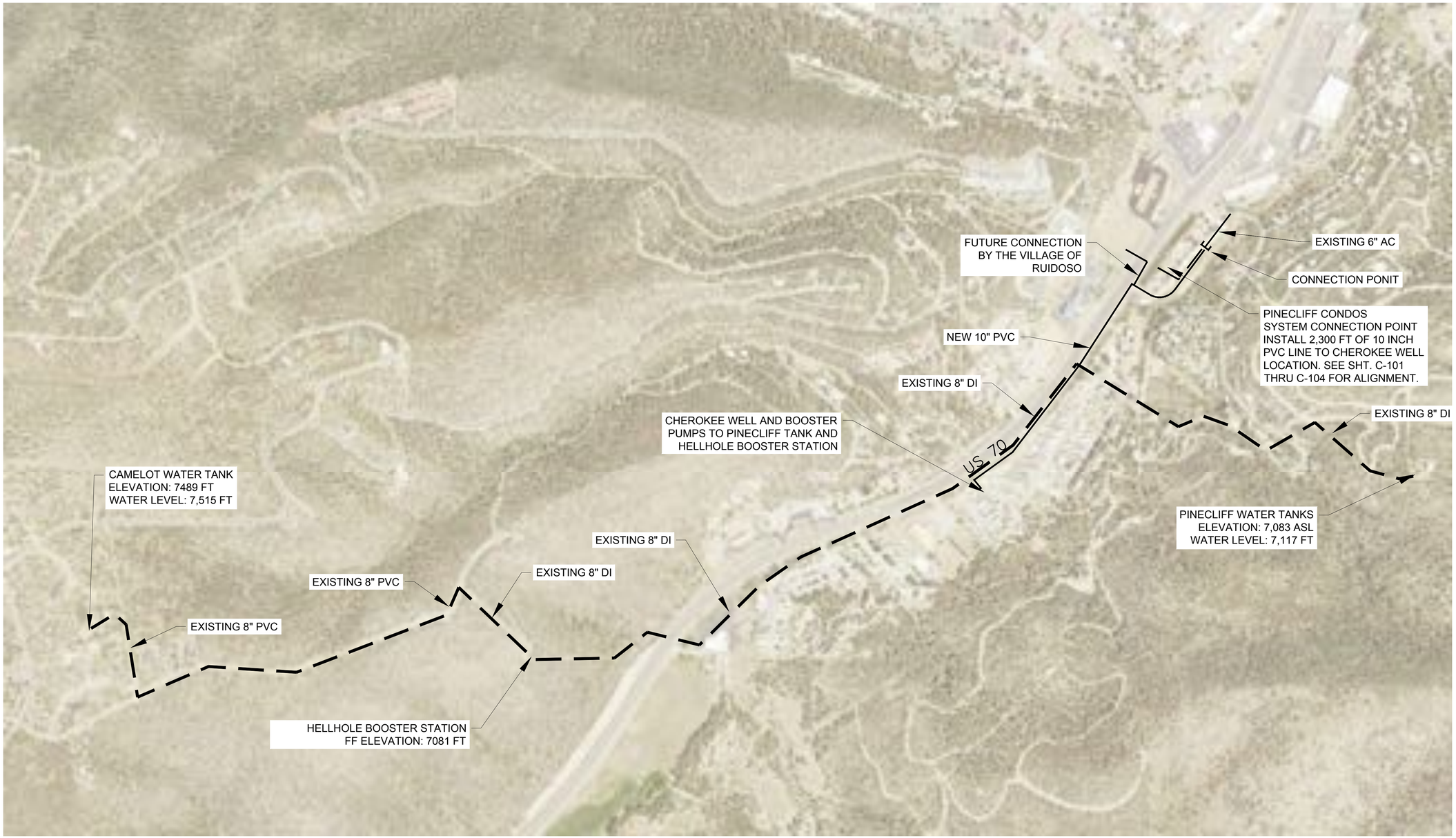

N

SCALE: NTS

CONTROL POINT DATA:

CONTROL POINTS ARE PANEL POINT MARKERS WITH ALUMINUM CAPS

CONTROL POINT CP101:
N: 51279.2500
E: 60441.4120
ELEV: 7051.60

NO.	DESCRIPTION	DATE	BY
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REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
VILLAGE OF RUIDOSO

OVERALL SYSTEM LAYOUT

CHEROKEE SERVICE AREA INTERCONNECT & BOOSTER STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21078
PROFESSIONAL ENGINEER
8/18/16

PROJECT NO.	R303231.08
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	
SHEET:	G-003

Plotted: 8/19/2016 1:05:23 PM, By:Montoya, Arthur
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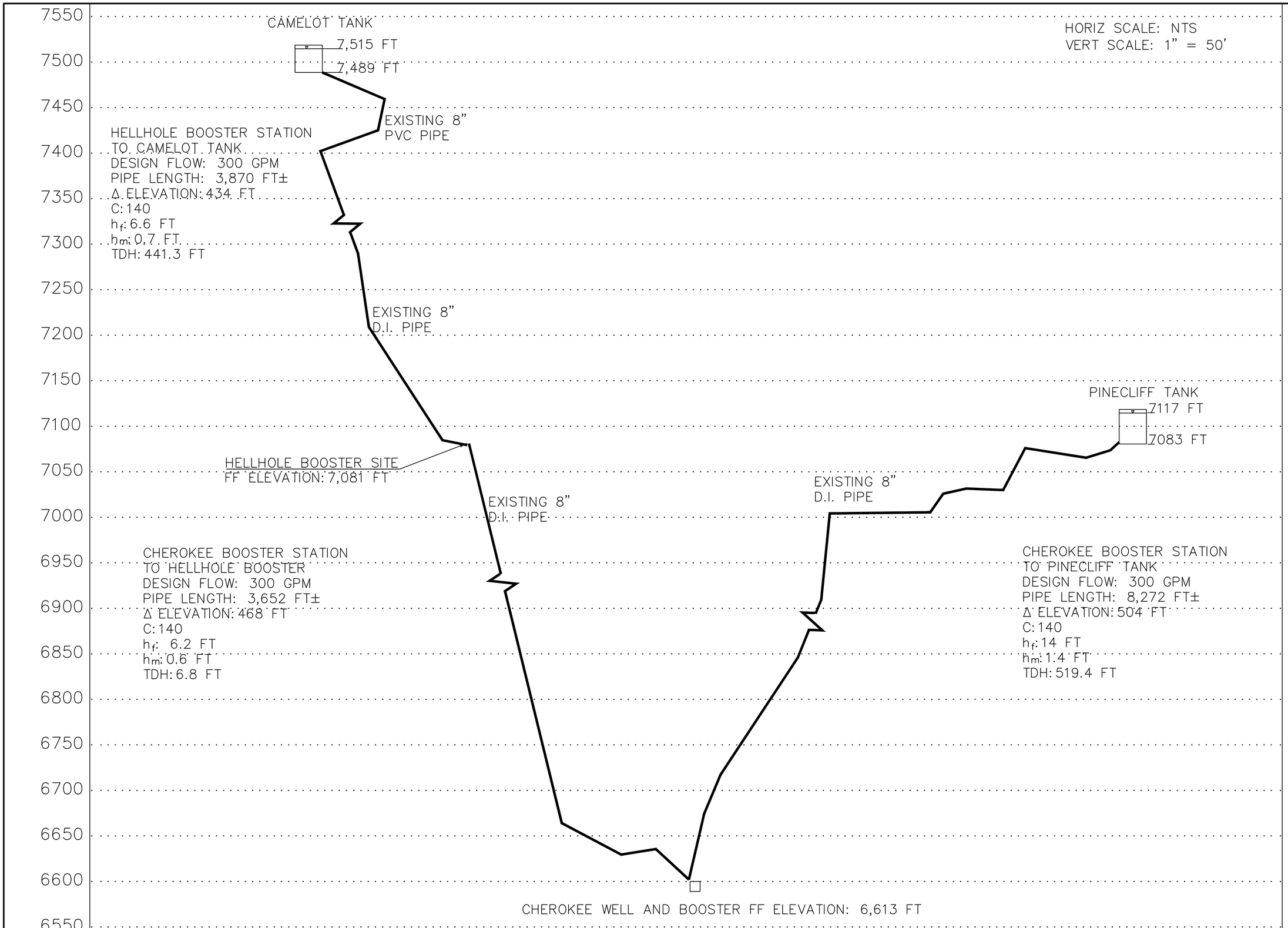

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REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
VILLAGE OF RUIDOSO

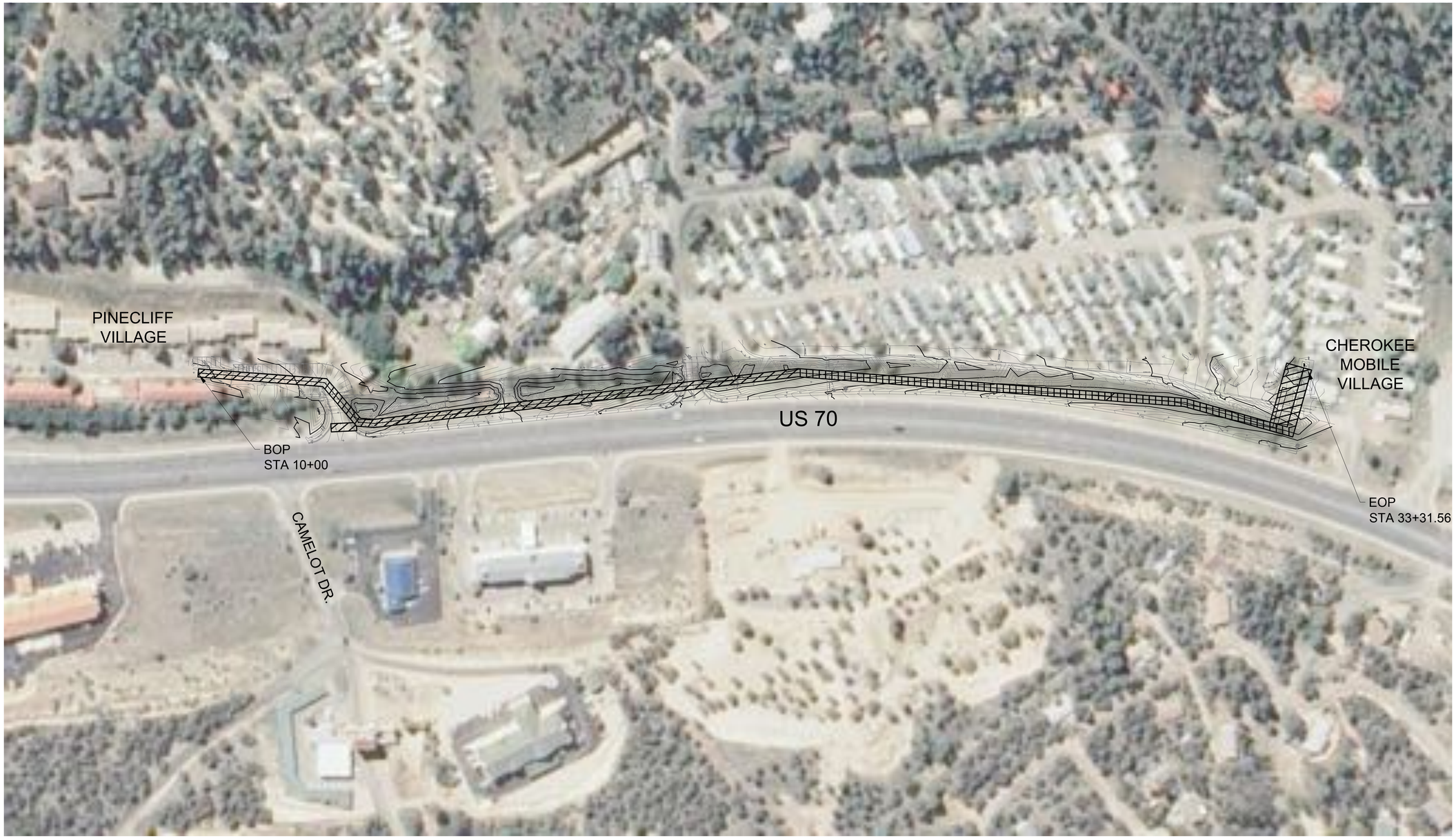
OVERALL SYSTEM HYDRAULICS

CHEROKEE SERVICE AREA
INTERCONNECT & BOOSTER
STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21078
PROFESSIONAL ENGINEER
8/24/16

PROJECT NO.	R303231.08
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

SHEET:
G-004



N

0 100' 200'

SCALE: 1" = 100'

CONTROL POINT DATA:

CONTROL POINTS ARE PANEL POINT MARKERS WITH ALUMINUM CAPS

CONTROL POINT CP101:
N: 51279.2500
E: 60441.4120
ELEV: 7051.60

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REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
VILLAGE OF RUIDOSO

CHEROKEE PIPELINE LAYOUT

CHEROKEE SERVICE AREA
INTERCONNECT & BOOSTER
STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21078
PROFESSIONAL ENGINEER
8/18/16

PROJECT NO.	R303231.08
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

SHEET:
G-005

Plotted: 8/19/2016 1:06:06 PM, By:Montoya, Arthur
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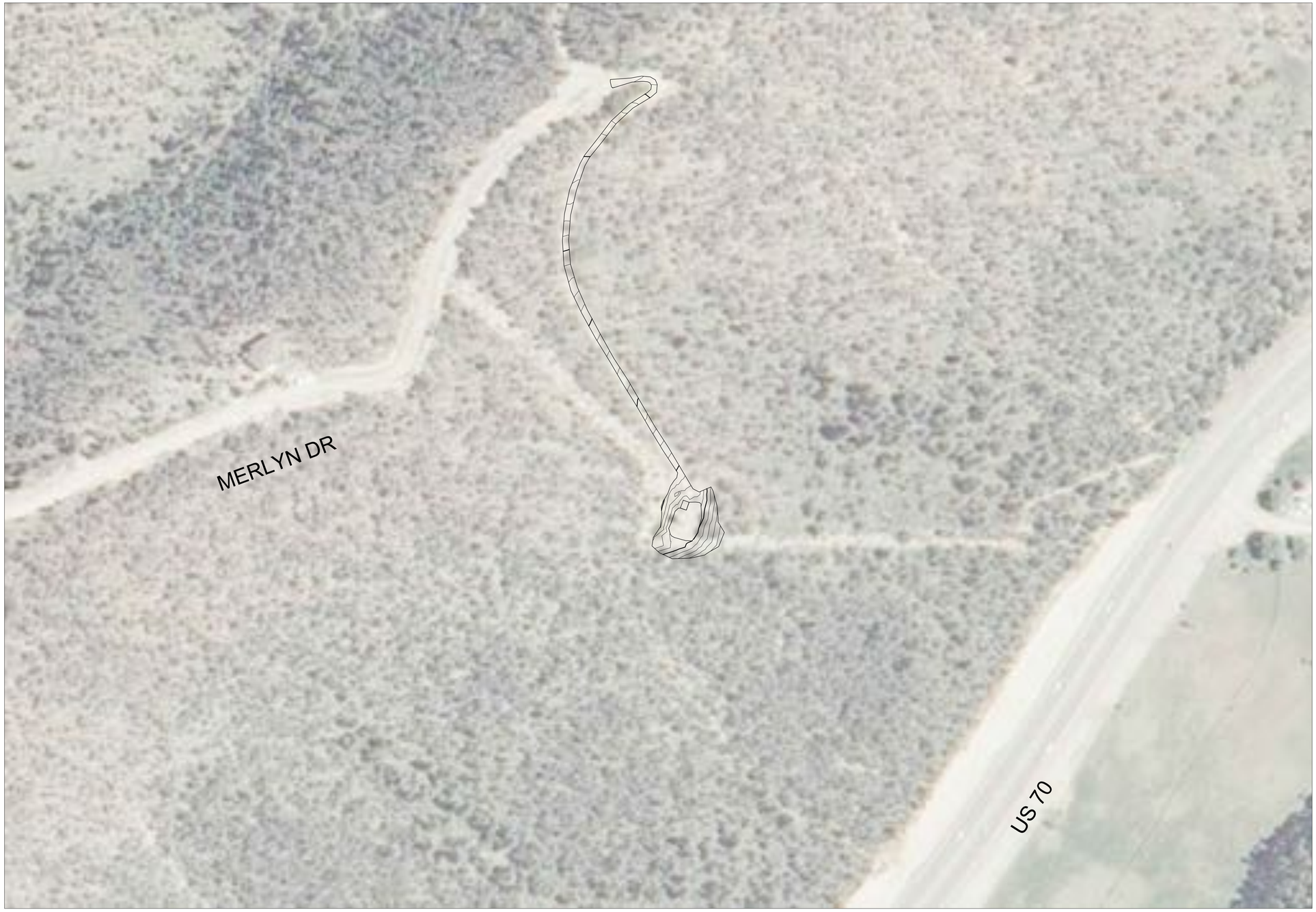

CONTROL POINT DATA:

CONTROL POINTS ARE PANEL POINT MARKERS WITH ALUMINUM CAPS

CONTROL POINT CP101:
N: 51279.2500
E: 60441.4120
ELEV: 7051.60

0 100' 200'
SCALE: 1" = 100'

N

NO.	DESCRIPTION	DATE	BY
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REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc. Rio Rancho
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
VILLAGE OF RUIDOSO

HELLHOLE OVERALL PLAN

CHEROKEE SERVICE AREA
INTERCONNECT & BOOSTER
STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21076
PROFESSIONAL ENGINEER
8/18/16

PROJECT NO.	R303231.07
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

SHEET:
G-006

Plotted: 8/18/2016 1:06:29 PM, By:Montoya, Arthur
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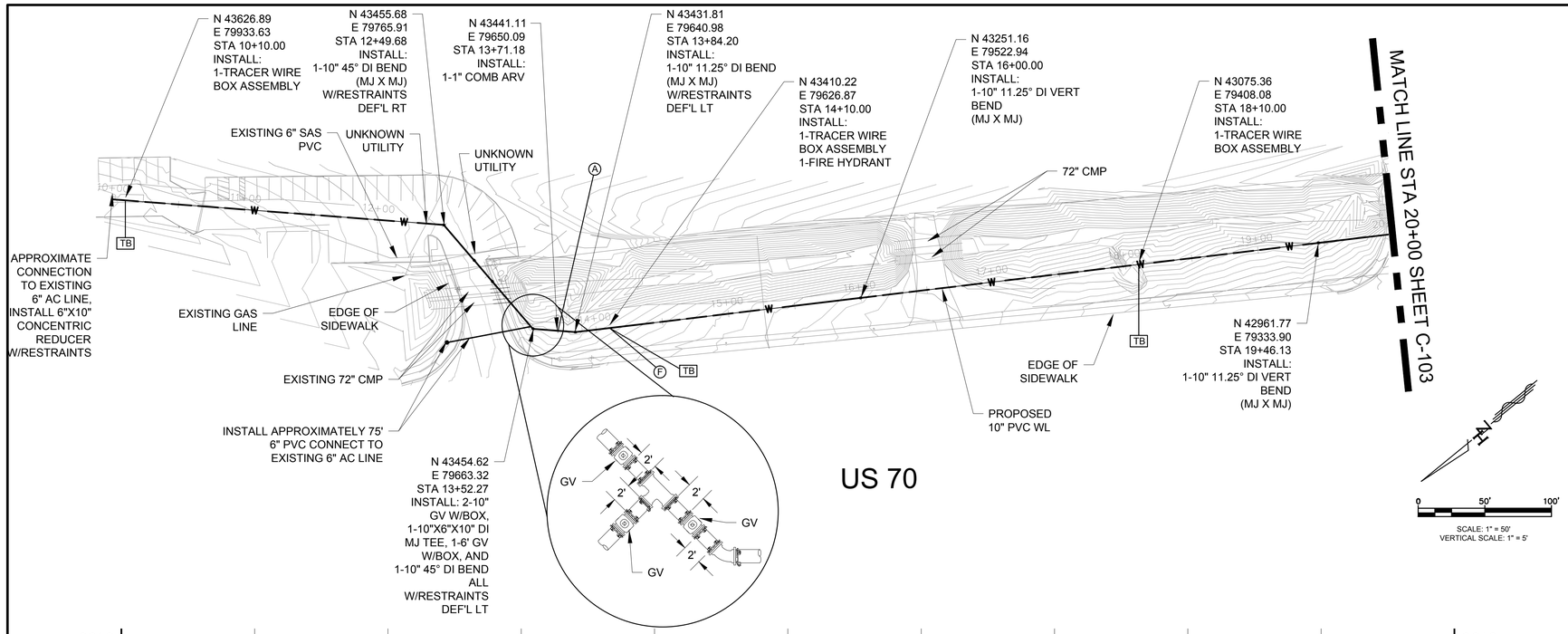

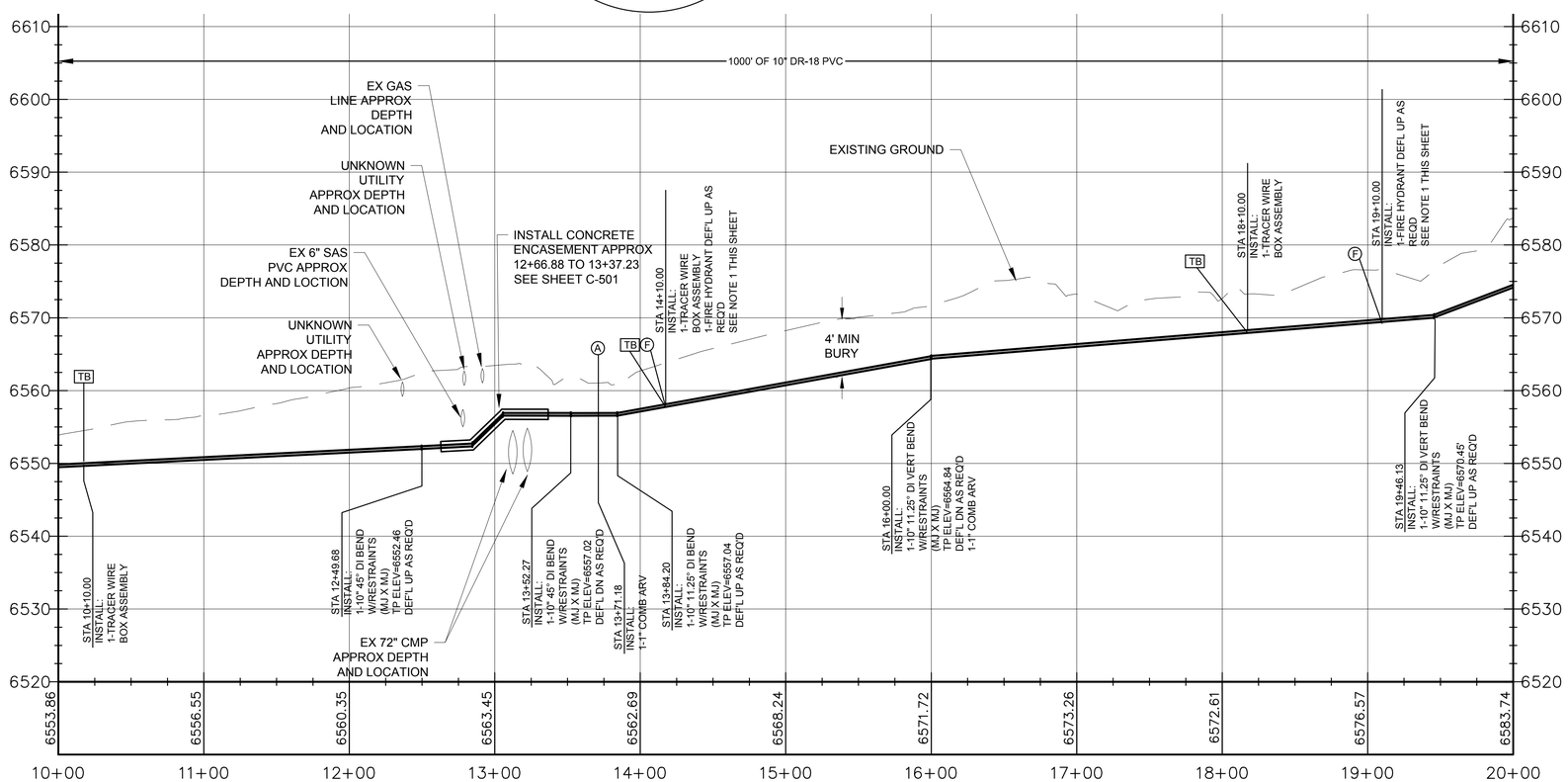

GENERAL NOTES:

1. PVI's SHOWN AS A DESIGN POINT IN PROFILE. ALL BENDING OF PVC PIPE SHALL NOT EXCEED MANUFACTURE'S RECOMMENDED MIN ALLOWABLE BENDING RADIUS PER SPECIFIED PIPE SIZE, MATERIAL, AND DR RATING. DI AND PVC PIPE JOINTS MAY BE DEFLECTED AS NECESSARY, BUT SHALL NOT EXCEED MORE THAT 75% OF THE PIPE MANUFACTURE'S RECOMMENDATIONS.
2. CONTRACTOR SHALL FIELD VERIFY SURVEY INFORMATION & DATUM PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCY.
3. LOCATION OF ALL EXISTING UTILITIES SHALL BE FIELD VERIFIED BY CONTRACTOR PRIOR TO BEGINNING WORK. THE LOCATION OF EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE BASED ON AVAILABLE RECORD INFORMATION, ABOVE GROUND FEATURES VISIBLE IN THE FIELD, AND VERBAL DESCRIPTIONS BY THE VILLAGE OF RUIDOSO. IN THE EVENT CONDITIONS IN THE FIELD ARE NOT AS SHOWN ON THE DRAWINGS, CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER IMMEDIATELY SO THAT NECESSARY CHANGES TO THE DESIGN MAY BE MADE WITH THE MINIMUM OF INTERRUPTION TO THE PROJECT SCHEDULE.
4. MINIMUM 1.5FT CLEARANCE BETWEEN PIPELINE AND EXISTING UTILITIES, OR USE LEAN FILL ASTM D-1557.
5. TOP OF PIPE ELEVATIONS AT PVI STATIONS TO BE SET BASE ON MIDDLE OF CURVE TOP OF PIPE. TP EL AT PVI STATIONS WILL VARY BASED ON UPWARD OR DOWNWARD DEFLECTION.
6. PIPELINE TEST PRESSURE IS 150psi.
7. CONTRACTOR IS RESPONSIBLE FOR HAULING OFF ALL SPOIL MATERIAL.
8. CONTRACTOR WILL BE RESPONSIBLE FOR PIPE BEDDING. PIPE MUST BE BEDDED 6" BELOW AND 12" ABOVE.
9. DISINFECTION OF WATERLINES PER AWWA STD C-651-14.

RESTRAINT TABLE	
BEND ANGLE	FT (BOTH SIDES)
11.25°	3'
45°	30'

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REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
VILLAGE OF RUIDOSO

CHEROKEE CONNECTION P & P

CHEROKEE SERVICE AREA
INTERCONNECT & BOOSTER
STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21078
PROFESSIONAL ENGINEER
8/19/16

PROJECT NO.	R303231.08
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

SHEET:
C-101

Plotted: 8/19/2016 1:06:50 PM, By:Montoya, Arthur
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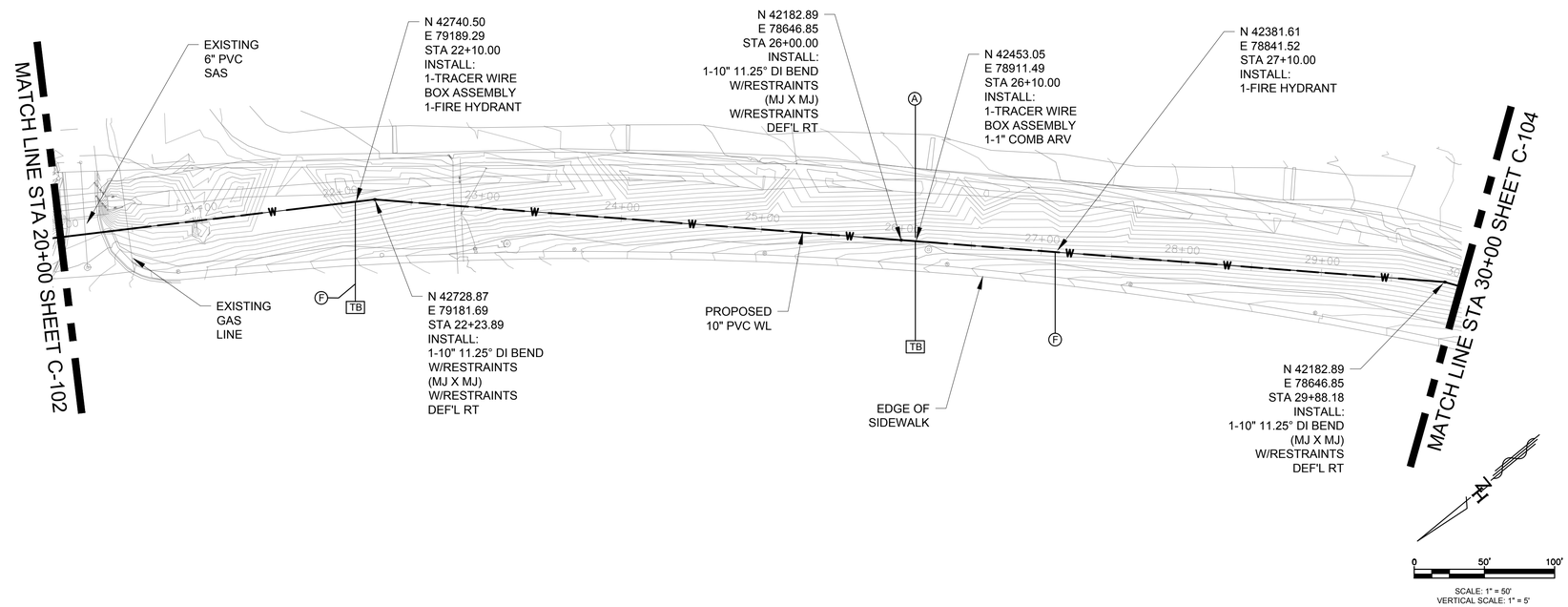

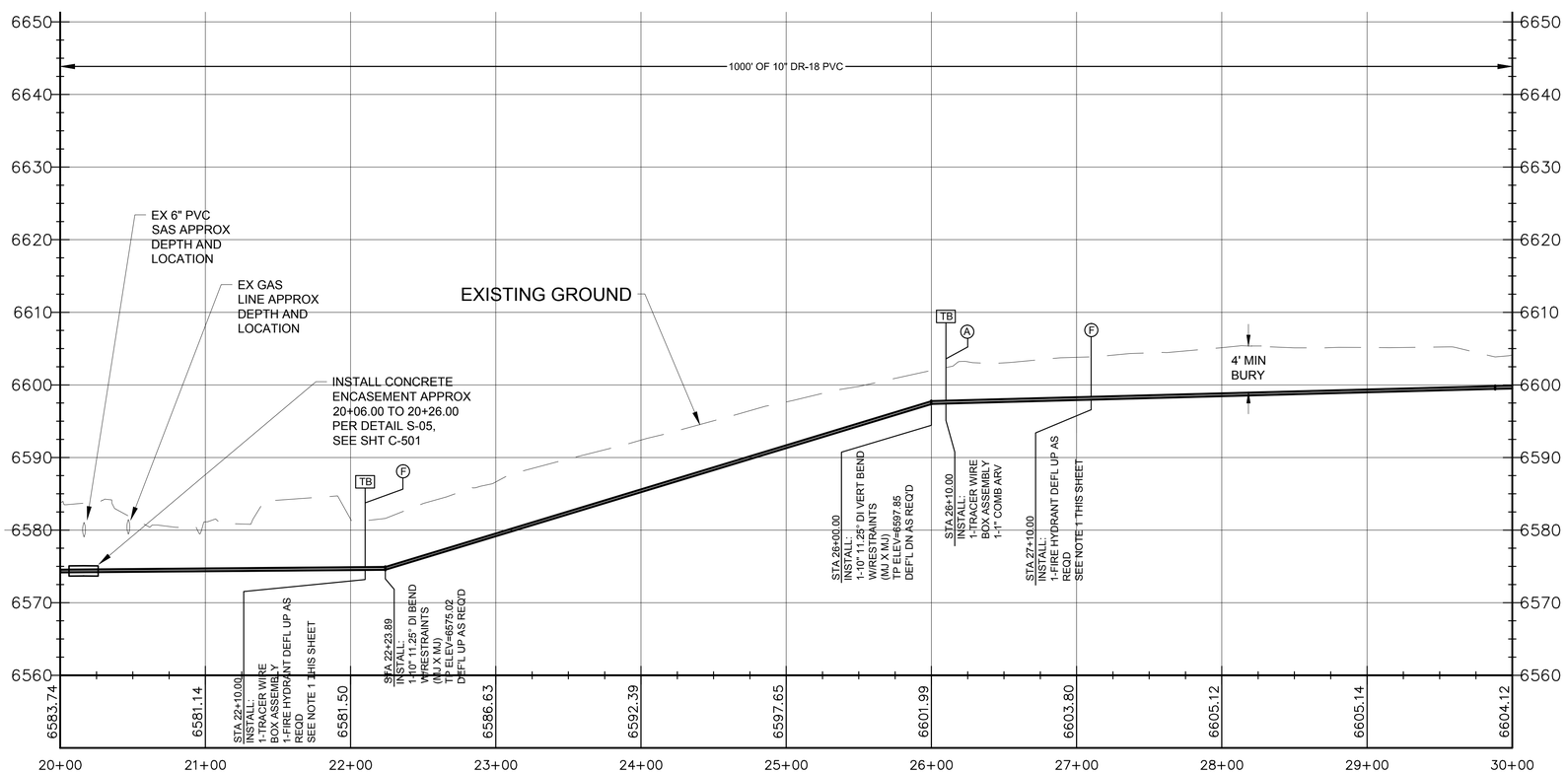

GENERAL NOTES:

1. PVI's SHOWN AS A DESIGN POINT IN PROFILE. ALL BENDING OF PVC PIPE SHALL NOT EXCEED MANUFACTURE'S RECOMMENDED MIN ALLOWABLE BENDING RADIUS PER SPECIFIED PIPE SIZE, MATERIAL, AND DR RATING. DI AND PVC PIPE JOINTS MAY BE DEFLECTED AS NECESSARY, BUT SHALL NOT EXCEED MORE THAT 75% OF THE PIPE MANUFACTURE'S RECOMMENDATIONS.
2. CONTRACTOR SHALL FIELD VERIFY SURVEY INFORMATION & DATUM PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCY.
3. LOCATION OF ALL EXISTING UTILITIES SHALL BE FIELD VERIFIED BY CONTRACTOR PRIOR TO BEGINNING WORK. THE LOCATION OF EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE BASED ON AVAILABLE RECORD INFORMATION, ABOVE GROUND FEATURES VISIBLE IN THE FIELD, AND VERBAL DESCRIPTIONS BY THE VILLAGE OF RUIDOSO. IN THE EVENT CONDITIONS IN THE FIELD ARE NOT AS SHOWN ON THE DRAWINGS, CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER IMMEDIATELY SO THAT NECESSARY CHANGES TO THE DESIGN MAY BE MADE WITH THE MINIMUM OF INTERRUPTION TO THE PROJECT SCHEDULE.
4. MINIMUM 1.5FT CLEARANCE BETWEEN PIPELINE AND EXISTING UTILITIES, OR USE LEAN FILL ASTM D-1557.
5. TOP OF PIPE ELEVATIONS AT PVI STATIONS TO BE SET BASE ON MIDDLE OF CURVE TOP OF PIPE. TP EL AT PVI STATIONS WILL VARY BASED ON UPWARD OR DOWNWARD DEFLECTION.
6. PIPELINE TEST PRESSURE IS 150psi.
7. CONTRACTOR IS RESPONSIBLE FOR HAULING OFF ALL SPOIL MATERIAL.
8. CONTRACTOR WILL BE RESPONSIBLE FOR PIPE BEDDING. PIPE MUST BE BEDDED 6" BELOW AND 12" ABOVE.
9. DISINFECTION OF WATERLINES PER AWWA STD C651-14.

RESTRAINT TABLE	
BEND ANGLE	FT (BOTH SIDES)
11.25°	3'

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REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
VILLAGE OF RUIDOSO

CHEROKEE CONNECTION P & P

CHEROKEE SERVICE AREA INTERCONNECT & BOOSTER STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21078
PROFESSIONAL ENGINEER
8/18/16

PROJECT NO.	R303231.08
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

SHEET:
C-102

Plotted: 8/18/2016 1:07:10 PM, By:Montoya, Arthur
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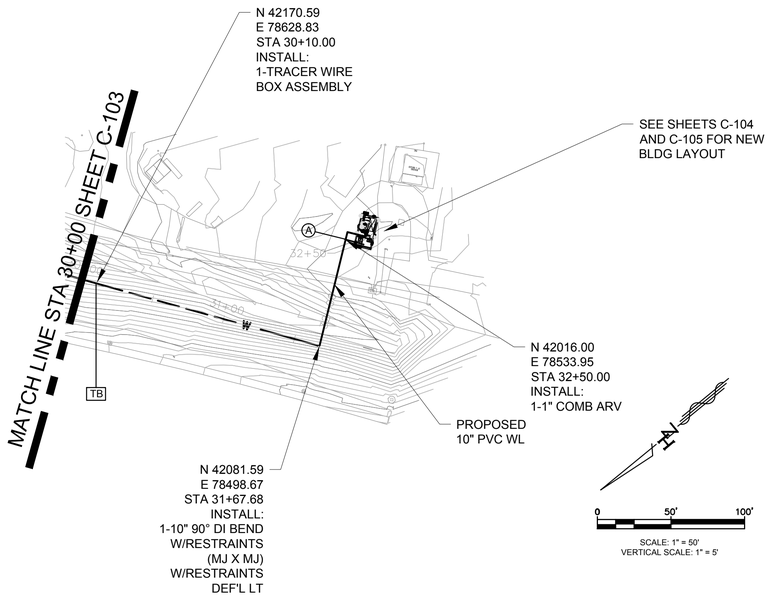

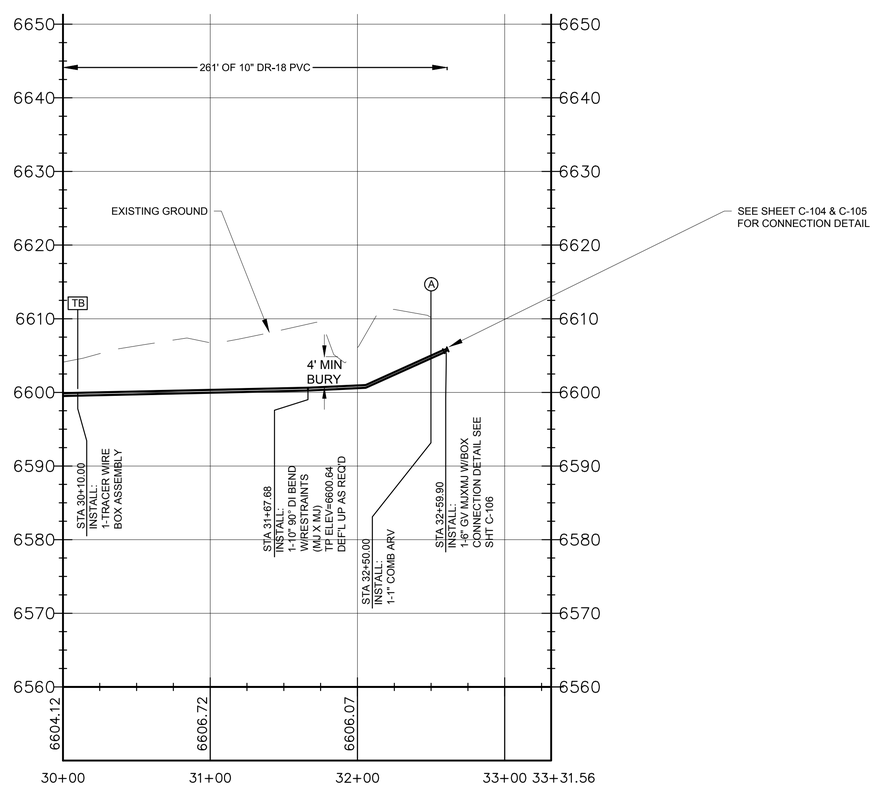

GENERAL NOTES:

1. PVI's SHOWN AS A DESIGN POINT IN PROFILE. ALL BENDING OF PVC PIPE SHALL NOT EXCEED MANUFACTURE'S RECOMMENDED MIN ALLOWABLE BENDING RADIUS PER SPECIFIED PIPE SIZE, MATERIAL, AND DR RATING. DI AND PVC PIPE JOINTS MAY BE DEFLECTED AS NECESSARY, BUT SHALL NOT EXCEED MORE THAT 75% OF THE PIPE MANUFACTURE'S RECOMMENDATIONS.
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5. TOP OF PIPE ELEVATIONS AT PVI STATIONS TO BE SET BASE ON MIDDLE OF CURVE TOP OF PIPE. TP EL AT PVI STATIONS WILL VARY BASED ON UPWARD OR DOWNWARD DEFLECTION.
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7. CONTRACTOR IS RESPONSIBLE FOR HAULING OFF ALL SPOIL MATERIAL.
8. CONTRACTOR WILL BE RESPONSIBLE FOR PIPE BEDDING. PIPE MUST BE BEDDED 6" BELOW AND 12" ABOVE.
9. DISINFECTION OF WATERLINES PER AWWA STD C651-14.

RESTRAINT TABLE	
BEND ANGLE	FT (BOTH SIDES)
90°	30'

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REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259
Designed For:

VILLAGE OF RUIDOSO

CHEROKEE CONNECTION P & P

CHEROKEE SERVICE AREA
INTERCONNECT & BOOSTER
STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21078
PROFESSIONAL ENGINEER
8/18/16

PROJECT NO.	R303231.08
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

SHEET:
C-103

Plotted: 8/18/2016 1:07:30 PM, By:Montoya, Arthur
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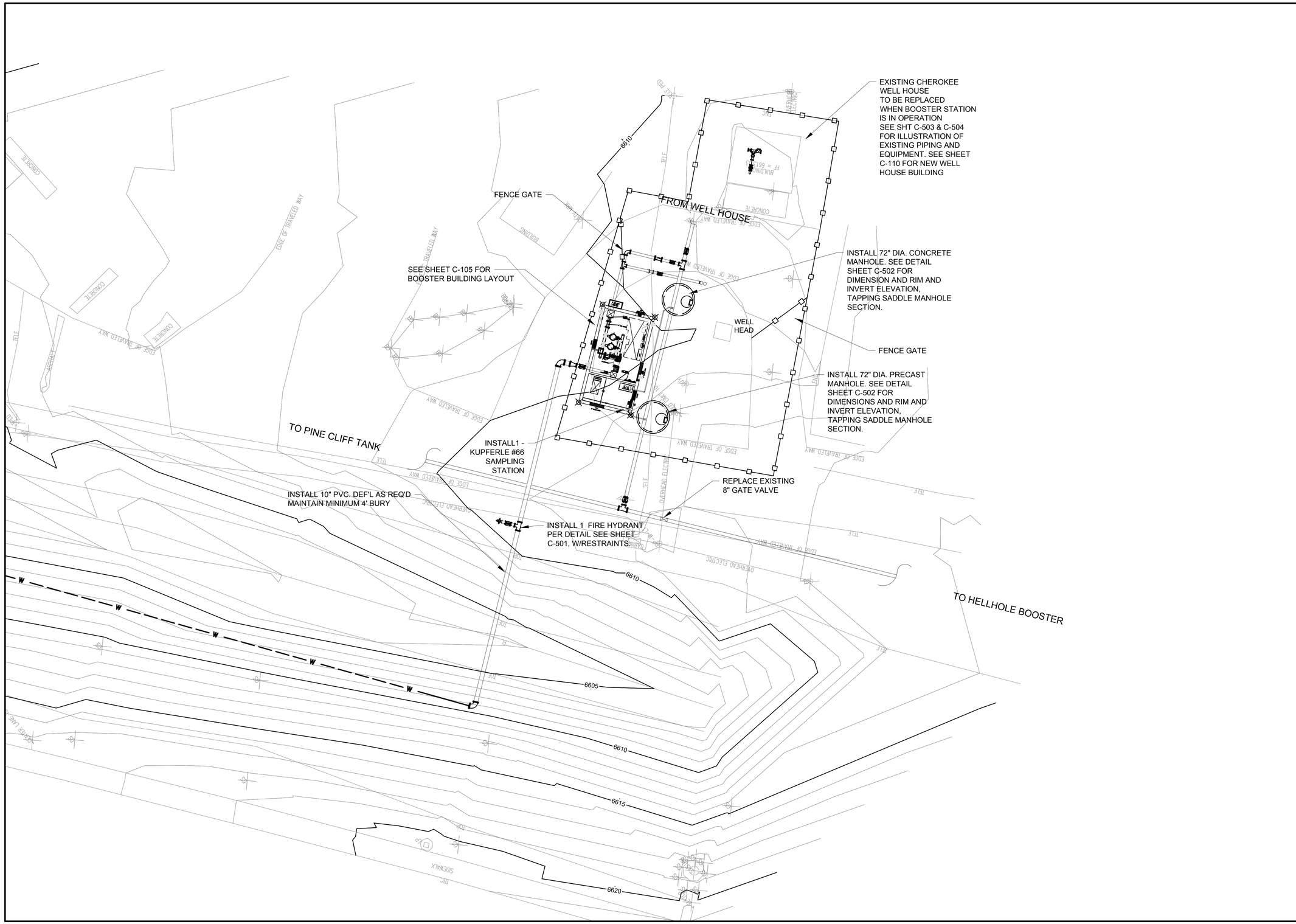

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Last Saved:8/19/2016 11:06:28 AM, amontoya

NO.	DESCRIPTION	DATE	BY
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REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
VILLAGE OF RUIDOSO

CHEROKEE BOOSTER CONNECTION

CHEROKEE SERVICE AREA
INTERCONNECT & BOOSTER
STATION REPLACEMENT
RUIDOSO, NEW MEXICO

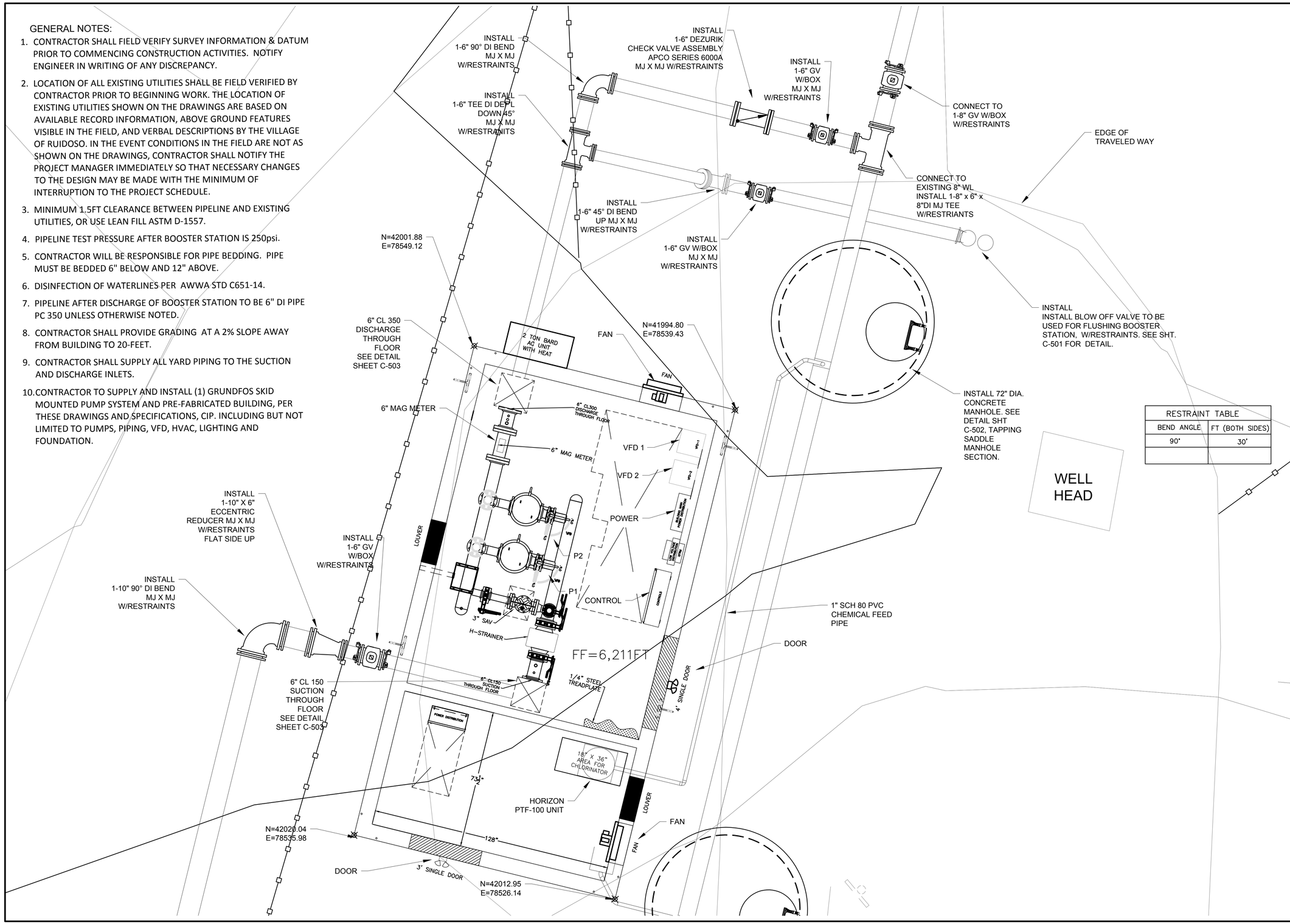
RAYMOND D. DE LA VEGA
NEW MEXICO
21076
PROFESSIONAL ENGINEER
8/18/16

PROJECT NO.	R303231.08
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

SHEET:
C-104

GENERAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY SURVEY INFORMATION & DATUM PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCY.
2. LOCATION OF ALL EXISTING UTILITIES SHALL BE FIELD VERIFIED BY CONTRACTOR PRIOR TO BEGINNING WORK. THE LOCATION OF EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE BASED ON AVAILABLE RECORD INFORMATION, ABOVE GROUND FEATURES VISIBLE IN THE FIELD, AND VERBAL DESCRIPTIONS BY THE VILLAGE OF RUIDOSO. IN THE EVENT CONDITIONS IN THE FIELD ARE NOT AS SHOWN ON THE DRAWINGS, CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER IMMEDIATELY SO THAT NECESSARY CHANGES TO THE DESIGN MAY BE MADE WITH THE MINIMUM OF INTERRUPTION TO THE PROJECT SCHEDULE.
3. MINIMUM 1.5FT CLEARANCE BETWEEN PIPELINE AND EXISTING UTILITIES, OR USE LEAN FILL ASTM D-1557.
4. PIPELINE TEST PRESSURE AFTER BOOSTER STATION IS 250psi.
5. CONTRACTOR WILL BE RESPONSIBLE FOR PIPE BEDDING. PIPE MUST BE BEDDED 6" BELOW AND 12" ABOVE.
6. DISINFECTION OF WATERLINES PER AWWA STD C651-14.
7. PIPELINE AFTER DISCHARGE OF BOOSTER STATION TO BE 6" DI PIPE PC 350 UNLESS OTHERWISE NOTED.
8. CONTRACTOR SHALL PROVIDE GRADING AT A 2% SLOPE AWAY FROM BUILDING TO 20-FEET.
9. CONTRACTOR SHALL SUPPLY ALL YARD PIPING TO THE SUCTION AND DISCHARGE INLETS.
10. CONTRACTOR TO SUPPLY AND INSTALL (1) GRUNDFOS SKID MOUNTED PUMP SYSTEM AND PRE-FABRICATED BUILDING, PER THESE DRAWINGS AND SPECIFICATIONS, CIP. INCLUDING BUT NOT LIMITED TO PUMPS, PIPING, VFD, HVAC, LIGHTING AND FOUNDATION.



RESTRAINT TABLE	
BEND ANGLE	FT (BOTH SIDES)
90°	30'

NO.	DESCRIPTION	DATE	BY
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REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
VILLAGE OF RUIDOSO

BOOSTER CONNECTION PLAN

CHEROKEE SERVICE AREA INTERCONNECT & BOOSTER STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21076
PROFESSIONAL ENGINEER
8/18/16

PROJECT NO.	R303231.08
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

SHEET:
C-105

Plotted: 8/18/2016 1:07:55 PM, By:Montoya, Arthur
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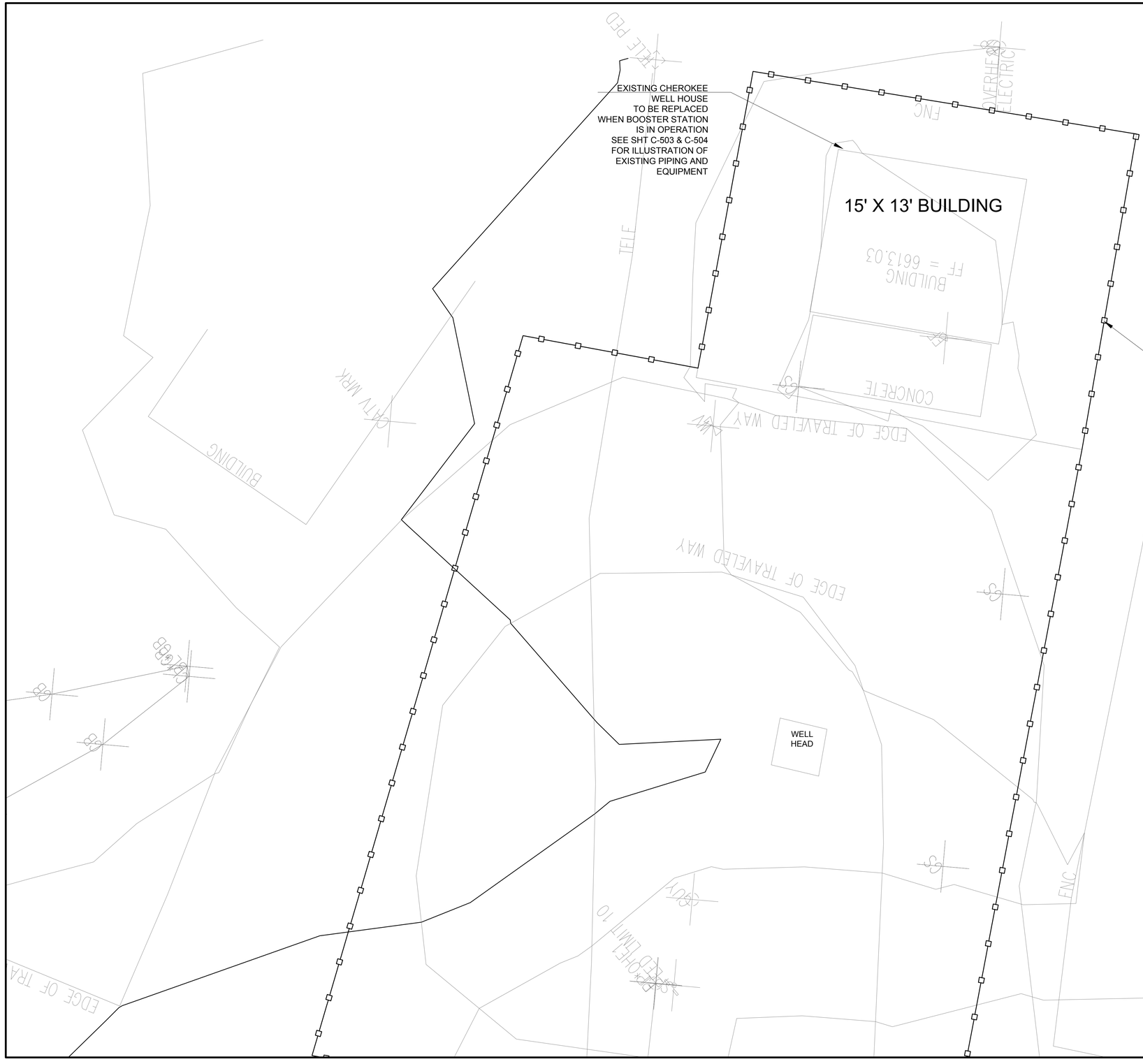
Last Saved:8/19/2016 11:06:28 AM, amontoya



GENERAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY SURVEY INFORMATION & DATUM PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCY.
2. REMOVE ALL EXISTING CONSTRUCTION NECESSARY FOR THE COMPLETION OF THE WORK AS DEPICTED ON THE DRAWINGS. WORK INCLUDING BUT NOT LIMITED TO ITEMS SHOWN ON THE PLANS, NECESSARY DISCONNECTS AND ALTERATIONS TO EXISTING ELECTRICAL SYSTEMS SHALL BE INCLUDED. WHERE CONTRACTOR IS DESIGNATED TO MAKE REMOVALS, DISPOSITION OF MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR. VERIFY WITH THE VILLAGE OF RUIDOSO WATER DEPARTMENT, THE DISPOSITION AND REMOVAL OF ANY COMPONENTS OF SALVAGEABLE VALUE.
3. ALL ELECTRICAL WORK WILL BE COORDINATED WITH PNM AND THE NEW MEXICO CONSTRUCTION INDUSTRIES DIVISION.
4. AFTER CONSTRUCTION, NEW FENCE TO BE INSTALLED AROUND BOTH NEW BUILDINGS.

NO.	DESCRIPTION	DATE	BY
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REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc. Rio Rancho
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
VILLAGE OF RUIDOSO

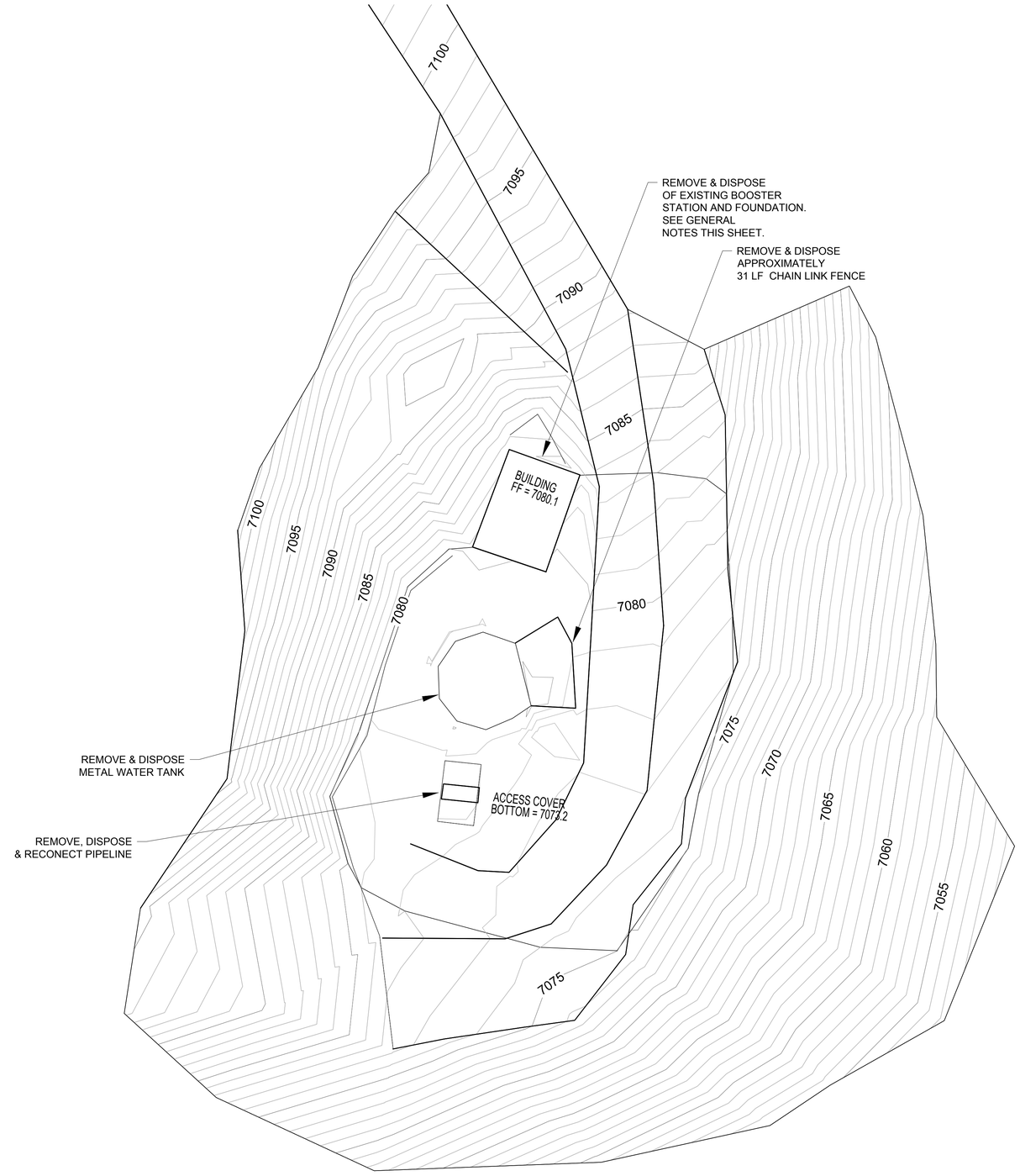
CHEROKEE DEMO PLAN

CHEROKEE SERVICE AREA
INTERCONNECT & BOOSTER
STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21078
PROFESSIONAL ENGINEER
8/18/16

PROJECT NO.	R303231.08
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	
SHEET:	C-106

Plotted: 8/18/2016 1:08:23 PM, By:Montoya, Arthur
H:\proj\R303231.08 Cherokee Interconnect\DWG\Plot_Files\C-106 CHEROKEE DEMO PLAN.dwg
Last Saved:8/18/2016 11:09:09 AM, amontoya



GENERAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY SURVEY INFORMATION & DATUM PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCY.
2. REMOVE ALL EXISTING CONSTRUCTION NECESSARY FOR THE COMPLETION OF THE WORK AS DEPICTED ON THE DRAWINGS. WORK INCLUDING BUT NOT LIMITED TO ITEMS SHOWN ON THE PLANS, NECESSARY DISCONNECTS AND ALTERATIONS TO EXISTING ELECTRICAL SYSTEMS INCLUDING FOUNDATION SHALL BE INCLUDED. WHERE CONTRACTOR IS DESIGNATED TO MAKE REMOVALS, DISPOSITION OF MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR. VERIFY WITH THE VILLAGE OF RUIDOSO WATER DEPARTMENT, THE DISPOSITION AND REMOVAL OF ANY COMPONENTS OF SALVAGEABLE VALUE.
3. ALL ELECTRICAL WORK WILL BE COORDINATED WITH PNM AND THE NEW MEXICO CONSTRUCTION INDUSTRIES DIVISION.

0 10' 20'
SCALE: 1" = 10'

HZ

NO.	DESCRIPTION	DATE	BY
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REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc. Rio Rancho
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
VILLAGE OF RUIDOSO

HELLHOLE DEMO PLAN

CHEROKEE SERVICE AREA
INTERCONNECT & BOOSTER
STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21076
PROFESSIONAL ENGINEER
8/18/16

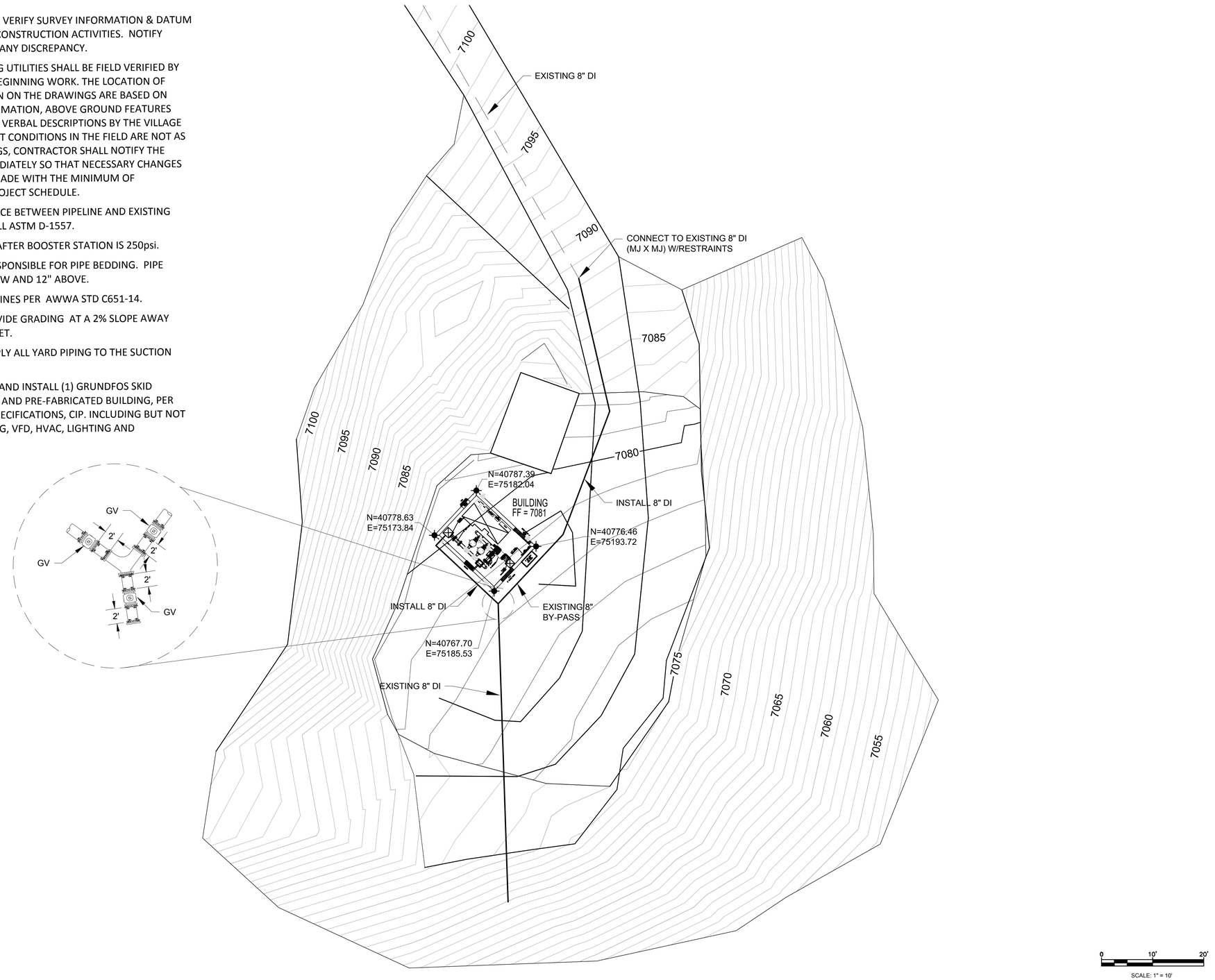
PROJECT NO.	R303231.07
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

SHEET:
C-107

Plotted: 8/18/2016 11:10:53 PM, By:Montoya, Arthur
H:\proj\R303231.07 Hellhole Booster\DWG\Proj_Files\C-107 HELLHOLE DEMO PLAN.dwg
Last Saved:8/18/2016 11:32:13 AM, amontoya

GENERAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY SURVEY INFORMATION & DATUM PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCY.
2. LOCATION OF ALL EXISTING UTILITIES SHALL BE FIELD VERIFIED BY CONTRACTOR PRIOR TO BEGINNING WORK. THE LOCATION OF EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE BASED ON AVAILABLE RECORD INFORMATION, ABOVE GROUND FEATURES VISIBLE IN THE FIELD, AND VERBAL DESCRIPTIONS BY THE VILLAGE OF RUIDOSO. IN THE EVENT CONDITIONS IN THE FIELD ARE NOT AS SHOWN ON THE DRAWINGS, CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER IMMEDIATELY SO THAT NECESSARY CHANGES TO THE DESIGN MAY BE MADE WITH THE MINIMUM OF INTERRUPTION TO THE PROJECT SCHEDULE.
3. MINIMUM 1.5FT CLEARANCE BETWEEN PIPELINE AND EXISTING UTILITIES, OR USE LEAN FILL ASTM D-1557.
4. PIPELINE TEST PRESSURE AFTER BOOSTER STATION IS 250psi.
5. CONTRACTOR WILL BE RESPONSIBLE FOR PIPE BEDDING. PIPE MUST BE BEDDED 6" BELOW AND 12" ABOVE.
6. DISINFECTION OF WATERLINES PER AWWA STD C651-14.
7. CONTRACTOR SHALL PROVIDE GRADING AT A 2% SLOPE AWAY FROM BUILDING TO 20-FEET.
8. CONTRACTOR SHALL SUPPLY ALL YARD PIPING TO THE SUCTION AND DISCHARGE INLETS.
9. CONTRACTOR TO SUPPLY AND INSTALL (1) GRUNDFOS SKID MOUNTED PUMP SYSTEM AND PRE-FABRICATED BUILDING, PER THESE DRAWINGS AND SPECIFICATIONS, CIP. INCLUDING BUT NOT LIMITED TO PUMPS, PIPING, VFD, HVAC, LIGHTING AND FOUNDATION.



NO.	DESCRIPTION	DATE	BY
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REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc. Rio Rancho
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
VILLAGE OF RUIDOSO

HELLHOLE GRADING PLAN

CHEROKEE SERVICE AREA
INTERCONNECT & BOOSTER
STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21076
PROFESSIONAL ENGINEER
8/18/16

PROJECT NO.	R303231.07
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

SHEET:
C-108

Plotted: 8/18/2016 1:11:16 PM, By:Montoya, Arthur
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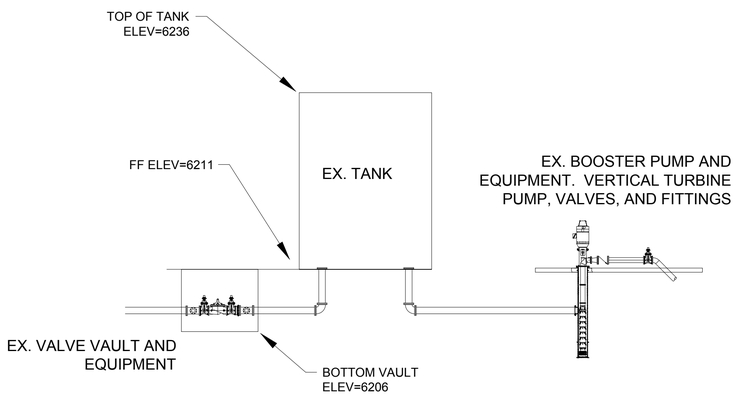
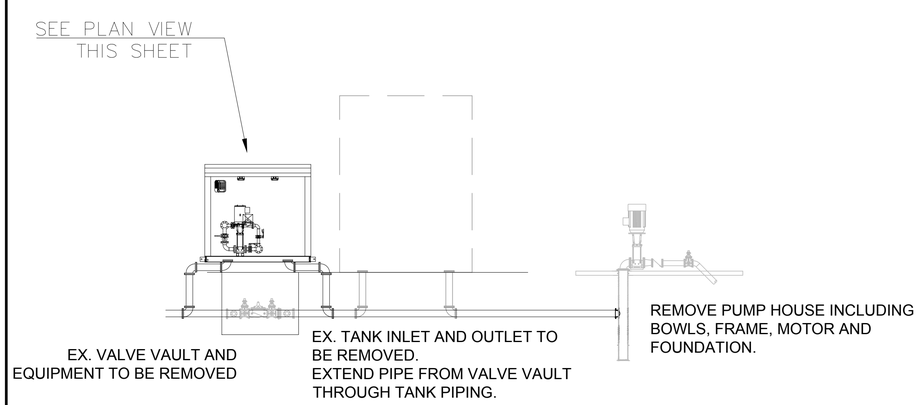
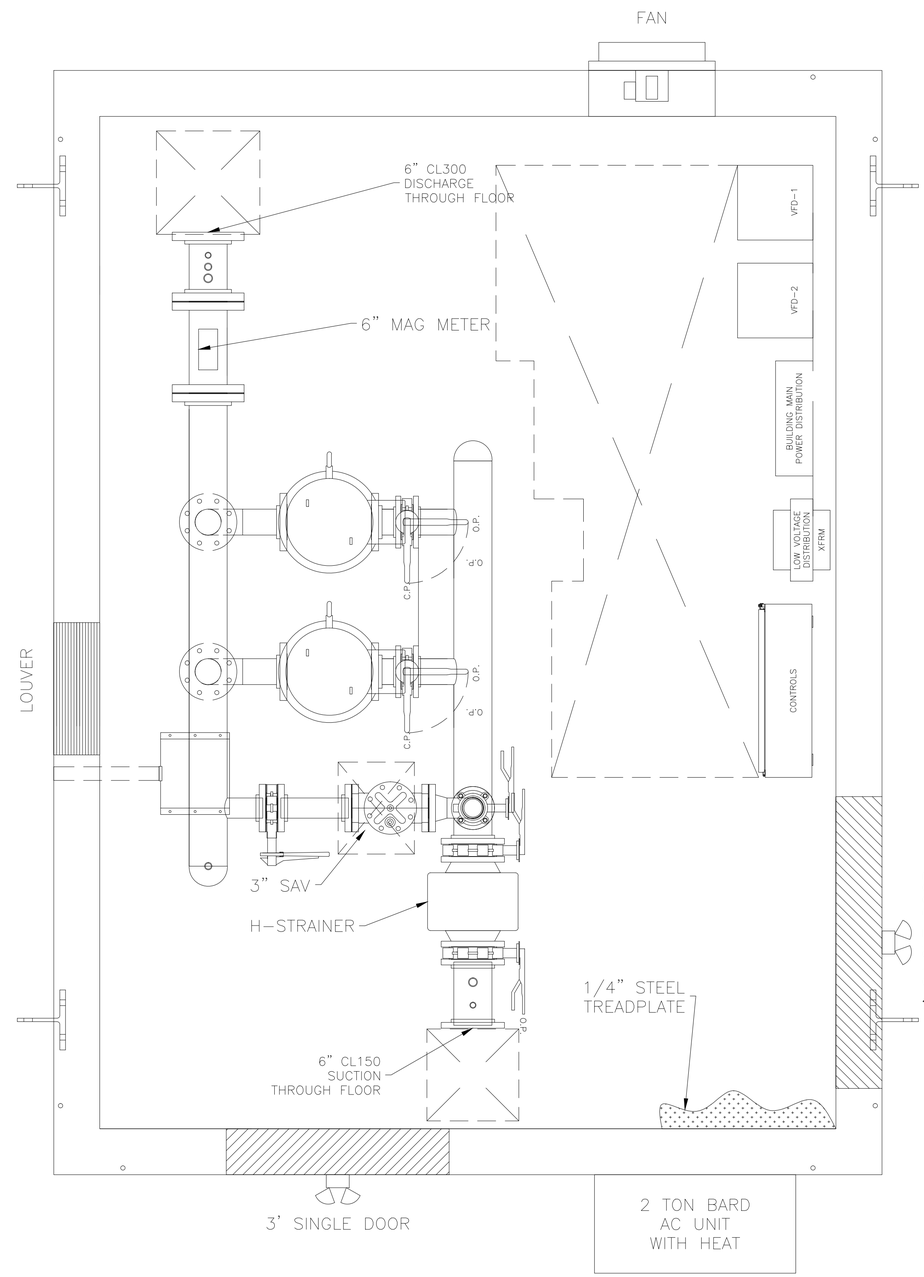
Last Saved:8/19/2016 11:32:59 AM, amontoya



EXISTING VALVE VAULT, TANK, AND PUMPS



PROPOSED PUMP SETUP



PLAN VIEW

NO.	DESCRIPTION	DATE	BY
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REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For: VILLAGE OF RUIDOSO

HELLHOLE BOOSTER LAYOUT

CHEROKEE SERVICE AREA
INTERCONNECT & BOOSTER
STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21078
PROFESSIONAL ENGINEER
8/18/16

PROJECT NO.	R303231.07
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	
SHEET:	C-109

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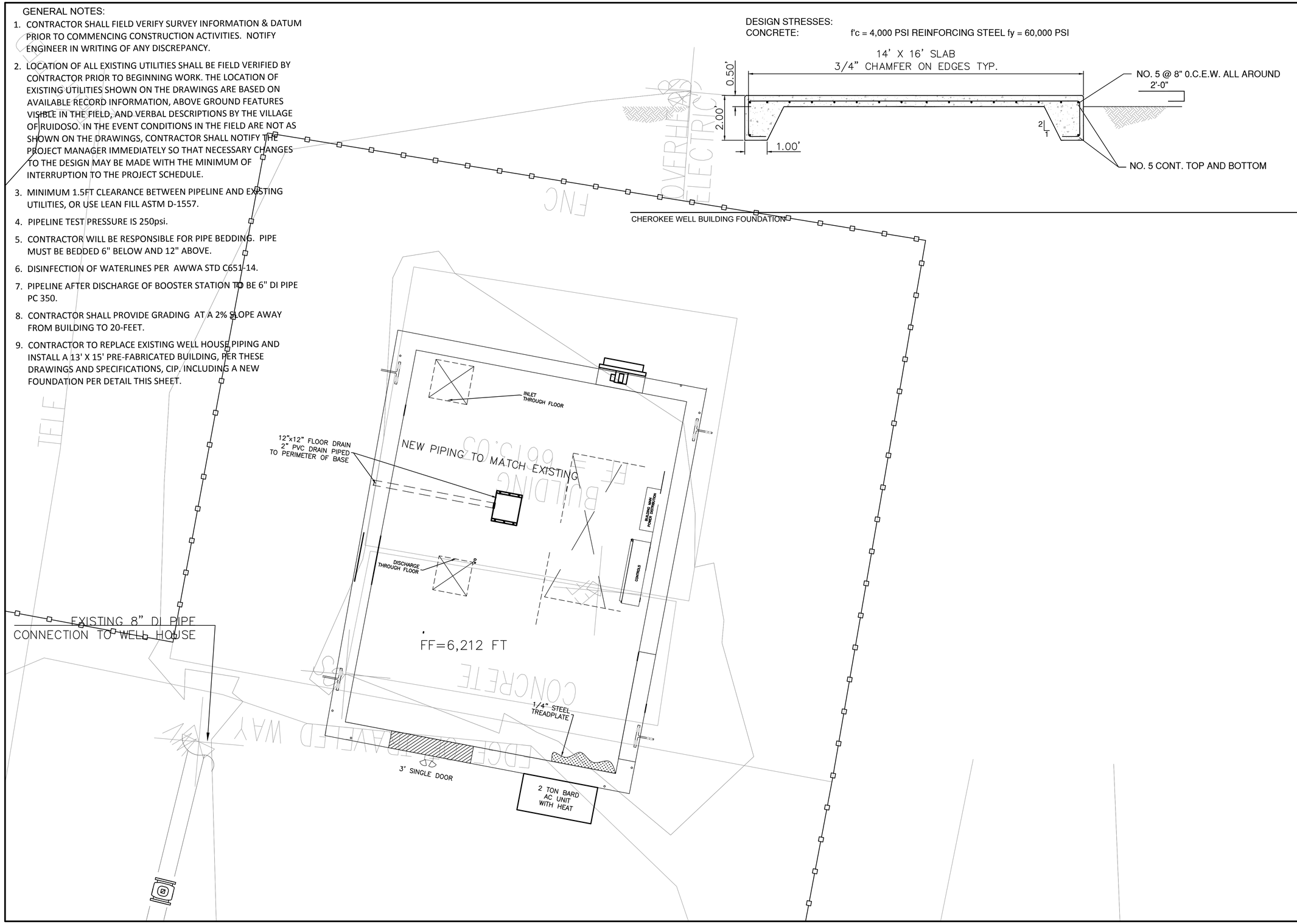
Last Saved:8/19/2016 11:33:39 AM, amontoya

GENERAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY SURVEY INFORMATION & DATUM PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCY.
2. LOCATION OF ALL EXISTING UTILITIES SHALL BE FIELD VERIFIED BY CONTRACTOR PRIOR TO BEGINNING WORK. THE LOCATION OF EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE BASED ON AVAILABLE RECORD INFORMATION, ABOVE GROUND FEATURES VISIBLE IN THE FIELD, AND VERBAL DESCRIPTIONS BY THE VILLAGE OF RUIDOSO. IN THE EVENT CONDITIONS IN THE FIELD ARE NOT AS SHOWN ON THE DRAWINGS, CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER IMMEDIATELY SO THAT NECESSARY CHANGES TO THE DESIGN MAY BE MADE WITH THE MINIMUM OF INTERRUPTION TO THE PROJECT SCHEDULE.
3. MINIMUM 1.5FT CLEARANCE BETWEEN PIPELINE AND EXISTING UTILITIES, OR USE LEAN FILL ASTM D-1557.
4. PIPELINE TEST PRESSURE IS 250psi.
5. CONTRACTOR WILL BE RESPONSIBLE FOR PIPE BEDDING. PIPE MUST BE BEDDED 6" BELOW AND 12" ABOVE.
6. DISINFECTION OF WATERLINES PER AWWA STD C651-14.
7. PIPELINE AFTER DISCHARGE OF BOOSTER STATION TO BE 6" DI PIPE PC 350.
8. CONTRACTOR SHALL PROVIDE GRADING AT A 2% SLOPE AWAY FROM BUILDING TO 20-FEET.
9. CONTRACTOR TO REPLACE EXISTING WELL HOUSE PIPING AND INSTALL A 13' X 15' PRE-FABRICATED BUILDING, PER THESE DRAWINGS AND SPECIFICATIONS, CIP, INCLUDING A NEW FOUNDATION PER DETAIL THIS SHEET.

DESIGN STRESSES:
CONCRETE: f'c = 4,000 PSI REINFORCING STEEL fy = 60,000 PSI



NO.	DESCRIPTION	DATE	BY
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REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
VILLAGE OF RUIDOSO

CHEROKEE WELL HOUSE

CHEROKEE SERVICE AREA
INTERCONNECT & BOOSTER
STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21078
PROFESSIONAL ENGINEER
8/18/16

PROJECT NO.	R303231.08
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

SHEET:
C-110

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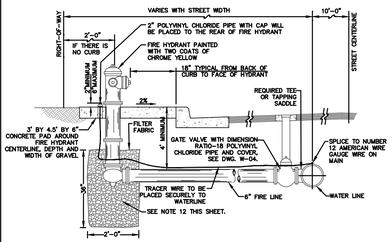
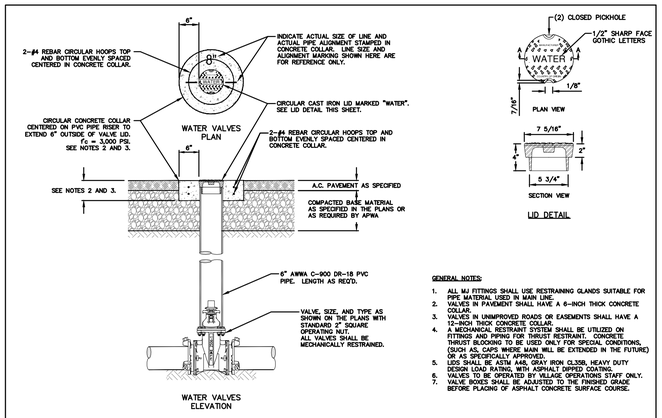


NOTES:

1. GATE VALVE WITH BOX & COVER SHALL BE INSTALLED ON NEW AND EXISTING WATER MAINS.
2. FIRE HYDRANTS SHALL HAVE 5 1/4" VALVE OPENING, DRY BARREL, DRY TOP, TRAFFIC MODEL, WITH ONE 4 1/2" PUMPER NOZZLE, TWO 2 1/2" HOSE NOZZLES, NS THREAD, PENTAGON OPERATING NUT (1 1/2" POINT TO FLAT) WITH 1" SIDES, WHICH SHALL OPEN LEFT (COUNTER CLOCKWISE), WITH MECHANICAL JOINT CONNECTION TO 6" SPECIFIED POLYVINYL CHLORIDE PIPE WITH 4" MINIMUM COVER.
3. THE FIRE HYDRANT SHALL BE PAINTED WITH TWO COATS OF CHROME YELLOW, AND MEET REQUIREMENTS OF AMERICAN WATER WORKS ASSOCIATION STANDARD C502.
4. WRAP ALL AREAS WITH 10 MIL PLASTIC BEFORE INSTALLATION OF CONCRETE THRUST BLOCKS.
5. A FIRE HYDRANT ASSEMBLY MUST BE LOCATED 10 FEET FROM THE END OF ANY DEAD END WATERLINE.
6. ALL FITTINGS AND JOINTS FROM FIRE HYDRANT TO VALVE AND MAIN LINE REQUIRE RESTRAINING GLAND-TYPE MECHANICAL RESTRAINTS.
7. IN UNPAVED RIGHT-OF-WAYS POUR 3' BY 4' BY 0.5' CONCRETE COLLAR CENTERED ON FIRE HYDRANT.
8. FIRE HYDRANT COLLARS SHALL BE INSTALLED AT 2" TO 6" ABOVE FINISHED OR EXISTING ROAD GRADE ON ALL UNPAVED ROADS.
9. FIRE PROTECTION FIRE HYDRANTS ON PRIVATE PROPERTY TO FOLLOW BACKFLOW PREVENTION REQUIREMENTS.
10. A MECHANICAL RESTRAINT SYSTEM SHALL BE UTILIZED ON FITTINGS AND PIPING FOR THRUST RESTRAINT. CONCRETE THRUST BLOCKING TO BE USED ONLY FOR SPECIAL CONDITIONS (SUCH AS, CAPS WHERE MAIN WILL BE EXTENDED IN THE FUTURE) OR AS SPECIFICALLY APPROVED.
11. 3/4" CRUSHED STONE OR GRAVEL SHALL BE PLACED AROUND THE BOTTOM OF THE HYDRANT FOR A RADIUS OF AT LEAST 12" AND EXTEND AT LEAST 12" ABOVE THE OUTLET. DO NOT BLOCK WEEP HOLES. WRAP GRAVEL IN FILTER FABRIC.

FIRE HYDRANT ASSEMBLY

DWG. NO. W-03 NOV. 2015

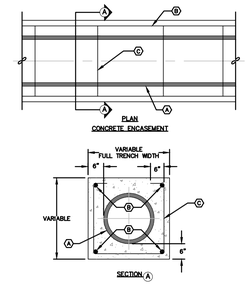


GENERAL NOTES:

1. ALL MJ FITTINGS SHALL USE RESTRAINING GLANDS SUITABLE FOR PIPE MATERIAL USED IN MAIN LINE.
2. VALVES IN PAVEMENT SHALL HAVE A 6-INCH THICK CONCRETE COLLAR.
3. VALVES IN UNIMPROVED ROADS OR EASEMENTS SHALL HAVE A 12-INCH THICK CONCRETE COLLAR.
4. A MECHANICAL RESTRAINT SYSTEM SHALL BE UTILIZED ON FITTINGS AND PIPING FOR THRUST RESTRAINT. CONCRETE THRUST BLOCKING TO BE USED ONLY FOR SPECIAL CONDITIONS, (SUCH AS, CAPS WHERE MAIN WILL BE EXTENDED IN THE FUTURE) OR AS SPECIFICALLY APPROVED.
5. LIDS SHALL BE ASTM A48, GRAY IRON CLSSS, HEAVY DUTY
6. VALVE BOXES SHALL BE ADJUSTABLE TELESCOPING TYPE.
7. VALVES TO BE OPERATED BY VILLAGE OPERATIONS STAFF ONLY.
8. VALVE BOXES SHALL BE ADJUSTED TO THE FINISHED GRADE BEFORE PLACING OF ASPHALT CONCRETE SURFACE COURSE.

POTABLE WATER VALVE BOX ASSEMBLY

DWG. NO. W-04 OCT. 2015



GENERAL NOTES:

1. WHERE A WATER LINE PASSES BENEATH, OR LESS THAN 18" ABOVE AN EXISTING SANITARY SEWER LINE OR RECYCLED WATER LINE, THE WATER LINE SHALL BE ENCASED IN CONCRETE. 6" THICK MEASURED FROM THE OUTSIDE WALL OF THE PIPE, AS DETAILED, FOR AT LEAST 10' ON EACH SIDE OF THE WATER LINE, OR THE SANITARY SEWER LINE OR RECYCLED WATER LINE SHALL BE AMERICAN WATER WORKS ASSOCIATION C-900 OR C-905 POLYVINYL CHLORIDE PIPE WITH PRESSURE-TYPE JOINTS FOR AT LEAST 10' ON EACH SIDE OF THE WATER LINE. THIS SHALL ALSO APPLY WHERE A PARALLEL WATER LINE IS LESS THAN 10' HORIZONTALLY AND LESS THAN 18" ABOVE THE SANITARY SEWER LINE OR RECYCLED WATER LINE.

KEYNOTES:

(A) SANITARY SEWER LINE AS SHOWN ON PLANS

(B) 4-NUMBER 4 BARS, CONTINUOUS WITH MINIMUM 3" CLEARANCE TO OUTSIDE EDGE OF CONCRETE.

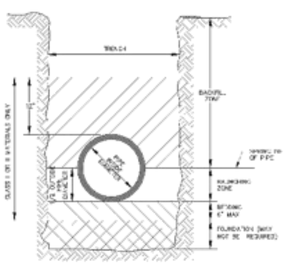
(C) STIRRUPS WITH NUMBER 4 BARS, AT 36" ON CENTER WITH MINIMUM 3" CLEARANCE TO OUTSIDE EDGE OF CONCRETE.

PIPE ENCASEMENT

DWG. NO. S-05 APRIL 2016

SOILS CLASS	SOIL TYPE	DESCRIPTION
CLASS SOIL1*	GW	WELL-GRADED GRAVELS AND GRAVEL-SAND MIXTURES, LITTLE OR NO FINES, BOTH OF WHICH COARSE FRACTION RETAINED ON NO. 4 SIEVE. MORE THAN 95% RETAINED ON NO. 200 SIEVE. CLEAN
CLASS SOIL2*	GP	POORLY GRADED GRAVELS AND GRAVEL-SAND MIXTURES, LITTLE OR NO FINES. 50% OR MORE COARSE FRACTION RETAINED ON NO. 4 SIEVE. MORE THAN 95% RETAINED ON NO. 200 SIEVE. CLEAN
CLASS SOIL3*	GW	WELL-GRADED SANDS AND GRAVELS, SANDS, LITTLE OR NO FINES. 50% OR MORE COARSE FRACTION PASSES NO. 4 SIEVE. MORE THAN 95% RETAINED ON NO. 200 SIEVE. CLEAN
CLASS SOIL4*	SP	POORLY GRADED SANDS AND GRAVELLY SANDS, LITTLE OR NO FINES. MORE THAN 50% OF COARSE FRACTION PASSES NO. 4 SIEVE. MORE THAN 95% RETAINED ON NO. 200 SIEVE. CLEAN

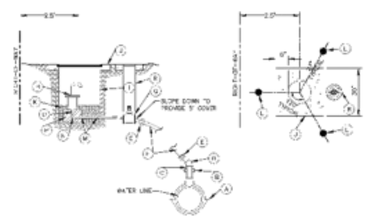
* SOILS ARE AS DEFINED IN ASTM DESIGNATION D2487 FOR CLASS SOILS WHICH ARE DEFINED IN ASTM D1321.
* IN ACCORDANCE WITH ASTM D1140. FOR 3-IN SIEVE PASSES NO. 200 SIEVE.
FROM TABLE 701.3.A, NEW MEXICO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 2006 EDITION



GENERAL CONSTRUCTION NOTES:

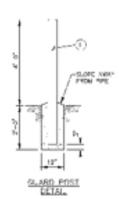
1. BEDDING MATERIALS SHALL BE CLASSED AS DEFINED IN AMERICAN SOCIETY FOR TESTING AND MATERIALS D2487. REFER TO TABLE 701.3.A OF THE CITY OF RIO RANCHO STANDARD SPECIFICATIONS, AS AMENDED, FOR SOIL CLASSIFICATION DESCRIPTIONS.
2. COMPACTION TESTING SHALL BE TAKEN AT SPRINGLINE OF PIPE.
3. COMPACTION TESTING SHALL BE TAKEN AT INITIAL BACKFILL ZONE.
4. FOR PAVED AREAS, COMPACTION SHALL BE 90% STANDARD PROCTOR PER AMERICAN SOCIETY FOR TESTING AND MATERIALS STANDARD D1557.
5. FOR UNPAVED AREAS, COMPACTION SHALL BE 90% STANDARD PROCTOR PER AMERICAN SOCIETY FOR TESTING AND MATERIALS STANDARD D1557.

PIPE BEDDING



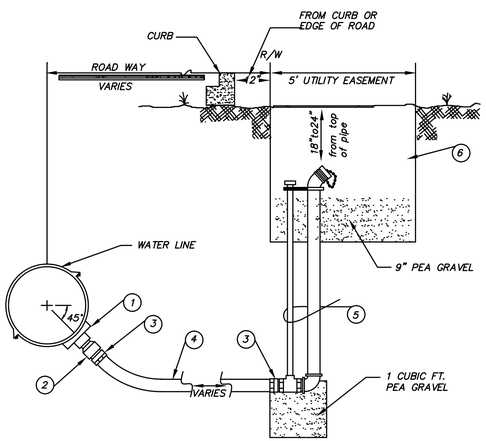
KEYNOTES:

A. 2" FEMALE IRON PIPE THREAD SERVICE SADDLE (END FEED) WITH EPOXY THE INTERIOR, 316 STAINLESS STEEL STRAPS AND THE STAINLESS STEEL BOLTS, NUTS, WASHERS, AND HARDWARE.
B. 2" BRASS CORPORATION STOP (FULL PORT), MALE IRON PIPE THREAD INLET BY FEMALE IRON "CTS" THREAD OUTLET.
C. 2" BY 2" BRASS NIPPLE (FULL PORT).
D. BRASS 90° ELL (LEAD FREE), FEMALE IRON PIPE THREAD BY FEMALE IRON PIPE THREAD.
E. 2" BRASS ADAPTER (LEAD FREE), MALE IRON PIPE THREAD BY PACK JOINT (COUPLING ENDS).
F. 2" COPPER TUBING (TYPE "K").
G. 2" BRONZE BALL VALVE (LEAD FREE) WITH HANDWHEEL.
H. 2" STAINLESS STEEL COMBINATION AIR RELEASE/VACUUM VALVE.
I. 30" BY 24" VITER CAN WITH CAST IRON LID.
J. 30" BY 30" BY 6" CONCRETE COLLAR AROUND METER CAN. CONCRETE SHALL BE F'c=3,000 POUNDS PER SQUARE INCH AT 28 DAYS.
K. 6" THICK CLEAN PEA GRAVEL BED.
L. 4" STEEL POST (6' LONG) FILLED WITH CONCRETE (f'c=3,000 POUNDS PER SQUARE INCH AT 28 DAYS) AND PAINTED WITH 2 COATS OF CHROME YELLOW.
M. 2" BY 6" SCHEDULE 80 POLYVINYL CHLORIDE NIPPLE, VALVE IRON PIPE THREAD BY MALE IRON PIPE THREAD.
N. 2" BRASS 90° ELL, FEMALE IRON PIPE THREAD BY FEMALE IRON PIPE THREAD.
O. 2" BY SLOTS 316SS NIPPLE, MALE IRON PIPE THREAD BY MALE IRON PIPE THREAD.
P. CONCRETE COLLAR TO STABILIZE ANTI-KINKING, IF REQUIRED.
Q. SHEET MOLDING BRASS AIR VENT ON LEVER IN CONNECTION WITH A 1" COMBINATION AIR RELEASE/VACUUM VALVE AND "T" TYPE "K" COPPER TUBING (SEE DETAIL).
R. 6" DIMENSION RATIO=18 POLYVINYL CHLORIDE PIPE AND COVER WITH CLEVIS & COLLAR FOR PIPE IN LIN.



GUARD POST DETAIL

2" COMBINATION AIR RELEASE/ VACUUM VALVE



NOTES:

1 2" I.P.T. SERVICE SADDLE, ROMAC # 202S
2 2" BRASS CORP STOP, M.I.P.S. X F.I.P.S., FORD BALLCORP TYPE FB1700
3 2" ADAPTOR, M.I.P.T X PACK JOINT (CTS) FORD # C84-77
4 2" POLYETHYLENE TUBING, SDR-9, CTS
5 AQUARIUS ONE-O-ONE HH 2" FLUSHING HIDDEN HYDRANT
6 13"x24" QUAZITE METER CAN

FLUSHING VALVE

NO.	DESCRIPTION	DATE	BY
1			
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5			
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REVISIONS (OR CHANGE NOTICES)

VILLAGE OF RUIDOSO

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc. Rio Rancho
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259
Designed For:

UTILITY DETAIL SHEET

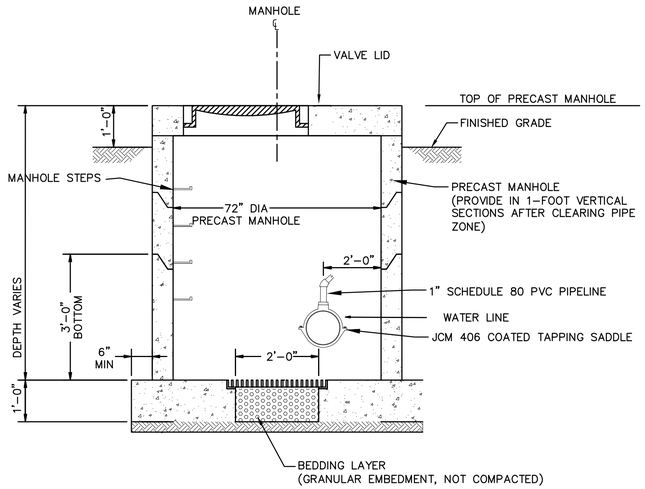
CHEROKEE SERVICE AREA INTERCONNECT & BOOSTER STATION REPLACEMENT RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA NEW MEXICO 21078 PROFESSIONAL ENGINEER 8/18/16

PROJECT NO.	R303231.08
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

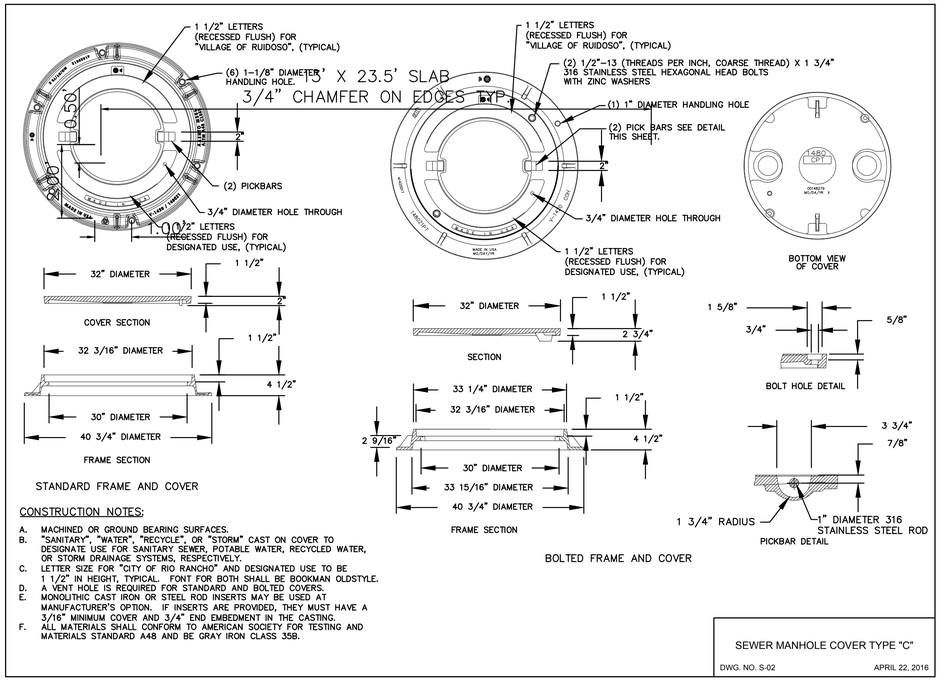
SHEET: C-501

Plotted: 8/18/2016 1:08:56 PM, By:Montoya, Arthur
H:\proj\R303231.08 Cherokee Interconnect\DWG\Plot_Files\C-501 DTL SHEET-DLV.dwg
Last Saved:8/18/2016 11:35:26 AM, amontoya



TAPPING SADDLE MANHOLE SECTION

NTS



CONSTRUCTION NOTES:

A. MACHINED OR GROUND BEARING SURFACES.
B. "SANITARY", "WATER", "RECYCLE", OR "STORM" CAST ON COVER TO DESIGNATE USE FOR SANITARY SEWER, POTABLE WATER, RECYCLED WATER, OR STORM DRAINAGE SYSTEMS, RESPECTIVELY.
C. LETTER SIZE FOR "CITY OF RIO RANCHO" AND DESIGNATED USE TO BE 1 1/2" IN HEIGHT, TYPICAL. FONT FOR BOTH SHALL BE BOOKMAN OLDSTYLE.
D. A VENT HOLE IS REQUIRED FOR STANDARD AND BOLTED COVERS.
E. MONOLITHIC CAST IRON OR STEEL ROD INSERTS MAY BE USED AT MANUFACTURER'S OPTION. IF INSERTS ARE PROVIDED, THEY MUST HAVE A 3/16" MINIMUM COVER AND 3/4" END EMBEDMENT IN THE CASTING.
F. ALL MATERIALS SHALL CONFORM TO AMERICAN SOCIETY FOR TESTING AND MATERIALS STANDARD A48 AND BE GRAY IRON CLASS 35B.

SEWER MANHOLE COVER TYPE "C"

DWG. NO. S-02 APRIL 22, 2016

NO.	DESCRIPTION	DATE	BY
1			
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REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc. Rio Rancho
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
VILLAGE OF RUIDOSO

UTILITY DETAIL SHEET

CHEROKEE SERVICE AREA
INTERCONNECT & BOOSTER
STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21076
PROFESSIONAL ENGINEER
8/19/16

PROJECT NO.	R303231.08
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

SHEET:
C-502

Plotted: 8/19/2016 1:09:18 PM, By:Montoya, Arthur
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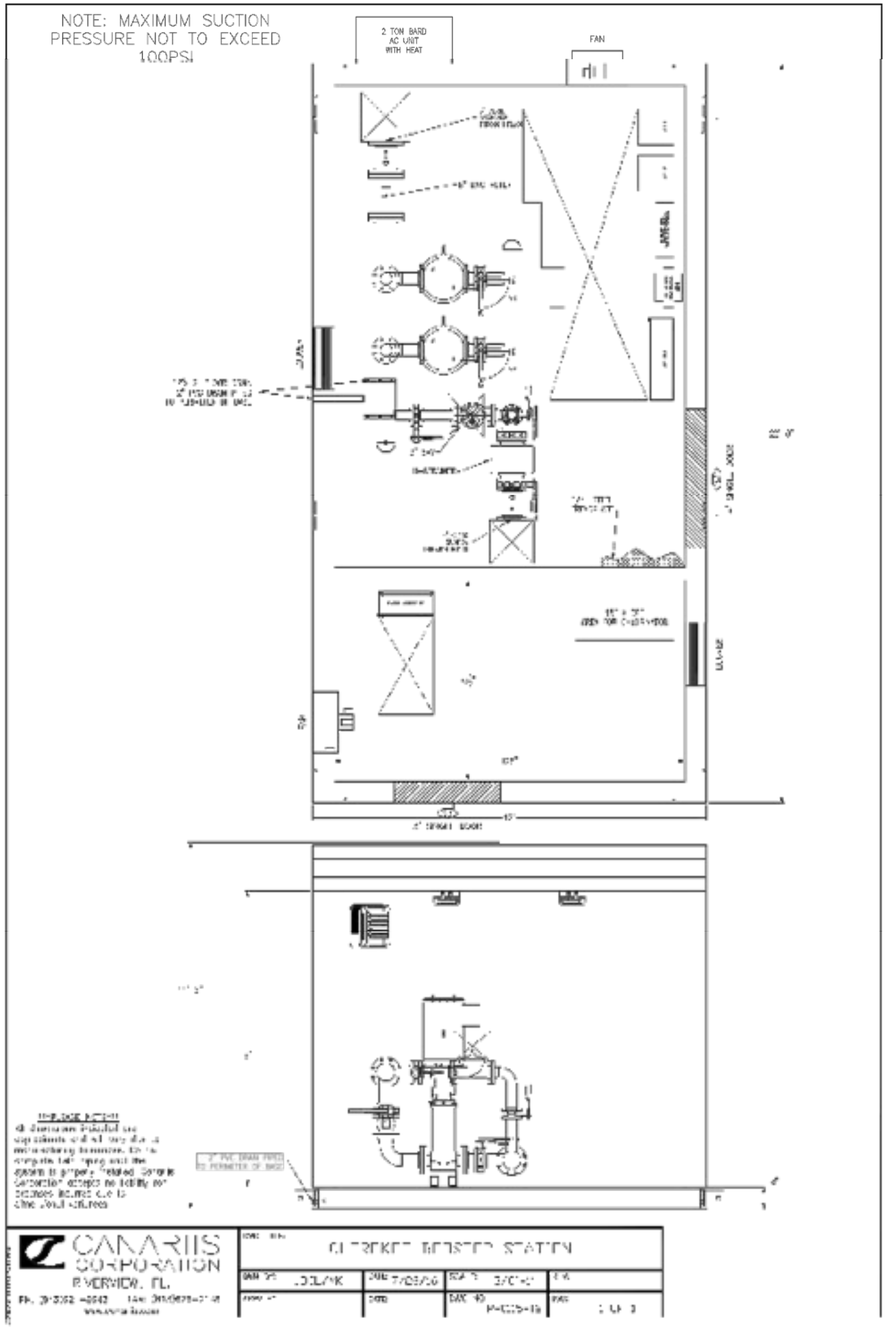
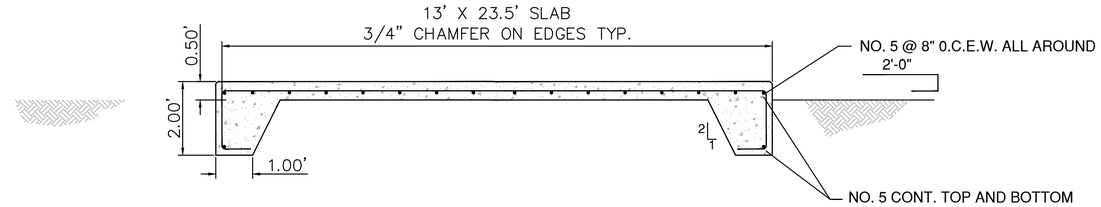


DESIGN STRESSES:
CONCRETE: f'c = 4,000 PSI REINFORCING STEEL fy = 60,000 PSI



CHEROKEE BOOSTER BUILDING FOUNDATION
N.T.S.

NO.	DESCRIPTION	DATE	BY
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REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc. Rio Rancho
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
VILLAGE OF RUIDOSO

CHEROKEE BOOSTER
DETAIL SHEET

CHEROKEE SERVICE AREA
INTERCONNECT & BOOSTER
STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21076
PROFESSIONAL ENGINEER
8/18/16

PROJECT NO.	R303231.08
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

SHEET:
C-503

Plotted: 8/18/2016 1:09:23 PM, By:Montoya, Arthur
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Last Saved:8/18/2016 11:36:14 AM, amontoya

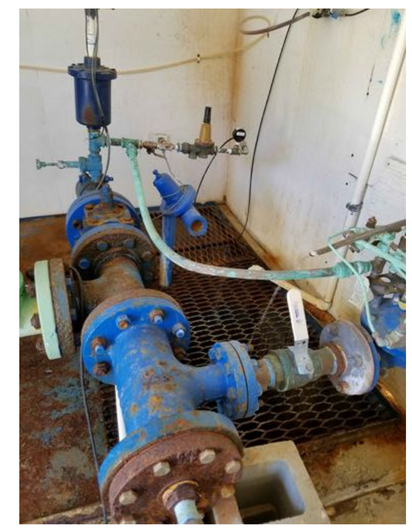
EXISTING 4" METER TO BE REPLACED

WELL DISCHARGE PIPING TO BE REPLACED

OVERALL CHEROKEE WELL SITE

1" CLA-VAL TO BE REPLACED

PIPELINE TO BE REPLACED



PIPELINE TO BE REPLACED

NO.	DESCRIPTION	DATE	BY
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REVISIONS (OR CHANGE NOTICES)

Designed By:

HUITT-ZOLLARS
Huitt-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:

VILLAGE OF RUIDOSO

CHEROKEE WELL EQUIPMENT

CHEROKEE SERVICE AREA
INTERCONNECT & BOOSTER
STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21078
PROFESSIONAL ENGINEER
8/18/16

PROJECT NO.	R303231.08
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

SHEET:
C-504

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Last Saved:8/19/2016 11:36:14 AM, amontoya

EXISTING CHLORINATION EQUIPMENT TO BE REMOVED

EXISTING CHLORINATION EQUIPMENT TO BE REMOVED

PIPING AND VALVE TO BE REMOVED AND REPLACED

PIPING TO BE REMOVED AND REPLACED

Plotted: 8/19/2016 1:09:35 PM, By:Montoya, Arthur
H:\proj\R303231.08 Cherokee Interconnect\DWG\Plot_Files\C-502.DTL SHEET.DLV.dwg
Last Saved:8/19/2016 11:36:14 AM, amontoya

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REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
VILLAGE OF RUIDOSO

CHEROKEE WELL EQUIPMENT

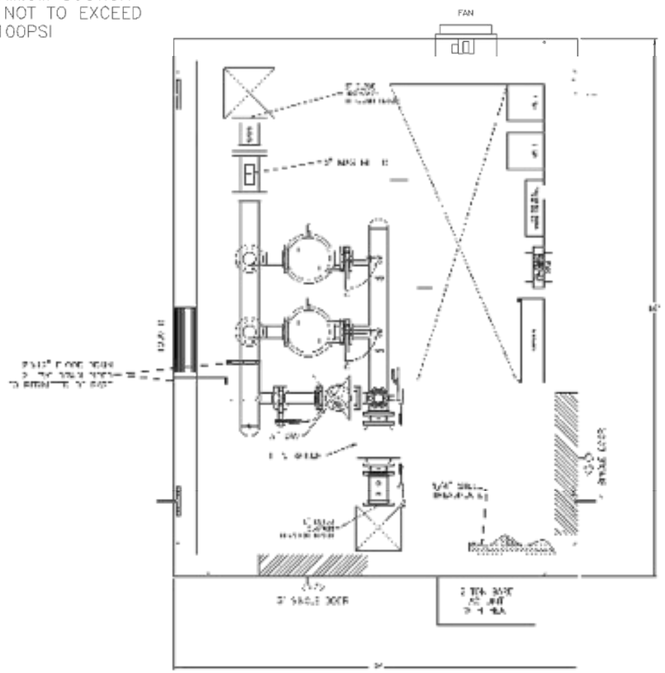
CHEROKEE SERVICE AREA
INTERCONNECT & BOOSTER
STATION REPLACEMENT
RUIDOSO, NEW MEXICO

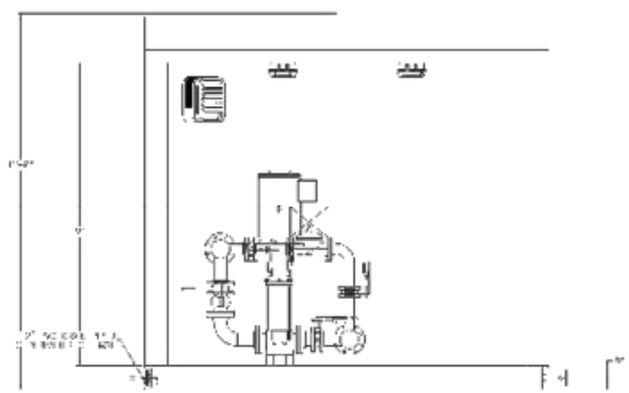
RAYMOND D. DE LA VEGA
NEW MEXICO
21078
PROFESSIONAL ENGINEER
8/19/16

PROJECT NO.	R303231.08
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

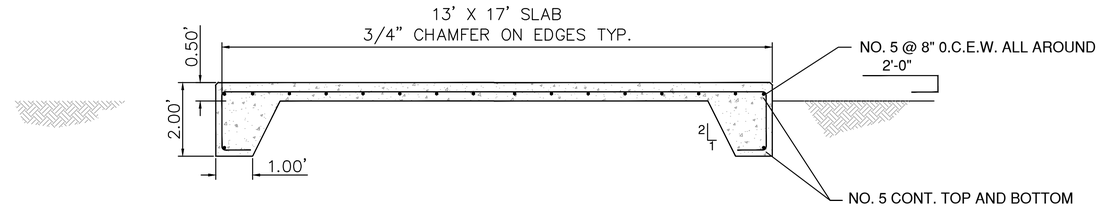
SHEET:
C-505

NOTE: MAXIMUM SUCTION PRESSURE NOT TO EXCEED 100PSI





DESIGN STRESSES:
CONCRETE: f'c = 4,000 PSI REINFORCING STEEL fy = 60,000 PSI



HELLHOLE BOOSTER BUILDING FOUNDATION
N.T.S.

CANAIR S CORPORATION

HELLHOLE BOOSTER STATION

NO.	DESCRIPTION	DATE	BY
1			
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REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc. Rio Rancho
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
VILLAGE OF RUIDOSO

HELLHOLE BOOSTER DETAIL SHEET

CHEROKEE SERVICE AREA INTERCONNECT & BOOSTER STATION REPLACEMENT RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA NEW MEXICO 21076 PROFESSIONAL ENGINEER 8/18/16

PROJECT NO.	R303231.08
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

SHEET: C-506

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Last Saved:8/19/2016 11:36:14 AM, amontoya

Designed By:

HUITT-ZOLLARS

Huitt-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:

VILLAGE OF RUIDOSO

NO.	DESCRIPTION	DATE	BY
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REVISIONS (OR CHANGE NOTICES)

INTERIOR BUILDING PHOTOS

CHEROKEE SERVICE AREA
INTERCONNECT & BOOSTER
STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21078
PROFESSIONAL ENGINEER
8/18/16

PROJECT NO.	R303231.07
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

SHEET:
C-507

Plotted: 8/18/2016 2:03:03 PM, By:Montoya, Arthur
H:\proj\R303231.07 Hellhole Booster\DWG\Plot_Files\C-507 HELLHOLE INTERIOR PHOTO.dwg
Last Saved:8/18/2016 2:01:55 PM, amontoya

Plotted: 8/19/2016 1:11:50 PM, By:Montoya, Arthur
H:\proj\R303231.07 HellHole Booster\DWG\Plot_Files\C-508 HELLHOLE TANK.dwg
Last Saved:7/29/2016 2:14:23 PM, rdelavega

PROJECT NO.	R303231.07
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR. CHK:	
SHEET:	C-508

RAYMOND D. DE LA ROSA
NEW MEXICO
23078
PROFESSIONAL ENGINEER
8/19/16

HELLHOLE WATER TANK PHOTOS

CHEROKEE SERVICE AREA
INTERCONNECT & BOOSTER
STATION REPLACEMENT
RUIDOSO, NEW MEXICO

Designed By:

HUITT-ZOLLARS

Huitt-Zollars, Inc. Rio Rancho
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:

VILLAGE OF RUIDOSO

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REVISIONS (OR CHANGE NOTICES)

RUIDOSO

Plotted: 8/19/2016 2:04:54 PM, By:Montoya, Arthur
H:\proj\R303231.07 HellHole Booster\DWG\Plot_Files\C-509 HELLHOLE VAULT PHOTOS.dwg
Last Saved:8/19/2016 2:04:08 PM, amontoya

PROJECT NO. R303231.07
DESIGNED BY: RDV
DRAWN BY: AJM
CHECKED BY: JDB
DATE: 08/18/16
VOR. CHK:
SHEET: C-509

RAYMOND D. DE LA ROSA
NEW MEXICO
23108
PROFESSIONAL ENGINEER
8/19/16

VALVE VAULT PHOTOS

CHEROKEE SERVICE AREA
INTERCONNECT & BOOSTER
STATION REPLACEMENT
RUIDOSO, NEW MEXICO

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc. Rio Rancho
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
VILLAGE OF RUIDOSO

NO.	DESCRIPTION	DATE	BY
7			
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REVISIONS (OR CHANGE NOTICES)

RUIDOSO
VILLAGE OF RUIDOSO

GRUNDFOS

Submittal Data

PROJECT:	Village of Ruidoso Booster Stations	UNIT TAG:		QUANTITY:	
		TYPE OF SERVICE:			
REPRESENTATIVE:		SUBMITTED BY:		DATE:	
ENGINEER:		APPROVED BY:		DATE:	
CONTRACTOR:		ORDER NO.:		DATE:	

Product may differ from the image shown.

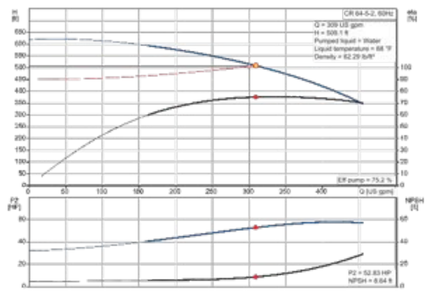
CR 64-5-2

Vertical, multistage centrifugal pump with suction and discharge ports on the same level. The pump head and base are in cast iron. All other wetted parts are in stainless steel (EN 1.4301) (AISI 304)

Conditions of Service	
Flow:	309 US gpm
Head:	509.1 ft
Efficiency:	
Liquid:	Water
Temperature:	68 °F
NPSH required:	8.64 ft
Viscosity:	
Specific Gravity:	1.000

Pump Data	
Max pressure at stated temperature:	435 psi / 250 °F
Liquid temperature range:	-22 ... 248 °F
Maximum ambient temperature:	104 °F
Shaft seal:	HQQE
Flange standard:	ANSI
Pipe connection:	4"
Product number:	On request

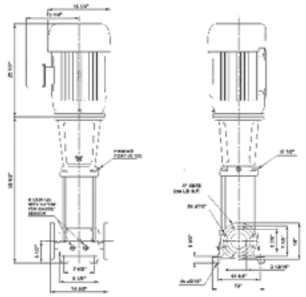
Motor Data	
Rated power - P2:	60 HP
Rated voltage:	230/460 V
Main frequency:	60 Hz
Motor protection:	NONE
Motor type:	BALDOR



1/8

GRUNDFOS

Submittal Data



Materials:

Pump housing:	Cast iron EN-JS1050 ASTM 80-55-06
Impeller:	Stainless steel DIN W.-Nr. 1.4301 AISI 304
Material code:	A
Code for rubber:	E

2/8

GRUNDFOS

Company name:
Created by:
Phone:
Date: 7/21/2016

Position	Count	Description
	1	**CR 64-5-2 A-G-A-E-HQQE**

Product No.: On request
Vertical, non-self-priming, multistage, in-line, centrifugal pump for installation in pipe systems and mounting on a foundation.

The pump has the following characteristics:
- Impellers and intermediate chambers are made of Stainless steel, DIN W.-Nr. 1.4301.
- Pump head and base are made of Cast iron.
- The shaft seal has assembly length according to EN 12756.
- Power transmission is via cast iron split coupling.
- Pipework connection is via ANSI flanges.

The motor is a 3-phase AC motor.

Liquid:	
Pumped liquid:	Water
Liquid temperature range:	-22 ... 248 °F
Liquid temp:	68 °F
Density:	62.29 lb/ft³

Technical:

Speed for pump data:	3550 rpm
Actual calculated flow:	309 US gpm
Resulting head of the pump:	509.1 ft
Primary shaft seal:	HQQE
Curve tolerance:	ISO9906:2012 3B

Materials:

Pump housing:	Cast iron EN-JS1050 ASTM 80-55-06
Impeller:	Stainless steel DIN W.-Nr. 1.4301 AISI 304

Installation:

Maximum ambient temperature:	104 °F
Max pressure at stated temperature:	435 psi / 250 °F
Flange standard:	ANSI
Pipe connection:	4"
Pressure stage:	250 Lb
Flange size for motor:	324TC

Electrical data:

Motor type:	BALDOR

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GRUNDFOS

Company name:
Created by:
Phone:
Date: 7/21/2016

Position	Count	Description	
		Rated power - P2:	60 HP
		Main frequency:	60 Hz
		Rated voltage:	3 x 230/460 V
		Service factor:	1.15
		Others:	
		Net weight:	645 lb
		Gross weight:	663 lb

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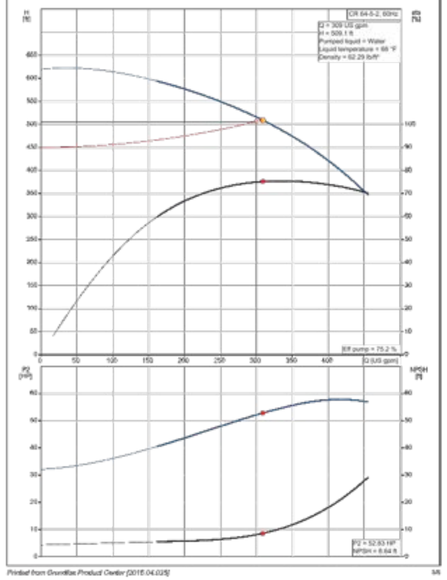
GRUNDFOS

Company name:
Created by:
Phone:
Date: 7/21/2016

On request CR 64-5-2 60 Hz



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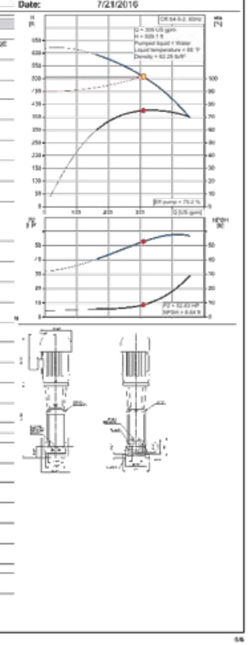
GRUNDFOS

Company name:
Created by:
Phone:
Date: 7/21/2016

Description	Value
General information:	
Product name:	CR 64-5-2 A-G-A-E-HQQE
Product No.:	On request
EAN:	On request
Price:	On request
Technical:	
Speed for pump data:	3550 rpm
Actual calculated flow:	309 US gpm
Resulting head of the pump:	509.1 ft
Head max:	556.3 ft
Impellers:	5
Impeller reduc.:	2
Primary shaft seal:	HQQE
Curve tolerance:	ISO9906:2012 3B
Stages:	5
Pump version:	A
Model:	B
Coating:	ODP
Materials:	
Pump housing:	Cast iron EN-JS1050 ASTM 80-55-06
Impeller:	Stainless steel DIN W.-Nr. 1.4301 AISI 304
Material code:	A
Code for rubber:	E
Installation:	
Maximum ambient temperature:	104 °F
Max pressure at stated temperature:	435 psi / 250 °F
Flange standard:	ANSI
Connect code:	G
Pipe connection:	4"
Pressure stage:	250 Lb
Flange size for motor:	324TC
Liquid:	
Pumped liquid:	Water
Liquid temperature range:	-22 ... 248 °F
Liquid temp:	68 °F
Density:	62.29 lb/ft³
Electrical data:	
Motor type:	BALDOR
Rated power - P2:	60 HP
Main frequency:	60 Hz
Rated voltage:	3 x 230/460 V
Service factor:	1.15
Motor protection:	NONE
Motor Number:	84204923
Others:	
Net weight:	645 lb
Gross weight:	663 lb
Sales region:	Nanning



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RUIDOSO

NO.	DESCRIPTION	DATE	BY
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REVISIONS (OR CHANGE NOTICES)

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc. Rio Rancho
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
VILLAGE OF RUIDOSO

CHEROKEE/HELLHOLE BOOSTER
PUMP DETAIL SHEET

CHEROKEE SERVICE AREA
INTERCONNECT & BOOSTER
STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21078
PROFESSIONAL ENGINEER
8/19/16

PROJECT NO.	R303231.08
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

SHEET:
C-510

CONSTRUCTION TRAFFIC CONTROL GENERAL NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR ACQUIRING ALL PERMITS NECESSARY. CONTACT INFORMATION:

VILLAGE HALL	(575) 258-4343
VILLAGE OF RUIDOSO STREETS DIVISION	(575) 258-4343
RUIDOSO POLICE DEPT.	(575) 258-7365
VILLAGE OF RUIDOSO PUBLIC WORKS DEPT.	(575) 258-4343
NEW MEXICO DEPT. OF TRANSPORTATION DISTRICT 2	(575) 637-7200

2. FOR WORK WITHIN EACH MUNICIPALITY, THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE VILLAGE CONSTRUCTION COORDINATOR AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF WORK. TRAFFIC CONTROL PLANS SHALL BE PREPARED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION AND BY CERTIFIED PERSONNEL AND MUST BE APPROVED BY THE NMDOT PRIOR TO COMMENCEMENT OF WORK ON THE PROJECT.

3. A DAILY TRAFFIC CONTROL LOG SHALL BE MAINTAINED BY THE CONTRACTOR REFLECTING THE TYPES AND LOCATIONS OF ALL TRAFFIC CONTROL DEVICES, SIGNS, BARRICADES, ETC. BEING USED ON THE PROJECT IN COMPLIANCE WITH THE APPROVED TRAFFIC CONTROL PLAN. FOR ALL WORK DURING THIS PROJECT THIS LOG SHALL BE SUBMITTED TO THE VILLAGE OF RUIDOSO PUBLIC WORKS DIRECTOR, AND THE NMDOT TRAFFIC CONTROL COORDINATOR, IF APPLICABLE, UPON COMPLETION OF THE PROJECT CONSTRUCTION OR WHEN SO REQUESTED BY THE PROJECT MANAGER.

4. CONTRACTOR SHALL COORDINATE WITH AFFECTED SCHOOL DISTRICTS TO ACCOMMODATE SCHEDULE ON ALL DESIGNATED SCHOOL BUS ROUTES, AS NECESSARY.

5. SUBJECT TO THE APPROVED TRAFFIC CONTROL PLAN, AT LEAST ONE LANE SHALL BE OPEN TO TRAFFIC AT ALL TIMES. CONTRACTOR SHALL PROVIDE PROPER SIGNAGE AND FLAGMAN AND SHALL MAINTAIN THE TRAFFIC LANE IN SUCH A MANNER AS TO ASSURE PROPER SAFETY TO THE TRAVELING PUBLIC 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 BY THE VILLAGE. CONTRACTOR MUST CALL FOR TIME RESTRAINTS WHEN WORK IS WITHIN OTHER GOVERNMENTAL JURISDICTIONS.

6. FOR ARTERIAL ROADWAYS, MAINTAIN AT LEAST ONE LANE TRAFFIC EACH WAY AT ALL TIMES.

7. TRAFFIC LANES PROVIDED DURING CONSTRUCTION SHALL BE MAINTAINED, IN SUCH A CONDITION UNDER ALL WEATHER CONDITIONS, SO AS TO PERMIT THE REASONABLE PASSAGE OF PASSENGER VEHICLES, AND SHALL BE KEPT GRADED AND SMOOTH, AND WATERED SEVERAL TIMES DAILY TO CONTROL DUST.

8. TYPICAL TRAFFIC CONTROL PLANS DO NOT REFLECT THE EXISTING TOPOGRAPHY SUCH AS DRIVEWAYS, LANE WIDTHS, AND BUSINESS RESIDENTIAL ACCESSES. EVERY LOCATION THAT REQUIRES CONSTRUCTION TRAFFIC CONTROL SHALL HAVE A DETAILED TRAFFIC CONTROL PLAN SHOWING ALL EXISTING TOPOGRAPHY.

9. CONSTRUCTION SHALL NOT BEGIN UNLESS A TRAFFIC CONTROL PLAN HAS BEEN APPROVED AND VERIFIED BY VILLAGE OF RUIDOSO PUBLIC WORKS DIRECTOR.

10. ALL CONSTRUCTION TRAFFIC CONTROL DEVICES SHALL COMPLY WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL, SERVICE AND MAINTAIN ALL TRAFFIC CONTROL DEVICES. TRAFFIC CONTROL DEVICES SHALL NOT BE REMOVED OR ALTERED IN ANY WAY WITHOUT THE APPROVAL OF THE VILLAGE OF RUIDOSO PUBLIC WORKS DIRECTOR.

11. THE CONSTRUCTION TRAFFIC CONTROL INITIAL SET-UP FOR EACH PHASE SHALL BE BY AN AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) CERTIFIED WORK SITE TRAFFIC SUPERVISOR. THE MAINTENANCE AND SERVICING SHALL ALSO BE DONE BY AN ATSSA CERTIFIED WORK SITE TRAFFIC SUPERVISOR OR EQUIVALENT.

12. CONTRACTOR IS RESPONSIBLE TO MAINTAIN AND SERVICE ALL TRAFFIC CONTROL DEVICES 24 HOURS A DAY, 7 DAYS A WEEK THROUGHOUT LENGTH OF PROJECT. CONTRACTOR IS RESPONSIBLE THAT ALL TRAFFIC CONTROL DEVICES COMPLY WITH THE MUTCD, LATEST EDITION.

13. ALL ADVANCE WARNING SIGNS SHALL BE DOUBLE INDICATED WHENEVER THERE ARE MULTI-LANE TRAFFIC IN ANY ONE GIVEN DIRECTION AND THERE IS SUFFICIENT MEDIAN SPACE.

14. ALL BARRICADES IN ALL TAPERS AND TANGENTS SHALL BE PLACED APART, A DISTANCE MEASURED IN FEET, EQUAL TO THAT OF THE POSTED SPEED LIMIT. NO EXCEPTIONS UNLESS APPROVED BY NMDOT DISTRICTS PER MUTCD SECTION 6A-4 CHAPTER 6.

15. EQUIPMENT OR MATERIALS SHALL NOT BE STORED WITHIN 15 FEET OF A TRAVELED TRAFFIC LANE DURING NON-WORKING HOURS WITHOUT THE APPROVAL OF VILLAGE OF RUIDOSO PUBLIC WORKS DIRECTOR.

16. CONTRACTOR SHALL PROVIDE AND MAINTAIN A SAFE AND ADEQUATE MEANS OF CHANNELIZING PEDESTRIAN TRAFFIC AROUND AND THROUGH THE CONSTRUCTION AREA.

17. CONTRACTOR IS RESPONSIBLE FOR OBLITERATION OF ANY CONFLICTING STRIPING AND RESPONSIBLE FOR ALL TEMPORARY STRIPING.

18. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL FACILITIES, BUSINESSES AND OR RESIDENTS AT ALL TIMES.

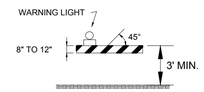
19. CONTRACTOR SHALL PROVIDE ACCESS SIGNS FOR BUSINESSES LOCATED WITHIN THE CONSTRUCTION AREA UNDER THE SUPERVISION OF VILLAGE OF RUIDOSO PUBLIC WORKS DIRECTOR ENGINEERING. EACH ACCESS SIGN SHALL HAVE 5 INCH, ORANGE LETTERING ON WHITE BACKGROUND. SHOPPING CENTERS AND MALLS SHALL BE LISTED AS SUCH.

20. 48 HOURS PRIOR TO OCCUPYING OR CLOSING OF A RIGHT-OF-WAY, CONTRACTOR SHALL NOTIFY: POLICE, FIRE DEPARTMENT, SCHOOLS, HOSPITALS, TRANSIT AUTHORITY, BUSINESSES AND OR RESIDENTS THAT WILL BE AFFECTED BY THE CONSTRUCTION.

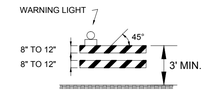
21. ANY FIELD ADJUSTMENTS SHALL BE APPROVED BY VILLAGE OF RUIDOSO PUBLIC WORKS DIRECTOR AND NMDOT, AS APPLICABLE.

22. EXCAVATIONS SHALL BE PLATED, TEMPORARILY PATCHED OR RESURFACED PRIOR TO OPENING OF TRAFFIC. A MINIMUM OF 11 FEET, SHALL BE PROVIDED FOR TRAFFIC IN ANY GIVEN DIRECTION. CONTRACTOR IS RESPONSIBLE FOR ANY WORK INVOLVED IN SATISFYING THESE REQUIREMENTS.

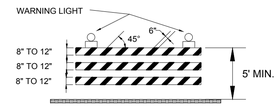
23. PAVEMENT DROP-OFF POLICY:
IF A PAVEMENT DROP-OFF IS CREATED DURING CONSTRUCTION, THE CONTRACTOR SHALL INITIATE PROTECTIVE ACTION IN ACCORDANCE WITH DEPARTMENT'S CURRENT "DROP-OFF POLICY". THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE COMPLETION OF THE PROJECT AND NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE THEREFOR.



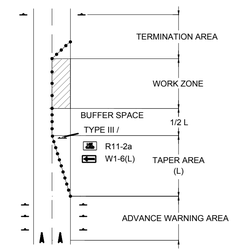
TYPE I BARRICADE
COLLAPSIBLE



TYPE II BARRICADE
COLLAPSIBLE



TYPE III BARRICADE



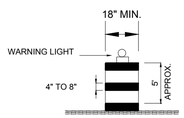
TRAFFIC CONTROL ELEMENTS

LEGEND

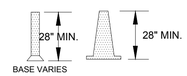
- WORK AREA
- BARRICADE - TYPE I, TYPE II, OR BARREL
- BARRICADE - TYPE III
- VERTICAL PANEL
- WARNING SIGN
- FLAGMAN POSITION
- D — DISTANCE BETWEEN SIGNS (A DISTANCE MEASURED IN FEET EQUAL TO A VALUE OF TEN TIMES THE SPEED LIMIT OF THE STREET)
- S — SPACING BETWEEN BARRICADES (A DISTANCE MEASURED IN FEET EQUAL TO THE SPEED LIMIT OF THE STREET)
- L — TAPER LENGTH (SEE CHART BELOW) *THE TANGENT LENGTH IS EQUAL TO THE TAPER LENGTH FOR A GIVEN STREET

TAPER REQUIREMENTS

SPEED LIMIT (MPH)	TAPER LENGTH IN FEET (L)			MINIMUM NUMBER OF DEVICES FOR TAPER	MAXIMUM DEVICE SPACING IN FEET	
	10' LANE	11' LANE	12' LANE		ALONG TAPER	AFTER TAPER
20	70	75	80	5	20	20
25	105	115	125	6	25	25
30	150	165	180	7	30	30
35	205	225	245	8	35	35
40	270	295	320	9	40	40
45	450	495	540	13	45	45
50	500	550	600	13	50	50
55	550	605	660	13	55	55



BARREL



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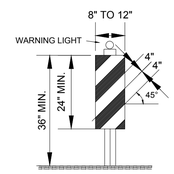
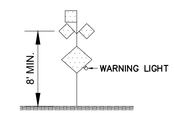


VERTICAL PANEL

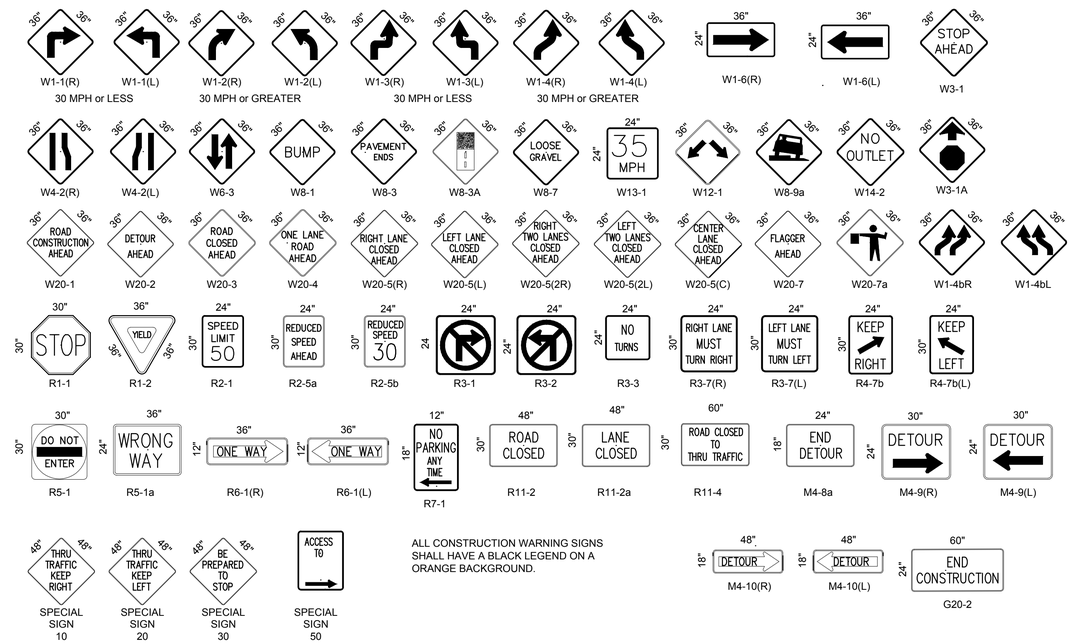


HIGH LEVEL WARNING DEVICE

RECOMMENDED SIGN SPACING(D) FOR ADVANCE WARNING SIGN SERIES

SPEED MILES PER HOUR	MINIMUM DISTANCE IN FEET BETWEEN SIGNS	FROM LAST SIGN TO TAPER
0-20	10 X SPEED LIMIT	10 X SPEED LIMIT
25-30	10 X SPEED LIMIT	10 X SPEED LIMIT
30-35	10 X SPEED LIMIT	10 X SPEED LIMIT
40-45	10 X SPEED LIMIT	10 X SPEED LIMIT
50-60	10 X SPEED LIMIT	10 X SPEED LIMIT

SIGN FACE DETAILS



ALL CONSTRUCTION WARNING SIGNS SHALL HAVE A BLACK LEGEND ON A ORANGE BACKGROUND.

TAPER CRITERIA

TYPE OF TAPER	TAPER LENGTH
UPSTREAM TAPER:	
MERGING TAPER	L MINIMUM
SHIFTING TAPER	1/2 L MINIMUM
SHOULDER TAPER	1/2 L MINIMUM
TWO-WAY TRAFFIC TAPER	100 FEET MAXIMUM
DOWNSTREAM TAPER:	100 FEET PER LANE

TAPER LENGTH COMPUTATION

SPEED LIMIT

40 MPH OR LESS: $L = \frac{WS^2}{60}$

45 MPH OR GREATER: $L = W \times S$

L = TAPER LENGTH
W = WIDTH OF OFFSET IN FEET
S = POSTED SPEED OR OFF-PEAK 85 PERCENTILE SPEED, IN MPH

NO.	DESCRIPTION	DATE	BY
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REVISIONS (OR CHANGE NOTICES)

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Huitt-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For:
VILLAGE OF RUIDOSO

TEMPORARY TRAFFIC CONTROL GENERAL NOTES & STANDARDS

CHEROKEE SERVICE AREA INTERCONNECT & BOOSTER STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21078
PROFESSIONAL ENGINEER
8/18/16

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DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	
SHEET:	C-511

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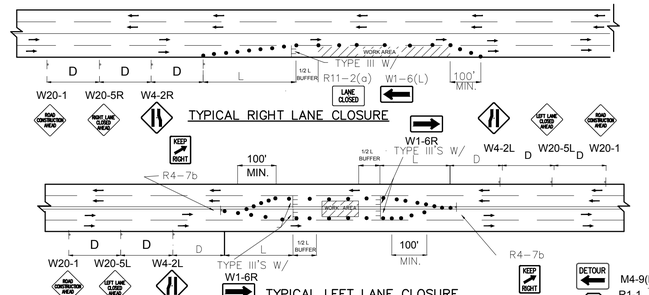
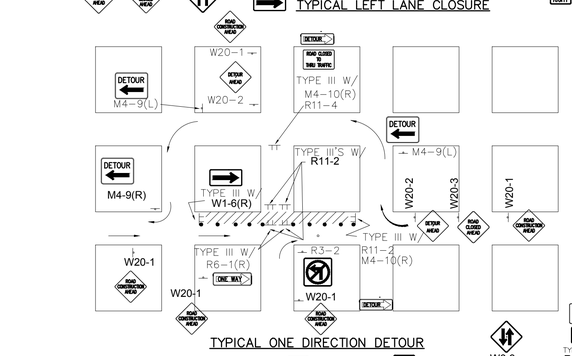
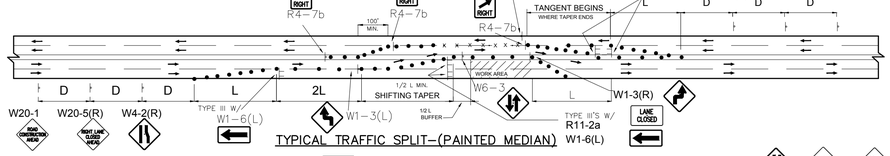


TYPICAL RIGHT LANE CLOSURE

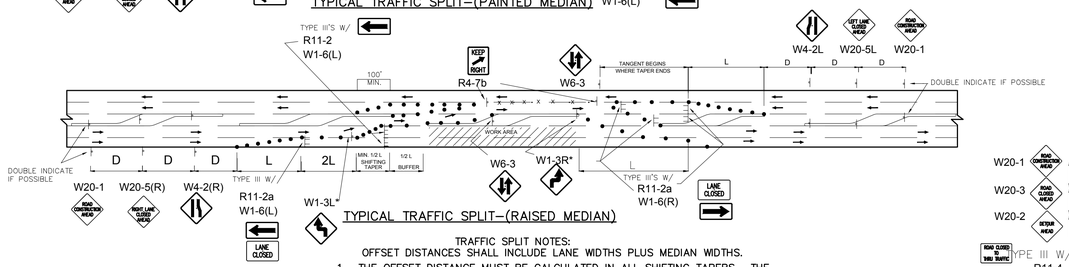
TYPICAL LEFT LANE CLOSURE



TYPICAL ONE DIRECTION DETOUR



TYPICAL TRAFFIC SPLIT-(PAINTED MEDIAN)

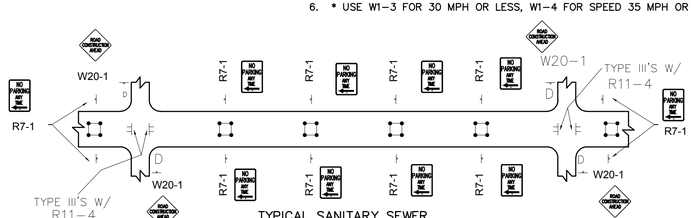


TYPICAL TRAFFIC SPLIT-(RAISED MEDIAN)

TRAFFIC SPLIT NOTES:

OFFSET DISTANCES SHALL INCLUDE LANE WIDTHS PLUS MEDIAN WIDTHS.

1. THE OFFSET DISTANCE MUST BE CALCULATED IN ALL SHIFTING TAPERS. THE
2. 1/2 L IS MINIMUM DISTANCE FOR SHIFTING TAPERS.
3. REVERSE CURVES MAY BE IMPLEMENTED. ALL CURVE DATA SHALL BE CALCULATED.
4. MEDIAN REMOVAL SHALL BE REQUIRED IF 1/2 L OR REVERSE CURVE IS NOT SUFFICIENT. MEDIAN REMOVAL SHALL TAKE PLACE BEFORE SPLITS.
5. REDUCED SPEED MAY BE CONSIDERED.
6. * USE W1-3 FOR 30 MPH OR LESS, W1-4 FOR SPEED 35 MPH OR GREATER.



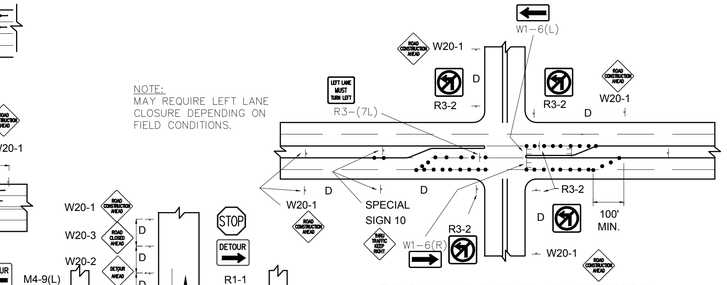
TYPICAL SANITARY SEWER SLIPLINING OPERATION

- ALL PITS TO HAVE TYPE-A FLASHING LIGHTS.
- ALL PITS TO HAVE FLAGLINE.

GENERAL NOTE:

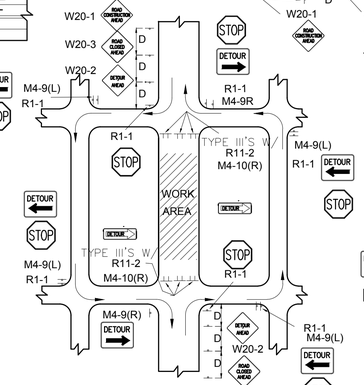
ALL CONSTRUCTION WARNING SIGNS SHALL HAVE A BLACK LEGEND ON A ORANGE BACKGROUND.

ALL ADVANCE WARNING SIGNS SHALL BE A MINIMUM OF FORTY EIGHT (48) INCHES BY FORTY EIGHT (48) INCHES IN SIZE AND SHALL HAVE ONE WARNING LIGHT.



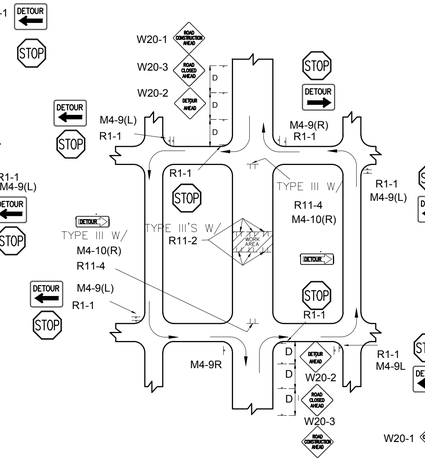
TYPICAL LANE CLOSURE AT INTERSECTION

NOTE: DEPENDING ON WORK ZONE LOCATION



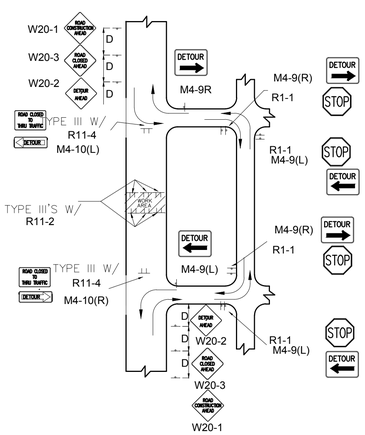
TYPICAL STREET CLOSURE

NOTE: (R1-1) BASED ON FIELD CONDITIONS.

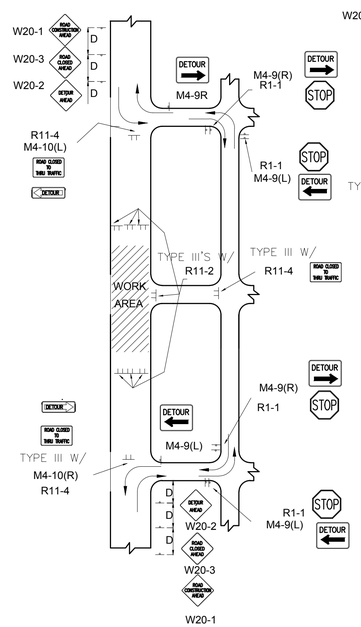


TYPICAL MID-BLOCK CLOSURE

NOTE: (R1-1) BASED ON FIELD CONDITIONS.



TYPICAL STREET CLOSURE



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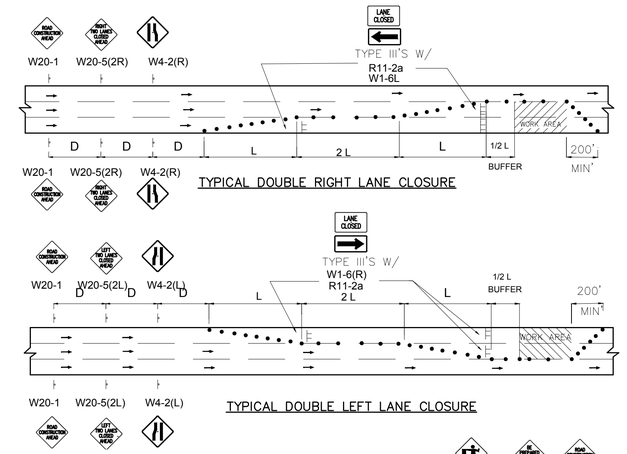
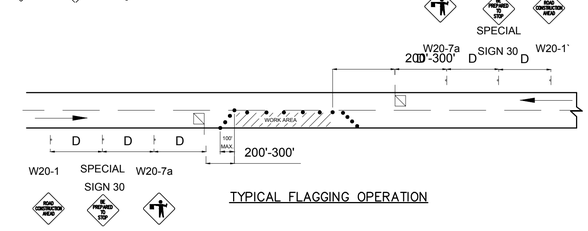
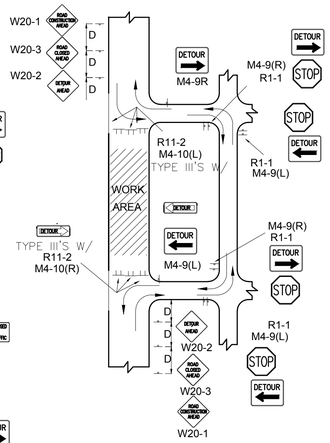


TYPICAL DOUBLE RIGHT LANE CLOSURE

TYPICAL DOUBLE LEFT LANE CLOSURE



TYPICAL FLAGGING OPERATION



TYPICAL STREET CLOSURE

NOTE: (R1-1) BASED ON FIELD CONDITIONS.

NO.	DESCRIPTION	DATE	BY
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REVISIONS (OR CHANGE NOTICES)

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GENERAL NOTES & STANDARDS

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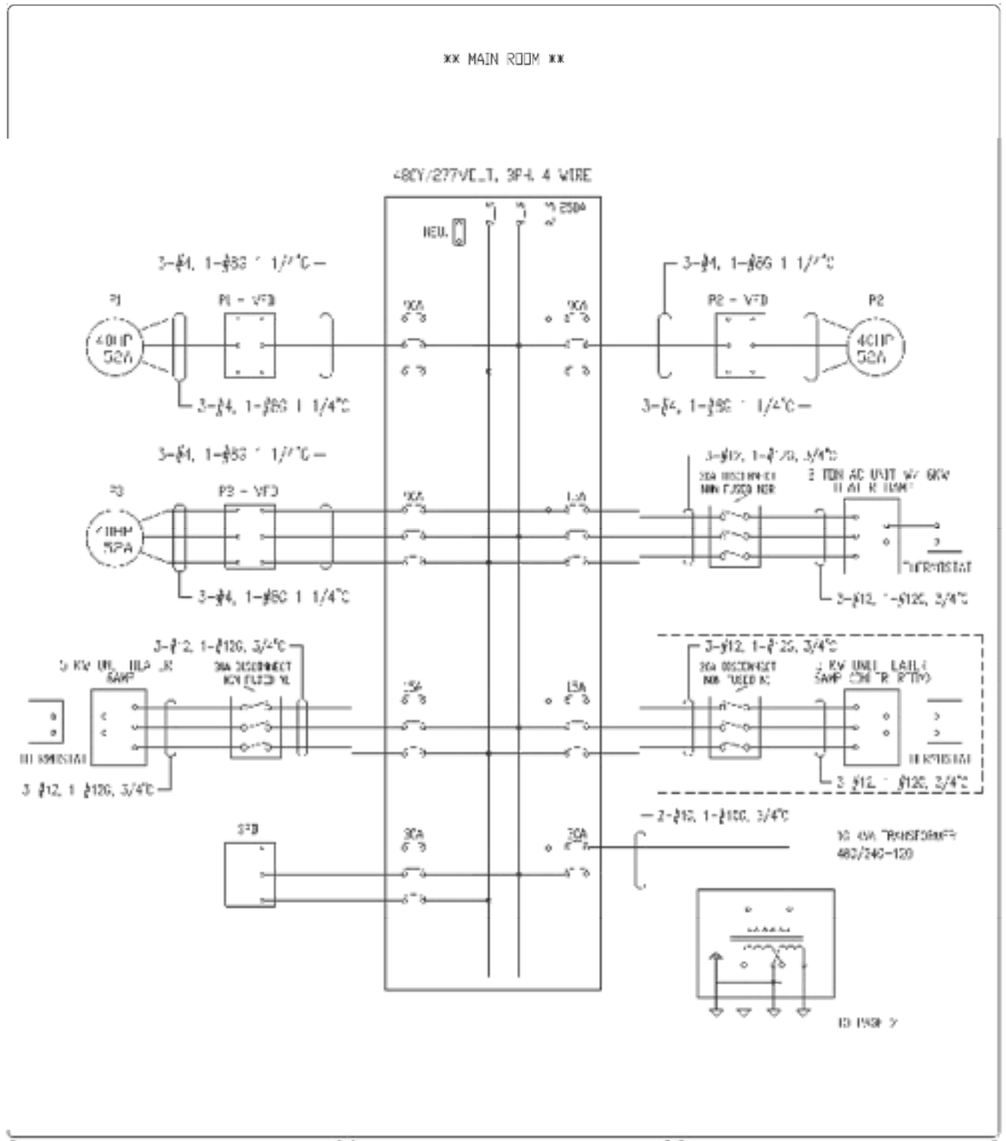
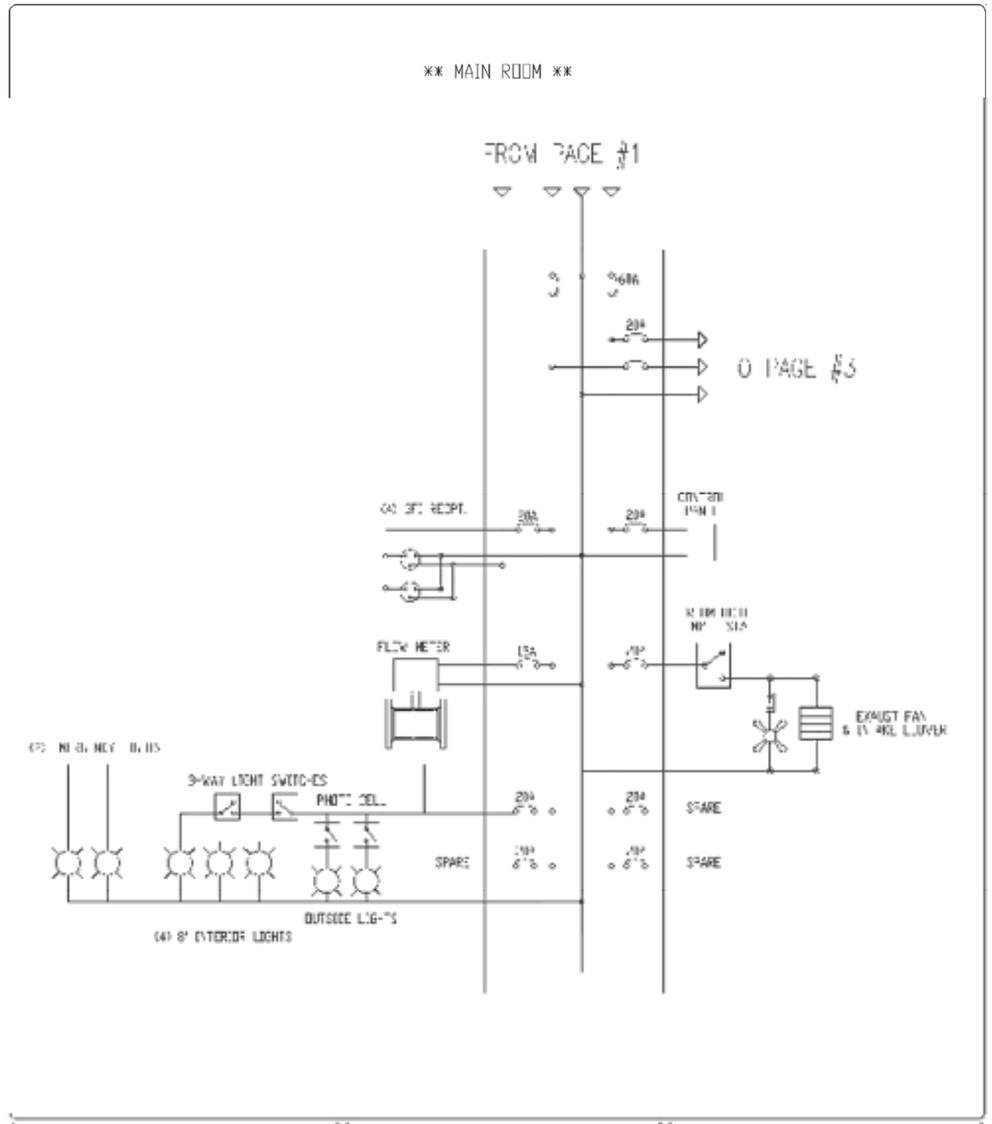
Last Saved:8/19/2016 11:36:14 AM, amontoya

NOTE: ALL ELECTRICAL WORK WILL BE COORDINATED WITH PNM AND THE CONSTRUCTION INDUSTRIES DIVISION.





CANARIIS CORPORATION
7935 Eagle Palm Drive
Riverview, Florida 33569-9551
phone: 813.621.8643
fax: 813.626.2178
www.canariis.com

ELECTRICAL DIAGRAM
PROJ: CHEROKEE BOOSTER
DATE: 8-01-16
SHEET 1 OF 3

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7935 Eagle Palm Drive
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ELECTRICAL DIAGRAM
PROJ: CHEROKEE BOOSTER
DATE: 8-01-16
SHEET 2 OF 3

RUIDOSO

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Designed For:
VILLAGE OF RUIDOSO

CHEROKEE ELECTRICAL PLAN

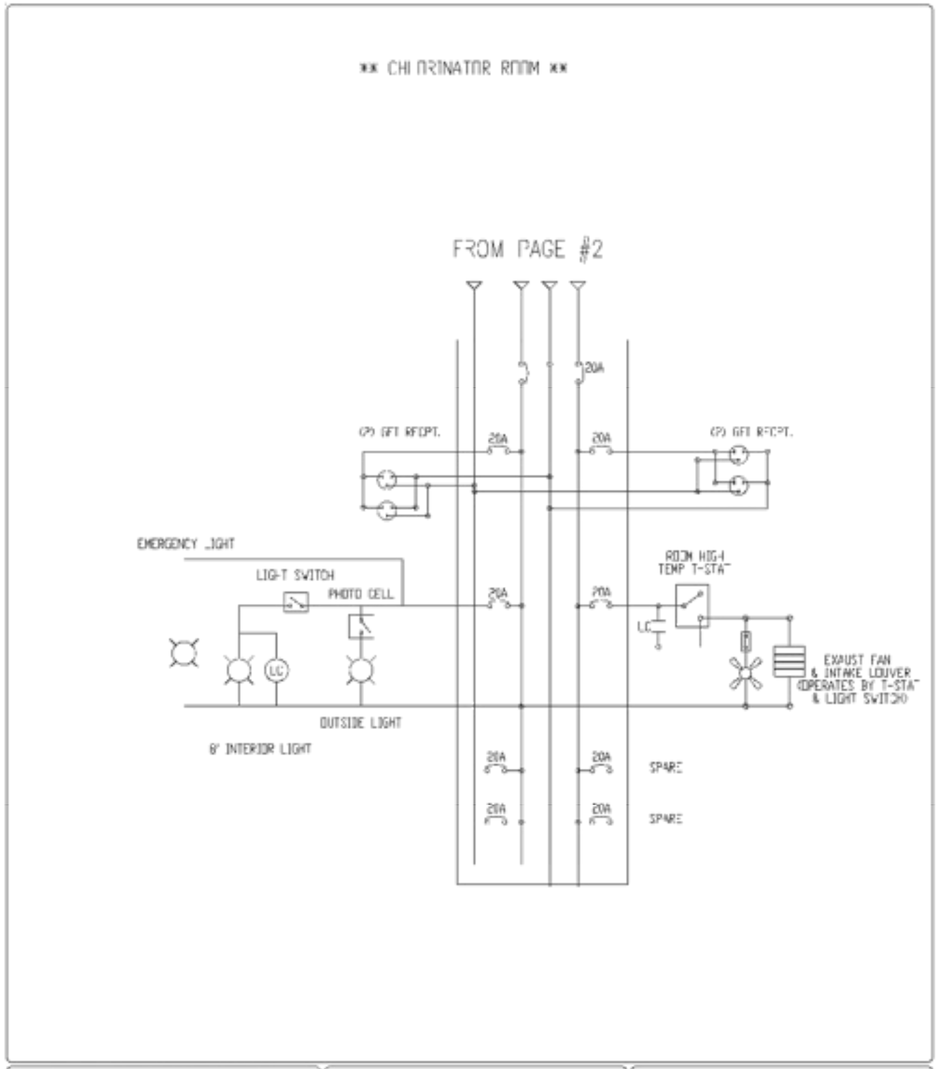
CHEROKEE SERVICE AREA
INTERCONNECT & BOOSTER
STATION REPLACEMENT
RUIDOSO, NEW MEXICO

RAYMOND D. DE LA VEGA
NEW MEXICO
21078
PROFESSIONAL ENGINEER
8/18/16

PROJECT NO.	R303231.08
DESIGNED BY:	RDV
DRAWN BY:	AJM
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	
SHEET:	E-101

Plotted: 8/19/2016 1:10:04 PM, By:Montoya Arthur
H:\proj\R303231.08 Cherokee Interconnect\DWG\Plot_Files\C-502 DTL SHEET-DLV.dwg
Last Saved:8/19/2016 11:36:14 AM, amontoya

NOTE: ALL ELECTRICAL WORK WILL BE COORDINATED WITH PNM AND THE CONSTRUCTION INDUSTRIES DIVISION.



REV	DATE	DESCRIPTION OF REVISION	BY	CHKD
-	-		-	-
-	-		-	-
-	-		-	-
-	-		-	-
-	-		-	-

CANARIIS CORPORATION
7905 Eagle Palm Drive
Riverview, Florida 33569-5828
phone: 813.621.8643
fax: 813.626.2178
www.canariis.com

ELECTRICAL DIAGRAM

PROJECT: CHEROKEE BOOSTER

JOB NO. P 0115 16 | DRAWING NO. - | SHEET 3 OF 3 | REV -

DWG BY: RJL | DATE: 7/13/16
CHKD BY: - | DATE: -
APPD: - | DATE: -
ENG: - | DATE: -

REVISIONS (OR CHANGE NOTICES)

NO.	DESCRIPTION	DATE	BY
1			
2			
3			
4			
5			
6			
7			

Designed By:
HUITT-ZOLLARS
Huitt-Zollars, Inc. Rio Rancho
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

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VOR CHK:	

SHEET:
E-102

Plotted: 8/19/2016 1:10:09 PM, By:Montoya, Arthur
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Last Saved:8/19/2016 11:36:14 AM, amontoya

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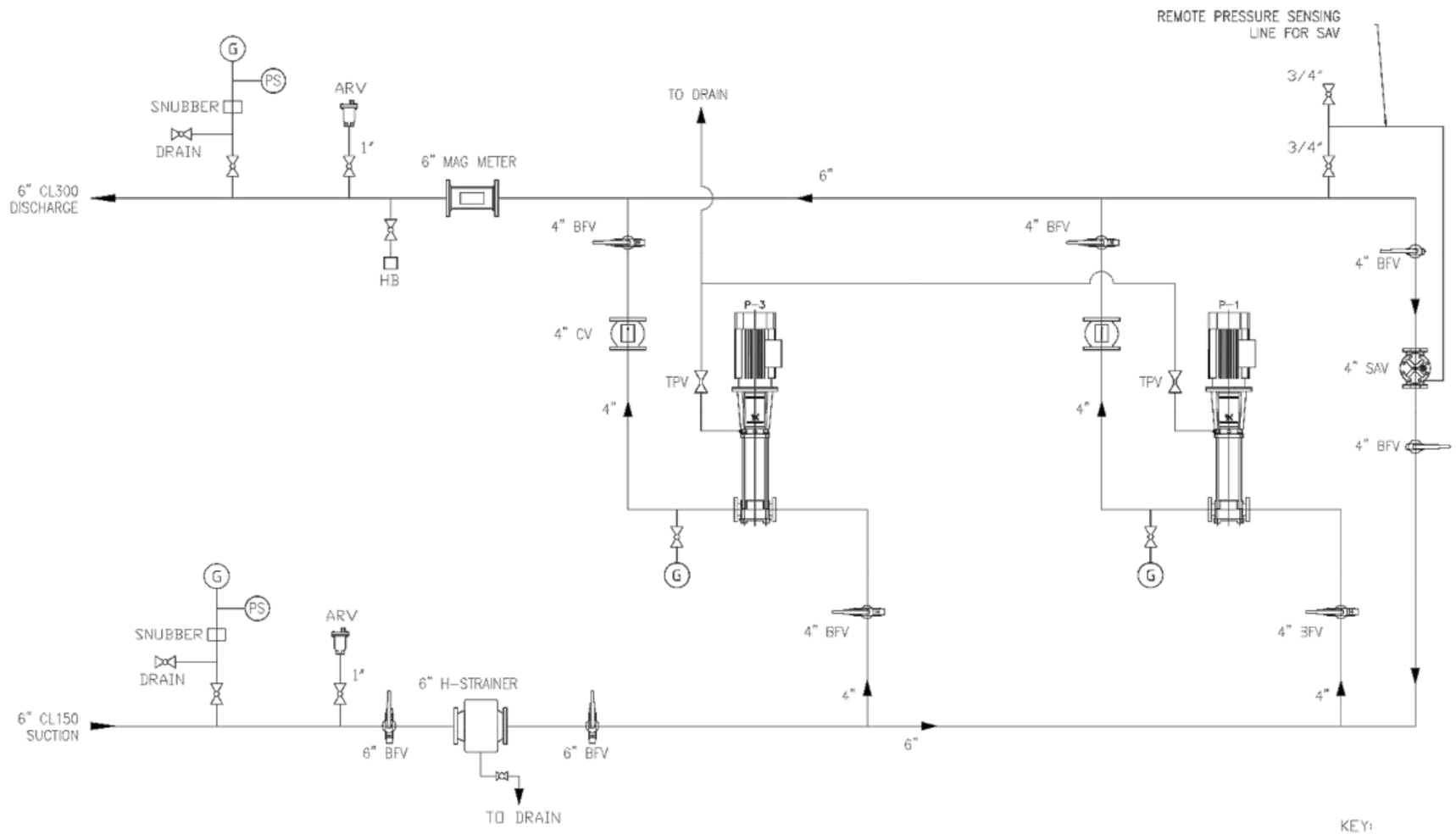
P&ID



KEY:

ARV -	AIR RELEASE VALVE
BFV -	BUTTERFLY VALVE
CV -	CHECK VALVE
G -	GAUGE
HB -	HOSE BIB
PS-	PRESSURE SENSOR
SAV -	SURGE ANTICIPATOR VALVE
TPV -	THERMAL PURGE VALVE

CANARIIS CORPORATION
RIVERVIEW, FL.
PH: (813)621-8643 FAX: (813)626-2178
www.canariis.com

DWG TITLE: CHEROKEE BOOSTER STATION			
DWN BY: JBCL/MK	DATE: 07/28/16	SCALE: NTS	REV.
APPV BY:	DATE:	DWG NO.: P-0115-16	PAGE 1 OF 1

Plotted: 8/19/2016 1:10:14 PM, By:Montoya, Arthur
H:\proj\R303231.08 Cherokee Interconnect\DWG\Pid_Files\C-502 DTL SHEET-DLV.dwg
Last Saved:8/19/2016 11:36:14 AM, amontoya

RUIDOSO

NO.	DESCRIPTION	DATE	BY
1			
2			
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7			

REVISIONS (OR CHANGE NOTICES)

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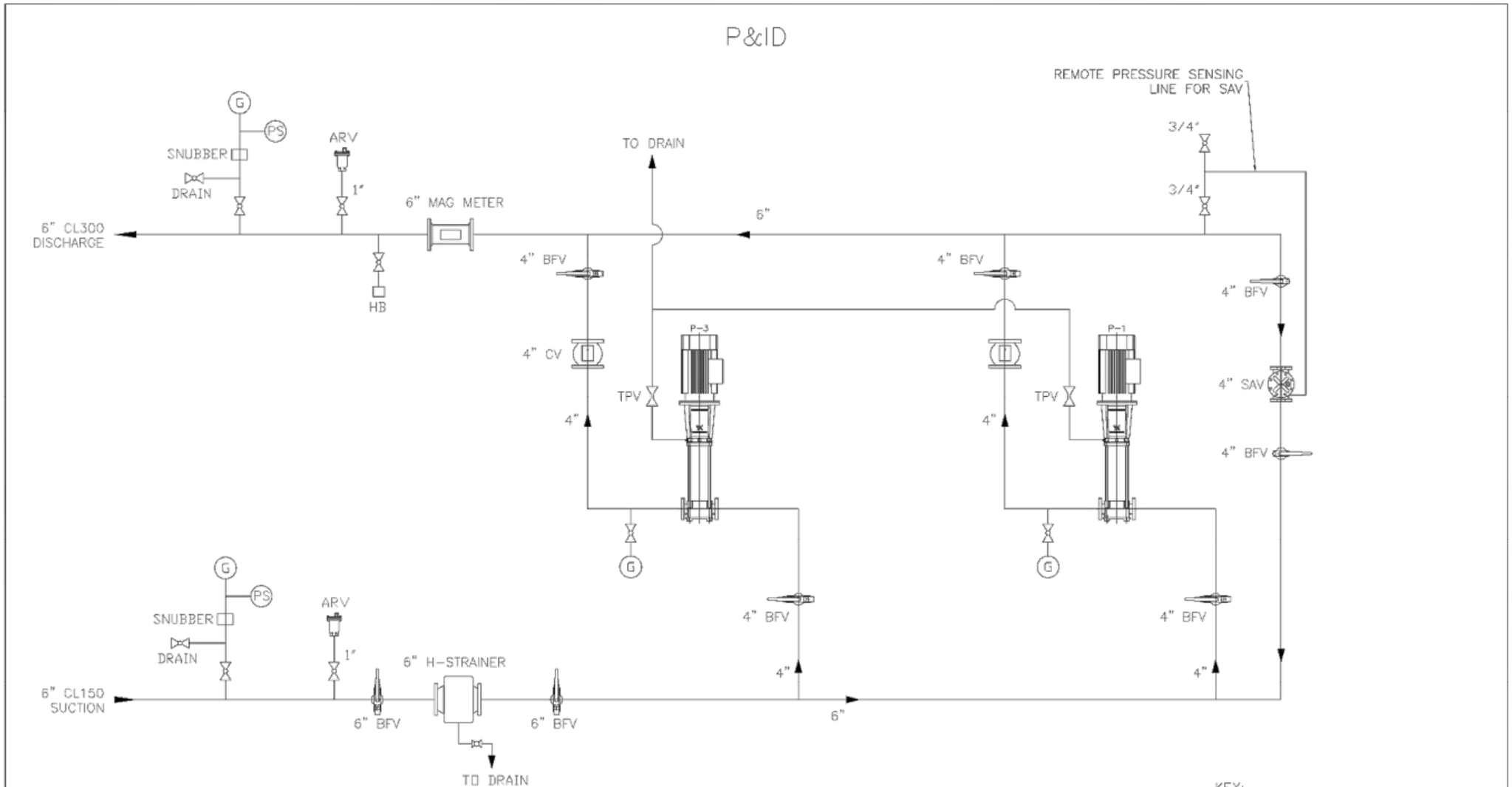
CHECKED BY:	JDB
DATE:	08/18/16
VOR CHK:	

SHEET:
E-103

NOTE: ALL ELECTRICAL WORK WILL BE COORDINATED WITH PNM AND THE CONSTRUCTION INDUSTRIES DIVISION.



KEY:

ARV -	AIR RELEASE VALVE
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RIVERVIEW, FL.
PH: (813)621-8643 FAX: (813)626-2178
www.canariis.com

7/26/2016 10:39:33 AM

DWG TITLE: HELLHOLE BOOSTER STATION			
DWN BY: JBCL/MK	DATE: 07/28/16	SCALE: NTS	REV.
APPV BY:	DATE:	DWG NO.: P-0116-16	PAGE 1 OF 1

Plotted: 8/19/2016 1:10:18 PM, By:Montoya, Arthur
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Last Saved:8/19/2016 11:36:14 AM, amontoya

RUIDOSO

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VOR CHK:	

SHEET:
E-104