



CONTRACT DOCUMENTS
FOR
CITY OF SEDONA
PUBLIC WORKS DEPARTMENT

WWRP BAR SCREEN REPLACEMENT PROJECT

2016-PW02

City of Sedona
WWRP BAR SCREEN REPLACEMENT PROJECT

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ADVERTISEMENT FOR BIDS

City of Sedona

Public Works

108 Roadrunner Drive

Sedona, AZ 86336

Sealed bids for the construction of the **Wastewater Reclamation Plant Bar Screen Replacement Project** will be received by the Public Works Department, located at 108 Roadrunner Drive, Sedona, Arizona, until **2:00 P.M. local time, June 1, 2016.** At that time, bids will be publicly opened and read aloud in the ECHO Conference Room. Bidders are invited, but not required, to be present at the bid opening.

PROJECT: WWRP Bar Screen Replacement Project

DESCRIPTION: Replacement of two (2) existing mechanical bar screens and associated power, controls, and SCADA tie-in.

CONTRACT TIME: 250 calendar days after the Notice to Proceed.

LIQUIDATED DAMAGES: \$430 per day beyond the 250 calendar day Contract Time.

MANDATORY PRE-BID MEETINGS: Failure to attend and sign attendance sheet at mandatory pre-bid meetings shall render a bid non-responsive.

Contract Documents may be downloaded from the City of Sedona's website at www.SedonaAz.gov/RFQ.

PRE-BID CONFERENCE: Pre-bid conference (**mandatory**) will be held on **May 26, 2016, at 2:00 pm. at the Sedona Wastewater Reclamation Plant, 7500 W. SR 89A, Sedona AZ** (between mile markers 365 and 366 between Sedona and Cottonwood).

Each bidder's proposal shall be made on forms furnished in the Contract Documents, and must be accompanied by a security consisting of a certified check, cashier's check, or bid bond in an amount of not less than ten percent (10%) of the amount of the total bid amount, and made payable to the CITY OF SEDONA, ARIZONA. In the event the successful Bidder within ten (10) calendar days after award of the Contract fails to enter into a Contract or fails to post payment and performance bonds satisfactory to the City insuring the faithful fulfillment of the Contract as required by law, the security deposit on this bid shall be forfeited to the City.

Contract Documents, with completed Bid Proposal, must be enclosed in a sealed envelope, addressed to:

HAND DELIVERED: City of Sedona
Public Works Department
108 Roadrunner Drive
Sedona, AZ 86336

U.S. MAIL: City of Sedona
Public Works Department
102 Roadrunner Drive
Sedona, AZ 86336

AND MARKED: Bid Proposal for **WWRP Bar Screen Replacement Project**

AND RECEIVED: **At the Public Works Department office until 2:00 P.M. local time, June 1, 2016** (as determined by reference to www.time.gov ref [Arizona](#) area)

The successful Bidder will be required to furnish two (2) bonds. One (1) bond, to become effective upon award of the Contract, shall be a Performance Bond substantially in the form attached, and shall be in a sum of one hundred percent (100%) of the contract price including any additions to the Contract. The Bond shall be effective throughout the construction period, including a two (2) year warranty period. The successful Bidder shall also furnish a Labor and Material Payment Bond, substantially in the form attached, to become effective upon award. Said Labor and Material Bond shall be in the amount of one hundred percent (100%) of the Contract price.

The successful Bidder will be determined on the basis of the lowest responsive and responsible Proposal. The City of Sedona, Arizona reserves the right to reject any or all Proposals, to waive or not to waive any informalities, or irregularities in the Proposals received, and to accept a Proposal which in its judgment best serves the interests of the City.

All questions should be directed in writing to Roxanne Holland, Associate Engineer, 102 Roadrunner Drive, Sedona, Arizona 86336, or email RHolland@sedonaaz.gov.

FIRST ADVERTISEMENT: **May 18, 2016**
SECOND ADVERTISEMENT: **May 25, 2016**
RED ROCK NEWS

BY: _____
J. Andy Dickey, PE
Director of Public Works/City Engineer

INFORMATION FOR AND INSTRUCTIONS TO BIDDERS

The City of Sedona herein referred to as the "City" is defined as the City of Sedona, acting through its legally constituted officials, officers, and employees. The City may waive any informality or reject any or all bids. Any bid may be withdrawn prior to the scheduled time and date for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be opened. No Bidder may withdraw a bid within forty-five (45) days after the actual day of the opening thereof.

Bid prices shall include everything necessary for the completion of the work including but not limited to, materials, equipment, tools, other facilities, management, superintendents, labor, services, insurance, overhead, profit, and Federal, State, and Local taxes.

Each bid must be submitted on the Bid Proposal provided and must be signed by the Bidder or his duly authorized agent. All blank spaces for bid prices must be filled in, in ink or typewritten, IN BOTH WORDS AND NUMBERS where called for in the Bid Proposal. If there is a discrepancy between the price in words and the price in numbers, the price in words will govern.

In case of an error in the extension of the unit price and the total, the unit price shall govern. In the event that the product of a unit price and an estimated quantity does not equal the extended amount quoted, the unit price shall govern, and the correct product of the unit price and the estimated quantity shall be deemed to be the amount bid. If the sum of two (2) or more items in the bid schedule does not equal the total amounts quoted, the individual item amounts shall govern and the correct total shall be deemed to be the amount bid. The bid shall not contain recapitulations of the work to be done.

Each bid must be submitted in a sealed envelope bearing on the outside the name of the Bidder, Bidder's address, and the name of the project for which the bid is submitted.

The City may by statements in the Special Provisions or other part of the specifications require submission of sealed Bid Documentation.

The City may make such investigations as City deems necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish to the City all such information and data for this purpose as the City may request. The City reserves the right to reject any bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the City that such Bidder is properly qualified to carry out the obligations of the Contract and to complete the work contemplated therein. Conditional bids will not be accepted.

Bidders must correctly prepare and submit the documents listed below with their bids:

1. Bid proposal
2. Bid Guaranty Bond
3. Certification of the Bidder's experience and qualification and statement of Bidder's qualifications
4. List of all proposed Subcontractors
5. Schedule of manufacturers and suppliers, major equipment and material items

6. Non-collusion affidavit
7. Certificate of insurability
8. Signed Addenda

Each bid must be accompanied by either a certified check made payable to the City of Sedona, a cashier's check made payable to the City of Sedona or a bid bond, duly executed by the Bidder as principal and having as surety thereon a surety company licensed to do business in Arizona, in the amount of ten percent (10%) of the bid. The City may retain such checks or bid bonds, of the three (3) apparent lowest Bidders, for a period of forty-five (45) days after the bid opening.

Simultaneously with the delivery of the executed Contract, the Contractor shall furnish a surety bond or bonds as security for faithful performance of this Contract and for the payment of all persons performing labor on the project under this Contract and furnishing materials in connection with this Contract, as specified in the General Conditions included herein. The surety on such bond or bonds or contract bonds must file with each bond a certified and effectively dated copy of their Power of Attorney.

Each Bidder shall have listed, on the form entitled "Proposed Subcontractors", provided in the Proposal, the name, address, and description of the work of each Subcontractor to whom the Bidder proposes to sublet portions of the work in excess of one and one-half percent (1.5%) of the total amount of his Bid. For the purpose of this paragraph, a Subcontractor is defined as one who contracts with the Contractor to provide materials and labor, labor only, or who specially fabricates and installs a portion of the work or improvement according to drawings contained in the Contract Documents. Failure to list Subcontractors may render a Bid non-responsive and may be grounds for rejection of the Bid. Attention is called to the General Conditions Article 13, limiting the total amount of the work, which may be performed by Subcontractors. Alternate Subcontractors for the same work shall not be listed in the bid. However, substitute Subcontractors may be considered as long as they comply with the requirements of these Contract documents.

Subcontractors listed by the Bidder must be competent and experienced in the type of work which they are to perform. No Contractors shall be required to employ any Subcontractor, other person or organization against which he has reasonable objection.

As evidence of his competency to perform the work, Bidder shall complete and submit with his Bid the Bidder's Statement of Qualifications which is bound in the Contract Documents. Low Bidders may be asked to furnish additional data to demonstrate competency. Bidders must be, at the time of bidding and throughout the period of the Contract, licensed as required by the State of Arizona, thoroughly competent, and capable of satisfactorily constructing the Project. Bidder shall certify that he is skilled and regularly engaged in the general class and type of work called for in the Contract Documents. Additionally, Bidders shall comply with all provisions of Arizona Revised Statutes, Title 32, Chapter 10. Further, the Bidder certifies that he is knowledgeable of the unusual and peculiar hazards associated with the general class and type of work required to construct the specific project within the terms given in the Contract Documents. Bidder shall be competent and skilled in the protective measures necessary for the safe performance of the construction work with respect to such unusual and peculiar hazards.

The selected Bidder, upon Bidder's failure or refusal to execute and deliver the Contract and

bonds required within ten (10) consecutive calendar days from and including the date Bidder received notice of the acceptance of his bid, shall forfeit to the City, for such failure or refusal, the security deposited with his bid.

Bidders are required prior to submitting a bid to inspect the site of the work and satisfy themselves by personal examination or by such other means as they may prefer, as to the location of the proposed work, and of the actual conditions.

Entrance by Bidders to the site of the work for purposes of making exploratory excavations shall be by special arrangement with the City Engineer under conditions established by the City. If, during the course of such an examination, a Bidder finds facts or conditions which appear to be in conflict with the Contract Documents, the Bidder must notify the City Engineer and may apply to the City Engineer, in writing, for additional information and explanation before submitting its bid.

Any information provided by the Design Engineer, the City, or any City personnel is not intended to be a substitute for, or a supplement to the independent verification by the Bidder to the extent such independent investigation of site conditions is deemed necessary or desirable by the Bidder. Bidder acknowledges that he has not relied upon City, City personnel, or Design Engineer furnished information regarding site conditions in preparing and submitting a bid hereunder. The Plans show conditions as they are believed to exist, but it is not intended nor is it to be inferred that the conditions as shown therein constitute a representation by the City or any of its officers that such conditions actually exist, nor shall the City or any of its officers be liable for any loss sustained by the Contractor as a result of any variance between any conditions as shown on the Plans and the actual conditions revealed during the progress of the project, or otherwise.

Any subsurface investigations, which may have been conducted at the site of the work, and the corresponding report, may be examined at the City office. Soil investigations, if performed, were conducted for design purposes, and the data shown in the reports are for subsurface conditions found at the time and location of the investigation. The Contractor shall note that there will be no separate payment for rock excavation and **no blasting** is permitted at the site.

The City disclaims responsibility for the interpretation by Bidders of data, such as projecting or extrapolating from the test holes to other locations on the site of the work, soil bearing values and profiles, soil stability and the presence, level and extent of underground water for subsurface conditions during construction operations.

The lands upon which the work is to be performed, right of way for access thereto, and other lands designated for use by the Contractor in performing the work are identified in the Supplemental Conditions or Drawings.

Submission of a bid by the Bidder shall constitute acknowledgement that, if awarded the Contract, the Bidder has relied and is relying on his own examination of (1) the site of the work, (2) access to the site, and (3) all other data and matters requisite to the fulfillment of the work and on his own knowledge of existing facilities on and in the vicinity of the work to be constructed under the Contract.

The Bidders shall examine carefully the Plans and Specifications and the site of the proposed Project and shall solely judge for themselves the nature and location of the work to be done and all the conditions; and the submission of a Bid shall be deemed as conclusive evidence that a Bidder has made the necessary investigation and is prima facie evidence that he is satisfied with the conditions to be encountered, quantity and quality of the work or materials to be performed or furnished, and the requirements and provisions of the Plans and Specifications and the Contract Documents. The Bidder agrees that if he is awarded the Contract he will make no claim against the City, the City Engineer, or any other City officials or City personnel based on ignorance or misunderstanding of any of the provisions of the Contract Documents, nor because of any unforeseen subsurface conditions except in the manner and under the circumstances as provided in the Contract Documents.

Each Bidder must inform himself fully of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful Bidder of his obligation to furnish all material and labor necessary to carry out the provisions of his Contract. Insofar as possible, the Contractor, in carrying out his work, must employ such methods or means as will not cause any interruption of or interference with the work of any other Contractor.

All applicable state laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction for the project shall apply to the Contract throughout, and they will be deemed to be included in the Contract the same as though herein written out in full.

No interpretation of the meaning of the plans, specifications or other pre-bid documents will be made to any Bidder orally. Every proper request for such interpretation shall be made in writing, and to be given consideration must be received at least five (5) days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instruction will be in the form of written addenda to the Contract Documents which, if issued, will be emailed to all prospective Bidders (at the respective addresses furnished for such purposes), not later than three (3) calendar days prior to the date fixed for the opening of bids. At any time prior to an announced bid opening time the City reserves the right to issue an addendum extending the bid opening time by one or more days. Failure of any Bidder to receive any such addendum or interpretation shall not relieve such Bidder from any obligations under his bid as submitted. All Addenda so issued shall become part of the Contract Documents. It shall be the responsibility of each Prospective Bidder to verify that each addendum has been received applicable to the project. Bidders are responsible to check the City website at www.sedonaaz.gov periodically to verify if new addenda have been posted and shall ensure a reliable and accurate email address is provided to the City to be added to the Plan Holder's List. In order to be added to the Plan Holder's List, a bidder shall either purchase plans from the City of Sedona, or submit a request from the email address intended to be used as the bidder's contact email address, to the project manager listed on page I-3.

Before submitting a Proposal, Bidders shall carefully examine the Plans, read the specifications and all other Contract Documents, visit the site of the project, and fully inform themselves as to all existing and local conditions and limitations. It is expressly stipulated that the drawings, Specifications and other Contract Documents set forth the requirements as to the nature of the work and do not purport to control the method of performing work except in those instances

where the nature of the completed work is dependent upon the method of performance.

Submission of a bid shall constitute acknowledgment, upon which the City may rely that the Bidder has thoroughly examined and is familiar with the Contract Documents. Failure or neglect of a Bidder to examine any of the Contract Documents shall in no way relieve him from any obligation with respect to his bid or to the Contract. No claim for additional compensation will be allowed which is based on a lack of knowledge of the work, or of the Contract Documents.

The quantities of the various classes of work to be done and material to be furnished under this Contract, which have been estimated as stated in the Proposal, are only approximate and are to be used solely for the purpose of comparing, on a consistent basis, the Proposals offered for the work under this Contract. The Contractor agrees that the City will not be held responsible if any of the quantities shall be found incorrect; except that in the event that the Contract price may be increased or decreased in accordance with Article 30 of the General Conditions through the issuance of the appropriate change orders to reflect the actual quantities of all items constructed, installed or incorporated in the work, the Contractor will not make any further claim for damages or for loss of profits because of a difference between the quantities of the various classes of work as estimated and the work actually done. If any error, omission, or misstatement is found to occur in the estimated quantities, the same shall not invalidate the Contract or release the Contractor from the execution and completion of the whole or any part of the work in accordance with the Specifications and the Plans herein mentioned, and for the prices herein agreed upon and fixed therefore, or excuse him from any of his obligations or liabilities hereunder, or entitle him to any damages or compensation except as may be provided in this Contract.

The successful Bidder, upon award of a Contract, shall commence work on the date specified in the "Notice to Proceed" and shall complete all work in accordance with the time schedule specified. Should the Contractor fail to complete all work in the allotted time period, liquidated damages shall be assessed as specified.

The City invites bids on the forms included as part of this Document to be submitted at such time and place as is stated in the Advertisement for Bids. All blanks in the Bid Proposal must be appropriately filled in with typewriter or ink. **Bidders are instructed not to turn in Bid Proposals that have been separated from the bound Contract Documents. It is the sole responsibility of the Bidder to see that the bid is received in proper time at the time and place stipulated in the Advertisement For Bids.** Any bids received after the scheduled closing time for receipt of bids will be returned to the Bidder unopened.

The bid must be signed in the name of the Bidder and must bear the signature in long hand of the person or persons duly authorized to sign the bid. Changes in or additions to the bid forms, recapitulations of the work bid upon, alternative proposals or any other modifications of the bid which are not specifically called for in the Contract Documents may be subject to City's rejection of the bid as not being responsive to the advertisements. No oral telephone modifications or telegraphic modifications of any bid submitted will be considered.

The bid submitted must not contain erasures, corrections or changes from the printed forms as completed in typewriter or ink, unless such erasures, corrections or changes are authenticated

by affixing in the margin immediately opposite the erasure, correction or change, the full signature of the person who signed the bid or the signature of such other person as may be authorized by the Bidder to make erasures, corrections or changes in the bid, and said authorization must be evidenced by written confirmation, executed by the person authorized to sign the initial bid, attached to the bid at the time of submittal.

If the bid is made by an individual, his or her name, signature, and post office address must be shown; if made by a firm or partnership, the name and post office of the firm or partnership, a list of the partners, and the signature of at least one of the general partners must be shown; if made by a corporation, the bid shall show the name of the state under the laws of which the corporation is chartered, the name and post office address of the corporation, and the title of the person who signs on behalf of the corporation. All signatures must be made in long hand. If a corporation makes the bid, a certified copy of the By-laws or resolution of the board of directors of the corporation shall be furnished showing the authority of the officer signing the bid to execute contracts on behalf of the corporation. If the bid is made by a joint venture, a representative of each of the joint venture firms shall sign the bid. Additionally, the bid shall include a copy of the resolution or agreement empowering the representative to execute the bid and bind the firm to the joint venture.

The City reserves the right to pre-qualify all bids, post-qualify all bids, or reject all bids, not to make an award or accept the Proposal deemed most advantageous and in the best interest of the City. The City shall enter into a Contract with the lowest responsible responsive bidder whose proposal is satisfactory. A written Notice of Award will be sent to the successful Bidder(s).

OR APPROVED EQUAL CLAUSE -- Manufacturers or suppliers of materials and equipment may request that alternatives to specified products be considered equal and that inclusion of such alternatives be permitted in the bids. Such request must be made in writing and received by the City Engineer at least five (5) calendar days prior to the date bids are to be received. Granting a request that an alternative product be considered equal to those specified may be made only by the issuance of an Addendum by the City. Denial of the request during bidding does not waive the manufacturer's or supplier's right to offer the alternative product to the Contractor after Award of the Contract. After Award of Contract, the offer will be considered as a substitution as provided under Article 6 of the General Conditions and will be considered only if the Engineer believes the offer of substitution is equal to or superior in quality to the specified product.

PREPARATION OF BID

- A. City reserves the right to reject any or all Bids, to waive any or all informalities, and the right to disregard all nonconforming, non-responsive or conditional Bids.
- B. City reserves the right to reject any Bid not accompanied by specified documentation and Bid security.
- C. City reserves the right to reject any Bid if it shows any omissions, alterations of form, additions not called for, conditions or qualifications, or irregularities of any

kind.

- D. City reserves the right to reject any Bid that, in his sole discretion, is considered to be unreasonable as to the amount Bid for any lump sum or unit price item.
- E. A Bidder may withdraw his Bid before the time fixed for the opening of Bids by communicating his purpose in writing to the City. Upon receipt of such written notice, the unopened Bid will be returned to the Bidder.
- F. The withdrawal of a Bid does not prejudice the right of a Bidder to file a new Bid, so long as the new Bid is submitted in conformance with the Information for and Instructions to Bidders prior to the closing time indicated for Bids in the Advertisement for Proposals.
- G. No Bidder may withdraw his Bid for forty-five (45) days after the time established for receiving Bids or before the Award and execution of the Contract unless the Award is delayed for a period exceeding forty-five (45) calendar days. The Award of the Contract to one party does not constitute a waiver of this condition.
- H. In evaluating Bids, City will consider the qualifications of Bidders; whether or not the Bids comply with the prescribed requirements; the alternatives, if any; the time or times for completion as stated in the Bid Form; and the lump sum and unit prices, if requested in the Bid Form.
- I. City may consider the qualifications and experience of Subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the work for which the identity of Subcontractors and other persons and organizations must be submitted.
- J. City may conduct such investigation deemed necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of the Bidders, proposed Subcontractors and other persons and organizations to do the work in accordance with the Contract Documents. City reserves the right to reject the Bid of any Bidder who does not pass any such evaluation to City's satisfaction.
- K. Modification of a Bid already received will be considered only if the modification is received prior to the time established for receiving Bids. Modifications shall be made in writing, executed, and submitted in the same form and manner as the original Bid. The communication should not reveal the Bid Price, but should provide the addition or subtraction or other modifications so that the final price or terms will not be shown until the sealed Bids are opened.

CONTRACT

THIS CONTRACT, made and entered into this ____ day of _____, 201__ by and between the City of Sedona, Arizona, hereinafter called the "Owner", and [Click here to enter text.](#), hereinafter called the "Contractor."

WITNESSETH:

WHEREAS, the City has caused Contract Documents to be prepared for the construction of the **WWRP Bar Screen Replacement Project (the "Project")**, City of Sedona, Arizona, as described therein; and

WHEREAS, the Contractor has offered to perform the proposed work in accordance with the terms of the Contract; and

WHEREAS, the Contractor, as will appear by reference to the minutes of the proceedings of the City Council was duly awarded the work.

NOW, THEREFORE, the parties hereto hereby stipulate, covenant and agree as follows:

1. The Contractor promises and agrees to and with the City that it shall perform everything required to be performed and shall provide and furnish all the labor, materials, necessary tools, expendable equipment, and all utility and transportation services required to perform and complete in a workmanlike manner all of the work required in connection with construction of **the Project** all in strict accordance with the Specifications and Drawings, including any and all Addenda, and in strict compliance with the Contractor's Proposal and all other Contract Documents, which are a part of the Contract; and the Contractor shall do everything required by this Contract and the other documents constituting a part thereof.
2. The Contractor agrees to perform all of the work described above in accordance with the Contract Documents and comply with the terms therein for the initial estimated Contract price of **\$Click here to enter text.**, subject to increase or decrease in accordance with the Contract Documents, and the Bid Schedule set forth therein; and the City agrees to pay the Contract Prices in accordance with the Bid Schedule for the performance of the work described herein in accordance with the Contract Documents.
3. The Contractor and the City agree that the terms, conditions, and covenants of the Contract are set forth in the Contract Documents and the Plans and Technical Specifications, all defined as the Contract Documents, and by this reference made a part hereof as if fully set forth herein.
4. The Contractor and the City agree that each will be bound by all terms and conditions of all of the Plans and Technical Specifications, and Contract Documents, as if the same were fully set forth herein, and hereby incorporate all of the foregoing into this Agreement.
5. The Contractor shall abide by all the laws of the United States of America, State of Arizona, Coconino/Yavapai Counties, and the City of Sedona, including a requirement that Contractor obtain an annual Sedona Business License for every year that they do business

with Sedona or within the City limits.

6. The Contractor shall carry Workers' Compensation Insurance and require all Subcontractors to carry Workers' Compensation Insurance as required by the Law of the State of Arizona, and all other insurance as set forth in the General Conditions.
7. Contractor, its agents, employees, and subcontractors, shall not discriminate in any employment policy or practice. "Discrimination" means to exclude individuals from an opportunity or participation in any activity or to accord different or unequal treatment in the context of a similar situation to similarly situated individuals because of race, color, gender, gender identity, sexual orientation, religion, national origin or ancestry, marital status, familial status, age, disability, or veteran status. (Ordinance 2015-10 (2015)).
8. Work under this Contract shall commence on the date specified in the written Notice to Proceed from the City to the Contractor. Upon receipt of said Notice, the Contractor shall diligently and continuously prosecute and complete all work under this Contract within the time specified on page A-2.
9. The Contract Document consist of the following component parts, all of which are a part of this Contract whether herein set out verbatim, or attached hereto:

Advertisement for Bids
Information for and Instructions to Bidders
Bid Proposal and Bid Guaranty Bond
Contract (this document)
Change Orders
Addenda
Performance Bond, Labor and Material Payment Bond
Special Conditions
General Conditions
Technical Specifications
Notice of Award
Notice to Proceed
Plans and Drawings
Design Reports
Standard Specifications
Insurance Certificates

The above named documents are essential parts of the Contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, the order of precedence is as follows:

1. Change Orders
2. Contract (this document), including addenda
3. Payment and Performance Bonds
4. Advertisement for Bids
5. Information for and Instructions to Bidders

6. Notice of Award
7. Notice to Proceed
8. Special Conditions
9. Bid Proposal
10. Technical Specifications
11. Plans and Drawings
12. General Conditions
13. Bid Guaranty Bond
14. Standard Specifications

In the event there is a conflict between any of the above listed documents, the provision of the document with the lower numerical value shall govern those documents with a higher numerical value. Within a category, the last in time is first in precedence.

The Contractor shall not take advantage of any apparent error or omission in the Plans or Specifications. In the event the Contractor discovers such an error or omission, he shall immediately notify the Owner. The City will then make such corrections and interpretations as may be deemed necessary for fulfilling the intent of the Plans and Specifications.

10. As part of the inducement for City to enter into this Agreement, Contractor makes the following representations:
 - A. Contractor has familiarized himself with the nature and extent of the Contract Documents, work, locality, and with all local conditions and federal, state and local laws, ordinances, rules and regulations that in any manner may affect cost, progress, or performance of the work.
 - B. Contractor has studied carefully all reports of investigations and tests of subsurface and latent physical conditions at the site or those reports that otherwise may affect cost, progress or performance of the work, which were utilized by Design Engineer in the preparation of the Drawings and Specifications and which have been identified in the Contract Documents.
 - C. Contractor has made or caused to be made examinations, investigations and tests, and studies of such reports and related data as he deems necessary for the performance of the work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports or similar data are or will be required by Contractor for such purposes.
 - D. Contractor has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.
 - E. **Contractor has given the City Engineer written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents** and the written resolution thereof by City Engineer is acceptable to Contractor.

- F. Contractor has attended mandatory pre-bid meetings and walk-throughs.
11. A. No assignment by a party hereto of any rights under or interest in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, monies that may become due and monies 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.
- B. City and Contractor each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, and its partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.
- C. Pursuant to Arizona Revised Statutes Section 38-511, the provisions of which are incorporated by reference as if fully set forth herein, all parties are hereby given notice that this Agreement is subject to cancellation by the City if any person significantly involved in initiating, negotiating, securing, drafting, or creating the Contract or Contract Documents on behalf of the City is, at any time while the Contract or Contract Document or any extension thereof is in effect, an employee or agent of any other party to the Contract or Contract Documents in any capacity or a consultant to any other party to the Contract or Contract Documents with respect to the subject matter of the Contract or Contract Documents.
12. During the performance of this Agreement, Contractor may also be under contract with the City for performance of work on other projects. A breach in the performance of any of Contractor's obligations under this Agreement shall constitute a breach of Contractor's obligations under any other agreement with the City and the breach by Contractor under other agreement with the City shall also constitute a breach of Contractor's obligations under this Agreement. The City may offset any amounts owed by Contractor under any such other agreement from any amounts owed to Contractor under this Agreement.
13. The Contract Documents constitute the entire Agreement between the parties.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement which shall be deemed an original on the date first above written.

CITY: City of Sedona, Arizona

BY: _____

NAME: _____

TITLE: _____

(SEAL)

ATTEST:

BY: _____

NAME: _____

CONTRACTOR:

BY: _____

NAME: _____

TITLE: _____

(SEAL)

ATTEST:

BY: _____

NAME: _____

APPROVED AS TO LEGAL FORM:

BY: _____

(City Attorney)

DATE: _____

STATUTORY BID BOND

PURSUANT TO TITLE 34, CHAPTER 2, ARTICLE 1
OF THE ARIZONA REVISED STATUTES

(This bond must not be less than ten percent (10%) of the bid amount)

KNOW ALL MEN BY THESE PRESENTS:

That we, the undersigned _____, (hereinafter "Principal"), as Principal, and _____, a corporation organized and existing under the laws of the State of _____, with its principal offices in the City of _____, (hereinafter "Surety"), as Surety, are held and firmly bound unto the City of Sedona, the State of Arizona, (hereinafter "Obligee"), in the amount of _____ (Dollars) (\$ _____), for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for

WWRP Bar Screen Replacement Project

NOW, THEREFORE, if the Obligee accepts the proposal of the Principal and the Principal enters into a contract with the Obligee in accordance with the terms of the proposal and gives the bonds and certificates of insurance as specified in the Contract Documents with good and sufficient surety for the faithful performance of the contract and for the prompt payment of labor and materials furnished in the prosecution of the contract, or in the event of the failure of the Principal to enter into the contract and give the bonds and certificates of insurance, if the Principal pays to the Obligee the difference not to exceed the penalty of the bond between the amount specified in the proposal and such larger amount for which the Obligee may in good faith contract with another party to perform the work covered by the proposal then this obligation is void. Otherwise, it remains in full force and effect provided, however, that this bond is executed pursuant to the provisions of Section 34-201, Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions of the section to the extent as if it were copied at length herein.

Witness our hands this _____ day of _____, 2016.

PRINCIPAL Seal

By: _____

Title: _____

AGENCY OF RECORD

AGENCY ADDRESS

SURETY Seal

(Attach Power of Attorney form)

STATUTORY BID BOND
(Check to accompany bid)

(Note: The following form shall be used when a check accompanies bid)

Accompanying this proposal is a Cashiers check payable to the order of the City of Sedona hereinafter referred to as "City," for **WWRP Bar Screen Replacement Project** in the amount of _____ Dollars (\$ _____), this amount being ten percent (10%) of the total amount of the Bid. The proceeds of this check shall become the property of said City provided this proposal shall be accepted by said City through action of its legally constituted contracting authorities and the undersigned shall fail to execute a contract and furnish the required Performance and Payment Bonds and proof of insurance coverage within the stipulated time; otherwise, the check shall be returned to the undersigned. The proceeds of this check shall also become the property of the City if the undersigned shall withdraw his bid within the period of forty-five (45) days after the date set for the opening thereof, unless otherwise required by law, and notwithstanding the award of the Contract to another Bidder.

Bidder

(NOTE: If the Bidder desires to use a bond instead of a check, the Bid Bond Form on the previous two pages shall be executed -- the sum of this bond shall not be less than ten percent (10%) of the total amount of this Bid.)

STATUTORY PERFORMANCE BOND
PURSUANT TO TITLE 34, CHAPTER 2, ARTICLE 2,
OF THE ARIZONA REVISED STATUTES

(This Bond must be 100% of the Contract amount)

KNOW ALL MEN BY THESE PRESENTS:

That, _____ (hereinafter "Principal"), as Principal,
and _____, a corporation
organized and existing under the laws of the State of _____ with its principal office
in the City of _____, (hereinafter "Surety"), as Surety, are held and firmly bound
unto the City of Sedona, State of Arizona, (hereinafter "Obligee") in the amount of _____
_____ (Dollars) (\$ _____) for the payment whereof, the
said Principal and Surety bind themselves, and their heirs, administrators, executors, successors
and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written Contract with the
_____, dated the ____ day of _____, 2016 to

_____ which contract is
hereby referred to and made a part hereof as fully and to the same extent as if copied at length
herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Principal faithfully
performs and fulfills all of the undertakings, covenants, terms conditions and agreements of the
Contract during the original term of the Contract and any extension of the Contract, with or
without notice to the Surety, and during the life of any guaranty required under the Contract,
and also performs and fulfills all of the undertakings, covenants, terms conditions and
agreements of all duly authorized modifications of the Contract that may hereafter be made,
notice of which modifications to the Surety being hereby waived, the above obligation is void.
Otherwise it remains in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Title 34, Chapter 2, Article 2, Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions of Title 34, Chapter 2, Article 2, Arizona Revised Statutes, to the extent as if it were copied at length in this agreement.

The prevailing party in a suit on this bond shall recover as part of the judgment reasonable attorney fees that may be fixed by a judge of the Court.

Witness our hands this _____ day of _____, 2016.

PRINCIPAL Seal

By: _____

Title: _____

AGENCY OF RECORD

AGENCY ADDRESS

SURETY Seal

By: _____

(Attach Power of Attorney form)

STATUTORY PAYMENT BOND
PURSUANT TO
TITLE 34, CHAPTER 2, ARTICLE 2,
OF THE ARIZONA REVISED STATUTES

(This Bond must be 100% of the Contract amount)

KNOW ALL MEN BY THESE PRESENTS:

That, _____ (hereinafter "Principal"), as Principal, and _____, a corporation organized and existing under the laws of the State of _____ with its principal office in the City of _____, (hereinafter "Surety"), as Surety, are held and firmly bound unto the City of Sedona, State of Arizona (hereinafter "Obligee") in the amount of _____ (Dollars) (\$_____) for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written contract with the Obligee dated the _____ day of _____, 2016, _____

which contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Principal promptly pays all monies due to all persons supplying labor or materials to the Principal or the Principal's subcontractors in the prosecution of the work provided for in contract, this obligation is void. Otherwise it remains in full force and effect.

PROVIDED HOWEVER, that this bond is executed pursuant to the provisions of Title 34, Chapter 2, Article 2, of the Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions, conditions and limitations of Title 34, Chapter 2, Article 2, Arizona Revised Statutes, to the same extent as if it were copied at length in this agreement.

The prevailing party in a suit on this bond shall recover as part of the judgment reasonable attorney fees that may be fixed by a judge of the Court.

Witness our hands this _____ day of _____, 2016.

PRINCIPAL Seal

By: _____

Title: _____

AGENCY OF RECORD

AGENCY ADDRESS

SURETY Seal

By: _____

(Attach Power of Attorney form)

DO NOT DETACH AND SUBMIT SEPARATE FROM OTHER CONTRACT DOCUMENTS

BID PROPOSAL

City of Sedona:

The undersigned Bidder, having examined the specifications, drawings and all other documents contained in the Contract Documents, attended all mandatory pre-bid meetings, and having examined the site where the work is being performed, and having familiarized himself with any local conditions affecting the work and having knowledge of the cost of work at the place where the work is to be done, hereby proposes to execute and perform the formal Contract set forth in these Contract Documents, of which this Proposal forms a part, and will do the work therein described on the terms and conditions therein set forth; and furnish all required labor, materials, tools, equipment, transportation and services for said work, and pay all taxes and other incidental costs, all in strict conformity with the drawings and specifications forming a part of the Contract Documents for the Unit Prices entered based on the Bidding Schedule included herein, said prices to only be amended or altered in accordance with the Contract Documents.

It is understood that any listed quantities of work to be done at unit prices are **approximate** only, and are intended to serve as a guide in evaluating bids.

It is further agreed that any quantities of work to be done at unit prices and material to be furnished may be increased or decreased as may be considered necessary, in the opinion of the City, to complete the work fully as planned and contemplated and that all quantities of work, whether increased or decreased, are to be performed at the unit prices set forth in the Bid Schedule, except as otherwise provided for in the Contract Documents.

It is further agreed that payments may be increased to cover additional work ordered by the City, but not shown on the Plans or required by the Specifications in accordance with General Condition No. 47. Similarly, payments may decrease if work is deleted or changed.

By submitting a bid, the Bidder acknowledges the understanding that the bid process is solely intended to serve the public interest in achieving the highest quality of services and goods at the lowest price, and that no right, interest, or expectation shall vest or inure to the benefit of Bidders as a result of any reliance or participation in the process.

In submitting this Proposal, it is understood that the right is reserved by the City to reject any or all Proposals and waive informalities or irregularities in Proposals. The City also reserves the right to delay the award of a contract for a period not to exceed forty-five (45) days from the date of the opening of bids.

The undersigned Bidder further agrees, if awarded the contract for the work included in this Proposal, to begin and to complete and deliver the work contemplated in accordance with all the conditions set forth in the Contract Documents.

The undersigned Bidder has carefully checked the figures inserted by him and understands that they are the Bidder's sole responsibility, and the City will not be responsible for any errors or omissions on the part of the undersigned Bidder in preparing this Proposal although City may check and correct mathematical accuracy in evaluation of the bids.

The undersigned Bidder certifies that this Proposal is genuine, not collusive, or made in the interest or behalf of any person not named as provided in the Information for and Instructions to Bidders, and that the undersigned has not, directly, or indirectly, induced or solicited any other Bidder, or induced any other person, firm, or corporation to refrain from submitting a proposal, and the undersigned has not in any manner sought by collusion to secure for himself an advantage over any other Bidder.

Attached is a certified check without endorsement and with conditions payable to the City of Sedona in the sum of ten percent (10%) of the total bid drawn on a bank which is a member of Federal Reserve System or which is a member of the Federal Deposit Insurance Corporation, or a cashier's check for ten percent (10%) of the total bid or a Bid Bond written by an approved surety company for ten percent (10%) of the total bid.

The undersigned submits a bid bond pursuant to Section 34-201, Arizona Revised Statutes, payable to the City, equal to ten percent (10%) of the total amount of this proposal, and agrees that said bid bond shall be given as a guarantee that the Bidder will enter into the Contract within the time herein stated if the award is made to him by the City. In case of the Bidder's refusal or failure to do so within ten (10) days of Notice of the Award of Contract, or within five (5) days after receiving notice from the City of the rejection of any objections to the Notice of Award, the bond will be forfeited.

The Bidder grants the City the right to hold the lowest three (3) Proposals received, together with the accompanying bid securities, for a period of forty-five (45) days after the date of opening of said Proposals.

The undersigned Bidder further grants the City the right to award this Contract on the basis of any possible combinations of Base Bid and add/deduct alternate(s) (if any) that best suits the City's needs.

Bidder agrees that the City has determined that a reasonable time for the **WWRP Bar Screen Replacement Project** is the contract time stated in the Advertisement for Bids and issued addendum. The Bidder agrees that this proposal is submitted on this basis, subject to provisions contained in the Contract Documents relating to extensions of time, and agrees to plan and prosecute the work with such diligence that the work shall be completed within the time specified.

Bidder agrees that the bid includes the following items which have been completed in full by the Bidder:

- (a) Bid or Proposal
- (b) Bid Schedule

- (c) Bid Guaranty Bond
- (d) Certification of the Bidder's experience and qualifications and statement of Bidder's Qualifications
- (e) List of all proposed Subcontractors
- (f) Schedule of manufacturers and suppliers, major equipment and material items
- (g) Non-collusion Affidavit
- (h) Certificate of Insurability
- (i) Signed Addenda

Bidder agrees that the City assumes no responsibility for any understanding or representation made by any of its Council members, officers or agents during or prior to the bidding and execution of the Contract, unless (1) such understanding or representations are expressly stated in the Contract or Addenda thereto, or (2) the Contract expressly provides that responsibility therefore is assumed by the City, or (3) said understanding or representation is contained in the information supplied to Bidders by the City or the City Engineer, or as information distributed pursuant to the Information for and Instructions to Bidders. The Bidder further understands that only the Mayor and Council of the City through action taken at a properly noticed meeting, can waive any term or condition or requirement of this Contract or of the bid.

Bidder agrees that all terms set forth in the Information for and Instructions to Bidders as well as all other Contract Documents shall be binding upon the Bidder if a Notice of Award is issued in favor of said Bidder by the City.

Bidder agrees that all major equipment and suppliers shall be set forth herein on the attached "Schedule of Manufacturers and Suppliers, Major Equipment and Material Items",

Bidder understands that this project is to be constructed in compliance with all City, State and Federal laws, rules and regulations, which are applicable to the project and the Contractor and all work performed hereunder.

In making this proposal, the undersigned incorporates and acknowledges all definitions set forth in the Contract Documents.

The undersigned hereby submits this proposal and the accompanying Bid Schedule as its proposal to construct the improvements described in the Contract Documents.

The name and location of the place of business of each Subcontractor who will perform work or labor or render service to the general Contractor in or about the construction of the work or improvements in an amount in excess of one and one-half percent (1.5%) of the general Contractor's total Bid, and the portion of the work which will be done by each Subcontractor is set forth in the Proposed Subcontractor list attached hereto.

Bidder has received all Addenda before submission of Bid, and has examined the same and has included them in the Contract Documents prior to submitting the Bid and has submitted the Bid based upon them.

The Bonding company which will supply the required Performance and Payment bond is:

Bid Schedule

City of Sedona – WWRP Bar Screen Replacement Project.

Project # 2016-PW02

ITEM NO.	ITEM DESCRIPTION	QTY	UNIT	UNIT PRICE	EXTENDED TOTAL
BASE BID – ALL ITEMS (PER SPECIFICATION 33 35 11.01 OR 33 35 12.01)					
1	MOBILIZATION	1	LS		
2	BAR SCREENS – EQUIPMENT & INSTALLATION	1	LS		
3	EI&C FOR BAR SCREENS	1	LS		
4	SCADA COMMUNICATIONS/ PROGRAMMING FOR BAR SCREENS	1	LS		
TOTAL BASE BID					
BID ALTERNATE A – WASHER COMPACTOR (PER SPECIFICATION 33 35 11.02 OR 33 35 12.02)					
5	WASHER COMPACTOR – EQUIPMENT & INSTALLATION	1	LS		
6	EI&C FOR WASHER COMPACTOR	1	LS		
7	SCADA COMMUNICATIONS/ PROGRAMMING FOR WASHER COMPACTOR	1	LS		
TOTAL BID ALTERNATE A					
BID ALTERNATE B – ADDITIONAL CONTROL PANEL (PER SPECIFICATION 33 35 11.01.2.03.2.2 OR 33 35 12.01.2.02.5.2)					
8	ADDITIONAL CONTROL PANEL Provide & install 1 additional control panel including EI&C and SCADA communications/ programming	1	LS		
TOTAL BID ALTERNATE B					
CIP: COMPLETE IN PLACE					
Owner reserves the right to vary the quantities shown at their discretion. The contractor will accept the quantities if no corrections are made at the conclusion of the pre-bid meeting. All facilities incidental to the item are included in the unit price estimate. Bid Prices submitted include all local, state and federal taxes.					

UNIT PRICES SHALL BE USED WHEN EXTENSION OF UNIT PRICES AND TOTAL AMOUNT CONFLICT. WRITTEN UNIT PRICES SHALL BE USED WHEN WRITTEN AND NUMERICAL UNIT PRICES CONFLICT. BID PRICES SUBMITTED INCLUDE ALL LOCAL, STATE AND FEDERAL TAXES.

The City of Sedona reserves the right to reject all bids, or to award only the base bid, or to award a bid based upon the total of the Base Bid plus additive alternate(s) as selected for award from the additive alternate bid schedule, if additive alternate bid schedule is applicable.

The undersigned is licensed in accordance with the Laws of the State of Arizona:

License Number _____ Class _____

NOW: In compliance with the Notice Inviting Bids and all the provisions hereinbefore and after stipulated, the undersigned, with full cognizance thereof, hereby proposes to perform the Work for the prices set forth in the preceding Schedule(s) upon which award of contract is made.

Individual Contractor Name: _____
Address: _____

Partnership Name: _____
Business Address: _____
By: _____, Partner
Other Partners: _____

Corporation Name: _____
Business Address: _____
By: _____, President
_____, Secretary

Organized under the Laws of the State of _____

Date: _____ Contractor: _____

(SEAL) By: _____

The undersigned Bidder acknowledges receipt of the following addendum:

Addendum #	Dated	Initial
_____	_____	_____
_____	_____	_____

Signature of Bidder

PROPOSED SUBCONTRACTORS

The following information gives the name, business address, and portion of work (description of work to be done) for each Subcontractor that will be used in the work if the Bidder is awarded the Contract. No Subcontractor doing work in excess of one and one-half percent (1.5%) of the total amount of the bid and who is not listed shall be used without the written approval of the City, which shall not be unreasonably withheld. (Additional supporting data may be attached to this page. Each page shall be sequentially numbered and headed "Proposed Subcontractors" and shall be signed.) Substitutions of Subcontractors may be made by the Bidder as long as all Subcontractors used meet all requirements for all Subcontractors and all subcontract agreements meet all requirements set forth in the Contract Documents. The total value of subcontracted work shall not exceed sixty-five percent (65%) of the contract work as bid. The Bidder shall perform 35% or more of the contract work using Bidder's organization, unless stated otherwise in the specifications. **The subcontractor shall have the license required for the work performed. The subcontractor will be required to have a current City of Sedona Business License for the duration of the contract.**

Subcontractor Name	Business Address	Description of Work

Signature of Bidder

SCHEDULE OF MANUFACTURERS AND SUPPLIERS; MAJOR EQUIPMENT AND MATERIAL ITEMS

The Bidder proposes that the named items of major equipment and materials required for work will be supplied by the manufacturers or suppliers set forth below as written in by the Bidder. Substitutions will be allowed in accordance with the Contract Documents:

<u>Item</u>	<u>Manufacturer or Supplier</u>

WORKMEN'S COMPENSATION INSURANCE
CERTIFICATE

I am aware of the provisions of Arizona Law, which require every employer to be insured against liability for workmen's compensation in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the Work of this Contract.

Date: _____

By: _____

NON-COLLUSION AFFIDAVIT

(Continued)

Name of Business

By

Title

Subscribed and sworn to before me this _____ day of _____, 2016.

My Commission expires: _____

(Notary Public)

STATEMENT OF BIDDER'S QUALIFICATIONS

If bidder is a corporation, answer the following:

- (a) Date of incorporation; _____
- (b) State of incorporation; _____
- (c) President's name; _____
- (d) Vice President's name(s); _____
- (e) Secretary's or Clerk's name; _____
- (f) Treasurer's name; _____

If bidder is a partnership, answer the following:

- (a) Date of organization _____
- (b) Name and address of all partners. State whether it is a general or limited partnership: _____

If other than a corporation or partnership, describe the organization and name principals:

Major Types of Work Done by Company: _____

Principal Office: _____

Telephone Number: _____

Contractor's Bank and Local Contact: _____

EXPERIENCE QUESTIONNAIRE

1. How many years has your organization been in business as a contractor under your present business name?

2. How many years' experience in the proposed type and size of construction work has your organization had:

(a) As a general contractor? _____

(b) As a subcontractor? _____

3. Are you licensed as a General Engineering contractor, or any other title?

If "yes", in what city, county and state? _____

What class license and number? _____

4. List the most recent projects your organization has had in construction of work similar in type and size to the work proposed herein:

<u>Contract Amount</u>	<u>Class of Work</u>	<u>When Completed</u>	<u>Name, Address and Telephone No. of City</u>
------------------------	----------------------	-----------------------	--

5. Has any construction contract to which you have been a party been terminated by the owner; have you ever terminated work on a project prior to its completion for any reason; has any surety which issued a performance bond on your behalf ever completed the work in its own name or financed such completion on your behalf; has any surety extended any monies in connection with the contract for which they furnished a bond

on your behalf? If the answer to any portion of this question is “yes”, please furnish details of all such occurrences including the name of the owner, architect or engineer, and surety, name and date of project.

- YES NO

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

- YES NO

7. What is the experience of construction at a wastewater treatment plant of the principal individuals of your organization?

Individual's Name	Yrs Exp with this Company	Present Position or Office	Years of Construction Experience	Magnitude & Type of Work	In What Capacity

8. How many treatment process upgrade projects, has your company, or the sub-contractor responsible for this work, completed in the past 10-years? (This does not include an individual’s experience, separate from the company’s experience; an individual’s experience should be listed in their resume, if provided. **List a minimum of 6 projects.**)

NO.	Project Name	Owner	Contact	Contact Phone	Amount
1					
2					
3					

4					
5					
6					

9. How many projects has your company, or the sub-contractor responsible for this work, completed in the past 10-years in which electrical and communication integration were required without single line drawings or P&ID? (This does not include an individual's experience, separate from the company's experience; an individual's experience should be listed in their resume, if provided. **List a minimum of 6 projects.**)

NO.	Project Name	Owner	Contact	Contact Phone	Amount
1					
2					
3					
4					
5					
6					

10. How many municipal projects, has your company completed in the past 10-years? (This does not include an individual's experience, separate from the company's experience; an individual's experience should be listed in their resume, if provided. **List a minimum of 6 projects.**)

NO.	Project Name	Owner	Contact	Contact Phone	Amount
1					
2					
3					
4					
5					
6					



Public Works Department

102 Roadrunner Drive Sedona, AZ 86336
(928) 204-7111 • Fax: (928) 282-5348

PAST PERFORMANCE QUESTIONNAIRE

To: _____

Phone: _____

Email: _____

Subject: Past Performance Survey of :

_____ *Name of Company Being Surveyed*

_____ *Name of Key Personnel*

The City of Sedona collects past performance information (on firms and key personnel) to assist in procuring/awarding projects based on value. The firm/individual listed above is requesting reference for a past project they have completed. It would greatly be appreciated if you would take a few moments to complete the survey and return it to the City of Sedona.

Rate each of the criteria on a scale of 1 to 10, with 10 representing that you were very satisfied (and would hire the firm/individual again) and 1 representing that you were very unsatisfied (and would never hire the firm/individual again). Please rate each of the criteria to the best of your knowledge. If you do not have sufficient knowledge of past performance in a particular area, please leave it blank.

Client Name: _____

Date Completed: _____

Project Name: _____

No.	CRITERIA	UNIT	RATING
1	Ability to meet customer expectations for quality of work performed	(1-10)	
2	Ability to manage costs	(1-10)	
3	Ability to maintain project schedule	(1-10)	
4	Comfort level in hiring the firm / individual again	(1-10)	
5	Leadership ability of personnel assigned to the project	(1-10)	
6	Ability to Communicate Effectively	(1-10)	

Printed Name of Evaluator

Signature of Evaluator

Thank you for your time and effort in assisting the City of Sedona in this important endeavor.

Please email or mail the completed survey by May 31, 2016 to:

Rholland@sedonaaz.gov or

Attn: Roxanne Holland

City of Sedona, Public Works

102 Roadrunner Drive

Sedona, AZ 86336

CONTRACTOR'S FINANCIAL STATEMENT

1. Submit the most recent financial statements, including the Balance Sheet, Income Statement, sources and uses of funds, notes to the financial statement, and the auditor's opinion, that cover the most recent twelve (12) month period. These statements must have been audited by a Certified Public Accountant. However, if the prospective bidder has previously performed satisfactory work according to the City of Sedona's Engineering Department, unaudited financial statements may be allowed.

Financial statements must be submitted on an accrual basis, in a form which clearly indicates the bidder's assets, liabilities, and net worth.

2. Also submit the most recent unaudited financial statements subsequent to number 1 above.

(Financial statements shall be required of and submitted by the apparent low bidder within two (2) days after the bid opening)

CERTIFICATE OF INSURABILITY

I hereby certify that as Bidder to the City of Sedona, Arizona, _____project, I am fully aware of the requirements of the City insurance requirements for contractors and that by submitting this bid proposal, assure the City that I am able to produce the required minimum insurance coverage should I be selected to be the successful Bidder.

Should I be selected to be the successful Bidder and then become unable to produce the insurance coverage within ten (10) days of receipt of the Notice of Award, I understand that my bid will be rejected and that I will forfeit my bid bond.

BY: _____ Date _____

Title: _____

SPECIAL CONDITIONS

General

Work shall be in accordance with Uniform Standard Specifications for Public Works Construction, distributed by Maricopa Association of Governments, 2012 edition (MAG), except to the extent that these specifications specify other procedures, processes, forms, materials, details, or other direction regarding the work, and as required to comply with local ordinances and regulations.

Whenever the term County is used it shall be held to mean the City of Sedona. Whenever the term County Engineer is used it shall be held to refer to the City Engineer.

Electrical work shall be subject to inspection by the City of Sedona Building Safety Division and compliance with its requirements.

General Provisions

The General Conditions and Specifications shall be considered as immediately following the Special Conditions in Order of Precedence and are part of the Contract documents.

1. Start of Construction

Construction shall not begin until the Contractor has at a minimum provided the following:

- The Storm Water Pollution Control Plan provisions are in place per the SWPPP in the Civil Plans
- The contractor shall have a City of Sedona NOI for storm water pollution prevention
- Equipment Rate Submittal as required by Section 47.D.3 of the General Conditions
- A complete project schedule as required by the General Conditions and Section 2 of the Special Conditions

This provision shall not require that the City of Sedona refrain from issuing a notice to proceed or require an extension of time to accommodate Contractor compliance with it.

2. Submittals

In addition to the submittals called for in the Technical Specifications and General Conditions, additional submittals are required for the following items: bar screen, washer/compactor, electrical panels, electrical wiring, arc flash study/labels, and equipment rental rates for all equipment to be utilized for the project (as required by Section 47.D.3 of the General Conditions).

3. Various items of Work

The Contractor shall provide the City reasonable and timely notice in writing prior to exceeding quantities established in the Bid Schedule. Failure to notify the City in a timely manner prior to exceeding the contractual quantities identified in the Bid Schedule shall be sufficient reason for the City to deny such claim.

Roadway specifications shall conform (or comport with City Code Sections...) to City Code Sections 12.05.110 and 12.05.120.

Clearing and grubbing shall be subject to MAG specification Section 201 and full compensation shall be considered as provided in bid item "Mobilization". No separate payment shall be made for trees.

It is the contractor's responsibility to comply with the ADA, specifically the requirements of ADAAG, even if the project plans show an item to not meet the requirements of ADAAG.

The City of Sedona reserves the right to request a schedule of values for any of the lump sum bid items.

All guarantees shall be per Section 51 of the General Conditions.

If it is determined that import or export of earthen material in excess of 40 cubic yards (combined total) is needed, a Haul Plan shall be provided to the City Engineer. At least 5 city working days prior to the placement of fill or excavated material from a grading project within the city on other properties located within the city, Engineering Services shall be notified in writing of the intent to place the material on other property. This requirement shall apply when the total amount of material placed on other properties within the city exceeds 40 cubic yards or if the other property on which the fill is to be placed is located within 0.75 miles of Oak Creek, or lies within a city designated flood plain. The City Engineer may approve or deny permission to place such material.

The contractor shall provide copies of all required testing to Engineering Services.

The City reserves the right to require that payment requests be submitted in a format it approves.

The City may require information as necessary to verify proper work eligibility of persons, subcontractor, or others providing labor, equipment, material or services to this project. This may include but is not limited to social security numbers, driver's license numbers, and evidence of age or citizenship.

4. Permits

The Contractor shall be responsible for obtaining permits bearing on the work and adhere to

provisions of said permits.

5. Utility Relocation

It shall be the responsibility of the Contractor to arrange and coordinate the relocation of any utilities found to be in conflict with the work. Utility relocation costs not identified as a bid item in the contract will be the City's responsibility.

6. Local Drainage

The Contractor shall reconstruct roadways, driveways, sidewalks, ditches and other surfaces at elevations that will ensure the drainage is improved or unchanged from the existing pre-construction conditions.

The Contractor shall manage any upstream flows during construction to maintain continuous conveyance and historic flow patterns through the project area.

7. Required Inspection

Work requiring inspection includes the following: testing, asphalt preparation and placement, cleanup, rebar inspection, traffic control setup and removal, trench bedding placement and backfill compaction, pipe placement, and concrete formwork prior to pouring concrete.

8. Project Progress Payments

Payment of up to 50% of the cost of bar screen equipment shall be made, upon request of the Contractor, pursuant to the requirements in General Condition Section 31.C. Approval of the payment will be subject to an approved equipment submittal and proof of order.

9. Subcontractors

General Conditions Section 13.C shall be revised to allow subcontractors to collectively perform no more than sixty-five percent (65%) of the value of the total work required. The Contractor shall self-perform thirty-five percent (35%) of the total contract work.

NOTICE OF AWARD

Date

Contractor Name.
Street or PO Box
City, State Zip

SUBJECT: NOTICE OF AWARD – WWRP BAR SCREEN REPLACEMENT PROJECT

The City of Sedona, having duly considered the bid submitted on _____, 2016 for the City of Sedona _____ as outlined in the Contract Documents and detailed on the drawings, and it appearing that your proposal for performing the work is fair, equitable, and in the City’s best interest, and the bid includes price for work in the bid schedule in the estimated total amount of \$ _____ said bid is hereby accepted at the prices contained therein, and in accordance with all provisions set forth in the Contract Documents.

In accordance with the terms of the Contract Documents, you are required to execute the formal Contract and furnish the required Performance and Payment Bonds within ten (10) consecutive calendar days from and including the date of receipt of this Notice.

In addition, you are requested to furnish at the same time, the required Owner's protective liability and property damage insurance policy, and certificates of insurance in triplicate evidencing compliance with the other requirements for insurance stated in the Contract Documents. Your certificates of insurance shall be accompanied by a letter from your insurance company stating that the insurance certificate meets the entire requirements of the specifications, or shall state and describe specific exclusions.

The Bid Bond submitted with your proposal will be retained until the Contract has been executed and the required Performance and Payment Bonds have been furnished and approved. In the event that you should fail to execute the Contract or furnish the Performance and Payment Bonds within the time limit specified, the City, at its discretion, may cash the Bid Bond and proceed with steps that are in the City's best interest.

RECEIVED AND ACCEPTED:

CITY OF SEDONA, ARIZONA

Contractor

Sincerely,

By:

Name: _____

Date: _____

J. Andy Dickey, P.E.

Enclosures (3) contracts

Director of Public Works/City Engineer

CM/ms

cc: City Manager

NOTICE TO PROCEED

Date

Contractor Name.
Street or PO Box
City, State Zip

Attention:

Subject: **NOTICE TO PROCEED - WWRP BAR SCREEN REPLACEMENT PROJECT**

You are hereby authorized to proceed with work effective _____, 2016 and fully complete all work within _____ consecutive days from this date. The completion date for this Project is therefore _____, 2016. Liquidated damages of \$ **430 per day** are applicable for each day past _____, 2016 for which work on this Project is not complete, unless an adjustment is authorized by a change order. Please acknowledge your receipt of this letter and agreement with the terms stated by signing in the space provided and returning to the City for our files.

CITY OF SEDONA, ARIZONA

BY: _____
J. Andy Dickey, P.E.
Director of Public Works/City Engineer

Date: _____

Receipt
Acknowledged

By: _____

Date: _____



Public Works Department
 102 Roadrunner Drive Sedona, AZ 86336
 (928) 204-7111 • Fax: (928) 282-5348

Change Order

This change order is not effective unless signed by the City Manager of the City of Sedona or his properly designated representative. Section 47 of the Contract General Conditions shall apply.

THIS CHANGE ORDER CONSTITUTES FULL, FINAL AND COMPLETE COMPENSATION TO THE CONTRACTOR FOR ALL COSTS, EXPENSES, OVERHEAD, PROFIT, AND ANY DAMAGES OF EVERY KIND THAT THE CONTRACTOR MAY INCUR IN CONNECTION WITH THE WORK DESCRIBED IN THIS CHANGE ORDER, INCLUDING ANY IMPACT ON THE DESCRIBED WORK OR ON ANY OTHER WORK UNDER THE CONTRACT, ANY CHANGES IN THE SEQUENCES OF ANY WORK, ANY DELAY TO ANY WORK, ANY DISRUPTION OF ANY WORK, ANY RESCHEDULING OF ANY WORK, AND ANY OTHER EFFECT ON ANY OF THE WORK UNDER THIS CONTRACT. BY THE EXECUTION OF THIS CHANGE ORDER, THE CONTRACTOR ACCEPTS THE CONTRACT PRICE CHANGE AND THE CONTRACT COMPLETION DATE CHANGE, IF ANY, AND EXPRESSLY WAIVES ANY CLAIMS FOR ANY ADDITIONAL COMPENSATION, DAMAGES OR TIME EXTENSIONS, IN CONNECTION WITH THE DESCRIBED WORK.

CHANGE ORDER NUMBER	DATE:
PROJECT:	WWRP BAR SCREEN REPLACEMENT PROJECT
CONTRACTOR NAME:	
REASON FOR CHANGE:	

Plan Sheet #'s affected by this change:

Specification Sections upon which Change Order is based: GC 47-49

Change requested by (check one): City Contractor Both

Contract time adjustment: Calendar Days

This contract change order increases the maximum estimated contract compensation per GC Section 47 contract adjustment as follows:
 decreases the maximum estimated contract compensation per GC Section 47 contract adjustment as follows:

\$0.00	+ \$0.00	+ \$0.00	+ \$0.00	= \$0.00
Method A	+ Method B	+ Method C	+ Method D	= Total Cost Adjustment
Contract Compensation:			Contract Time:	
Original Contract Amount		\$0.00	Original Contract Time (days)	250
This Change Order		\$0.00	This Change Order (days)	0
All Previous Change Orders		\$0.00	All Previous Change Orders (days)	
Total Maximum Compensation		\$0.00	Total Maximum Contract Time (days)	250

CONTRACTOR ACCEPTANCE	CITY OF SEDONA - PUBLIC WORKS DEPT. APPROVED
BY: _____	BY: _____
DATE: _____	DATE: _____

CITY OF SEDONA - CITY MANAGER APPROVAL

BY: _____

DATE: _____

Attach a more complete description of the change and supporting documentation to this form.

TECHNICAL SPECIFICATIONS
for
City of Sedona
Wastewater Reclamation Plant
Bar Screen Replacement
2016-PW02

May 18, 2016

SWI # 15132

Prepared For:
Ms. Roxanne Holland, Associate Engineer
Sedona, Public Works
102 Roadrunner Drive
Sedona, AZ 86336
(928) 203-5069

Prepared By:
David M. Monihan Jr., PE, RLS
Shephard - Wesnitzer, Inc.



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SEDONA

COTTONWOOD

FLAGSTAFF

PRESCOTT

KINGMAN

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PROJECT DESCRIPTION

The City of Sedona Wastewater Reclamation Plant (WWRP) currently uses two Parkson Aqua Guard mechanical screens for preliminary treatment of influent. There is one screen for each of the two channels at the headworks. The two channels merge into one channel downstream of the screens before the Parshall flume and grit removal components of the WWRP. One screen was installed in 1992 and one in 1999. They have provided adequate service. However, as time has passed it has been harder to get replacement parts, therefore the City of Sedona would like to replace the screens with new screens that use current equipment, materials and technology.

The screenings currently drop into a modified garbage container that is picked up by the local garbage collection service for disposal at a sanitary landfill. The disposal aspect is fairly straight forward but could be improved upon. Washer compactors are being considered. The city has recently transitioned from Waste Management to Patriot for garbage collection services in July 2016.

The Sedona WWRP was originally constructed based upon plans by Engineering Science dated 1990. A full set of plans is available but not the project specifications. The following sheets are included as part of the contract documents:

- Headworks – Plan & Sections, Sheet M-1.1
- Headworks – Plans, Sheet S-1.1
- Headworks – Section and Details, Sheet S-1.2

The Sedona WWRP was upgraded based upon plans by CH2M Hill dated 1999. A full set of plans is available but not the project specifications. The following sheets are included as part of the contract documents:

- Influent Channel – Bar Screens Plan & Section, Sheet 1-M-1
- Preliminary Treatment System, Sheet 13-I-3.

Technical specifications are provided for two manufacturers: Hydro-Dyne Engineering and Vulcan Industries, Inc. The contractor may select either manufacturer. The screen and the washer compactor must be from the same manufacturer.

Refer to the bid documents for details on bidding the project. These technical specifications provide for a base bid of a screen with ½ inch (12 mm) bar spacing without washer compactor units. The screenings will drop into the existing garbage collection container. They provide for an alternate bid of a screen with ¼ inch (6mm) bar spacing with a washer compactor unit(s) that will then drop the washed and compacted screenings into the existing garbage collection container.

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SECTION 33 35 11.01
SCREEN (HYDRO-DYNE)

PART 1 GENERAL

1.01 SUMMARY

- 1.01.1 The contractor shall furnish labor, materials, equipment and other necessary items required to construct a complete coarse screening system as specified herein.
- 1.01.2 The contractor shall include the design of modifications to the existing electrical system to provide adequate electrical service to the screens. This will include an update Arc Flash Study and associated re-labeling. The contractor shall furnish labor, materials, equipment and other necessary items required to construct those electrical system modifications.
- 1.01.3 The contractor shall include the connection of the new screening system to the existing SCADA system. The contractor shall furnish labor, materials, equipment and other necessary items required to integrate the systems.
- 1.01.4 The contractor shall include the connection of existing water lines to the new screening system. The contractor shall furnish labor, materials, equipment and other necessary items required to connect the water system to the screens. (The existing screen does not have a connection to the water system but one is nearby.)
- 1.01.5 The contractor shall include a connection that will carry all wash water from the screens back into the influent flow channel. The contractor shall furnish labor, materials, equipment and other necessary items required to carry the wash water back to the influent channel. (The existing screen does not have a connection for drainage back to the influent channel.)

1.02 RELATED REQUIREMENTS

- 1.02.1 The work shall be performed in accordance with the following standard specifications and codes as amended by the City of Sedona:
- Maricopa Association of Governments, “Uniform Standard Specifications for Public Works Construction”, 2016 edition (MAG Specifications);
 - Maricopa Association of Governments, “Uniform Standard Details for Public Works Construction”, 2016 edition (MAG Details);
 - “City Code, Amendments to MAG Specifications, 7-15-11 and 12”,
 - “International Building Code” (IBC) 2006,
 - “International Plumbing Code” (IPC) 2006,
 - “International Mechanical Code” (IMC) 2006,
 - “National Electric Code” (NEC), 2005;
- 1.02.2 The properties of all materials, design, fabrication and performance of the equipment to be furnished under this section shall be in accordance with the latest issue of applicable standard specifications. The governing authorities of these standards are listed below.

- AFBMA, American Federation of Bearing Manufacturers Association
- AGMA, American Gear Manufacturers Association
- AICS, American Institute of Steel Construction
- AISI American Iron and Steel Institute
- ANSI, American National Standards Institute
- ASCE, American Society of Civil Engineers
- ASME, American Society of Mechanical Engineers
- ASTM, American Society of Testing and Materials
- AWS, American Welding Society
- IBC, International Building Code
- IEC, International Electric Code
- IEEE, Institute of Electrical and Electronics Engineers
- NEC, National Electrical Code
- NEMA, National Electrical Manufacturers Association
- SSPC, Steel Structures Painting Council, American National Standards Institute
- Underwriters Laboratory (UL)

1.03 SUBMITTALS

The submittal shall be provided to the engineer that includes all the following information:

- 1.03.1 Compliance Statement: Listing each Specification Section stating compliance with the Specifications, each minor nonconformity that is within the intent of the Specification and proposed nonconformities. Provide short descriptions of minor nonconformities, and detailed explanation and drawings of other nonconformities.
- 1.03.2 Certified shop drawings showing all important details of construction, dimensions and anchor bolt locations.
- 1.03.3 Descriptive literature, bulletins, and catalogs of the equipment.
- 1.03.4 Schematic electrical wiring diagram and electrical controls information for the equipment.
- 1.03.5 Complete motor and drive data including lubrication requirements.
- 1.03.6 The total weight of the equipment.
- 1.03.7 A complete bill of materials of all equipment.
- 1.03.8 Electrical plans coordinated with the existing electrical system sealed by an electrical engineer. This will include an updated Arc Flash Study.
- 1.03.9 SCADA plans coordinated with the existing SCADA system.
- 1.03.10 Plumbing plan to show the connection of the existing water system to the new screens and the connection of the drains from the new screen back to the influent channel.

1.04 OPERATION AND MAINTENANCE MANUALS

Submit operations and maintenance manuals in three ring binders for the equipment in compliance with the Contract documents, 30 days prior to shipment. Manuals shall include:

- 1.04.1 Contact name, address, and telephone number of the equipment manufacturer's Service Department and Parts Department.
- 1.04.2 Descriptive literature, including illustrations, covering the operational features of the equipment, specific for the particular installation, with all inapplicable information omitted or marked out.
- 1.04.3 Operating, maintenance and troubleshooting information.
- 1.04.4 Complete maintenance parts list.
- 1.04.5 Complete connection, interconnecting and assembly diagrams.
- 1.04.6 Approved shop drawings including complete electrical information.

1.05 QUALIFICATIONS

- 1.05.1 All the equipment specified under this Section shall be supplied by a single manufacturer involved in the manufacture of the screening equipment. Qualified manufacturers shall have a minimum of ten (10) years' experience with wastewater screening systems, specifically including through flow continuous belt screens and Washer Compactors, for consideration.
- 1.05.2 If equipment is not manufactured by supplier, including welding and machining, the name and contact information of manufacturing facility must be supplied. If more than one manufacturer is used all companies and facilities must be provided.
- 1.05.3 If patents protecting equipment are not owned by supplier then an affidavit must be supplied stating owner of design and expiration of licensing agreement.

1.06 DESIGN REQUIREMENTS

- 1.06.1 System Description:
 - 1.06.1.1 The screen will have a continuous stainless steel belt that automatically rotates within the internal guide system of the static frame.
 - 1.06.1.2 The screen herein specified will be of the straight through type that will present a clean screening grid to the influent flow at all times.
 - 1.06.1.3 The solids will collect as a mat on the front face of the continuous belt. The belt will intermittently rotate and elevate the solids to the discharge point. Larger objects will be picked up by a series of hooks.
 - 1.06.1.4 The solids will be automatically removed at the top of the screen into an internal hopper and be fed to the screening handling system.

- 1.06.1.5 The continuous belt will be directly driven by drive sprockets that shall support and rotate the grid assembly.
- 1.06.1.6 The screen will be totally enclosed and have access covers that will be lightweight and easily removable for maintenance.
- 1.06.1.7 All stainless steel (including frame, grid, and drive components) mentioned below as stainless steel shall be T316 stainless steel. All hardware shall be T316 stainless steel.
- 1.06.1.8 The system is located in Sedona, AZ at an elevation of 4,100 feet. All components shall be suitable for that location and elevation.
- 1.06.1.9 The power supply for the existing screens is 480 volt, 3 phase. The appropriate motor or transformer will need to be provided.

1.06.2 Design Flow:

Peak flow	6.4 mgd
Average flow	2.0 mgd

1.06.3 Channel Configuration:

Channel width	1.5 feet	(18 inches)
Channel depth	6.0 feet	(72 inches)
Maximum Influent Depth	4.0 feet	(48 inches)

1.06.4 Bar Screen:

Number of screens	2	
Angle of Screen	75°	
Screen grid opening (Base Bid)	0.5 inch	(12 mm)
Screen grid opening (Alternate Bid)	0.25 inch	(6 mm)
Min. Structural design differential of frame/grid at 100% blinding	4.0 feet	(48 inches)
Min. Drive design differential (operating)	4.0 feet	(48 inches)
Discharge height above grade (base bid)	5.0 feet	(60 inches)
(Discharge Height above grade for the alternate bid is to be coordinated with the washer compactor included in the alternate bid.)		

1.06.5 Performance:

The bar screens shall each be designed to meet the following design parameters at the full design flow (with the other screen not operating):

Maximum head loss at 30% blinding	12 inches
-----------------------------------	-----------

1.06.6 Washer Compactor:

The washing and compacting system will be designed to meet the following design parameters:

Number of Washing Compactors	1
Diameter of screw	8 inches
Diameter of shaft	2.375 inches
Compactor discharge height above grade	5.00 feet (60 inches)

System wash water requirements	18 gpm @ 40 psi
Existing Loading from 0.5 inch bar spacing	10.9 cf (1.7 cf per mgd)

(The loading shall be adequate for the increase expected from the 0.25 inch bar spacing specified for the screen.)

PART 2 PRODUCTS

2.01 MANUFACTURER

2.01.1 The equipment shall be the Continuous Belt through Flow Screen (Bull Shark) as provided by Hydro-Dyne Engineering, Inc., Clearwater, FL. Other than the named supplier, all manufacturers proposing equipment described herein, will provide a detailed submittal package that demonstrates full compliance with the specifications.

2.01.2 If submitted equipment requires arrangement differing from that specified, prepare and submit for review complete structural, mechanical, and electrical drawings and equipment lists showing all necessary changes and embodying all special features of equipment proposed. Any changes are at no additional compensation and the Manufacturer will be responsible for all engineering costs of redesign by the Engineer, if necessary.

2.02 SCREEN

2.02.1 Laced Link Grid

2.02.1.1 The screenings belt will consist of heavy duty stainless steel (T316) laced links connected in parallel and separated by Delrin spacers to maintain specified opening. Each laced link hook element shall be fabricated from 12 gauge (minimum) stainless steel. Each straight element shall be fabricated from 14 gauge (minimum) stainless steel. All elements shall be a minimum of 1 inch wide forming a slotted opening of the specified width and minimum 1 inch deep in the direction of flow. Hooks on elements shall form horizontal lifting trays or shelves for removing large solids and rags every 8 inches.

2.02.1.2 Links, hooks and screening lifting members must be manufactured out of stainless steel (T316). Plastic is not acceptable.

2.02.1.3 The stainless steel (T316) laced links will be connected by heavy duty stainless steel axles every 8 inches to form a continuous belt that will rotate within the frame's guide system. Axle diameter shall be a minimum 5/8 inch. The axle design will allow the row of laced links to pivot. The links shall support the screening grid and bear tension loads across the entire width and length of the screen belt.

2.02.1.4 The axles will be extended to fix a UHMWPE guide link to the side of each row of laced link elements. These guides will interlock to create a continuous guide link system that will slide within the frame.

2.02.1.5 The heavy duty guide links will be minimum 2 inches thick to protect against undue wear from grit and will be specially machined to form a closure seal between the rotating belt and the static frame.

- 2.02.1.6 The seal shall be continuous from grade level through the water flow forming an uninterrupted closure between the traveling screen grid and the stationary frame. The seal shall be fixed to the screen frame and be adjustable so that it will remain in contact with the rotating screen belt at all times.
 - 2.02.1.7 Guide systems that use rollers, stainless or hardened steel chains will not be acceptable.
 - 2.02.1.8 Grid sealing systems that use neoprene seals or stainless steel hinges will not be acceptable.
 - 2.02.1.9 Grid to frame sealing systems that use adjustable UHMWPE strips attached to the frame will not be acceptable.
 - 2.02.1.10 The bottom of the grid shall be sealed with a replaceable front lower seal brush with a stainless steel holder and polypropylene bristles.
 - 2.02.1.11 Intermittent stainless steel laced link elements that form sharp hooks will be regularly placed along the face of each row of the grid to effectively remove larger particles.
- 2.02.2 Frame
- 2.02.2.1 The continuous belt will rotate within a heavy duty stainless steel static support frame that shall stand at a 75 degree angle in the channel.
 - 2.02.2.2 The screen will not be fixed within the channel to allow the entire machine, including screen grid, to pivot/lift out of the channel for repair or bypass. All routine maintenance will be achieved without removing the screen from the channel and shall be performed at grade level.
 - 2.02.2.3 The guide link system will travel around a guide wear track that is integral to the support frame.
 - 2.02.2.4 The design will ensure that the support frame meshes with the closure seal on each guide link to prevent passage of screening material and grit particles.
 - 2.02.2.5 The frame shall accommodate stainless steel protective covers designed to prevent leakage and contain spray wash. All access covers for maintenance will be lightweight and easily removable. Screens with covers requiring neoprene, rubber or plastic seals are not acceptable.
 - 2.02.2.6 The screen manufacturer will supply the stainless steel angled filler plates with neoprene seals to connect from the upstream corners of the support frame to the channel walls.
- 2.02.3 Offloading of Screenings
- 2.02.3.1 A stainless steel spray wash header will be located in the head space of the screen to offload the screenings from the continuous belt.
 - 2.02.3.2 The spray bar will incorporate brass nozzles at 2 inch spaces that can easily be replaced or removed for cleaning.

2.02.3.3 (Base Bid) The spray bar will be positioned behind the rotating belt and will backwash the solids into a discharge hopper manufactured from stainless steel (T316). The wash water will be used to continuously flush the screenings from this hopper into the screenings container with suitable drainage back to the influent channel.

2.02.3.4 (Alternate Bid) The spray bar will be positioned behind the rotating belt and will backwash the solids into a discharge hopper manufactured from stainless steel. The wash water will be used to continuously flush the screenings from this hopper into the extended sluice or directly into the Washer Compactor.

2.02.3.5 The addition of a mechanically rotating brush system to aid offloading will not be acceptable.

2.02.4 Drive Mechanism

2.02.4.1 Each screen will have a single 3/4 HP, inverter duty electric motor suitable for a 240/3/60 supply and rated for a Class 1 Div. 1 explosion proof environment. The motor will be TEFC NEMA rated. The motor will be located outside of the screen covers and above the top of the channel. Approved motor manufacturers include:

- Nord,
- US Motors/Emmerson,
- Baldor,
- Toshiba,
- GE, and
- Marathon.

2.02.4.2 The gear reducer shall be directly coupled to a heavy duty shaft machined from stainless steel.

2.02.4.3 Approved gearbox manufacturers include

- Faulk,
- Winsmith,
- Rexnord, and
- Dodge.

2.02.4.4 The continuous belt will be supported and rotated around heavy duty stainless steel sprockets located on the drive shaft in the head space of the screen.

2.02.4.5 These sprockets will have lugs that transmit torque directly from the gear reducer to notches on the underside of the UHMWPE guide links. Driving forces shall be transmitted to areas located behind the screen's grid to prevent solids from contacting drive surfaces.

2.02.4.6 Chain driven systems or screens with wheels submerged in the wastewater are not acceptable.

2.03 CONTROL PANEL

2.03.1 General Information

The manufacturer will supply one UL listed 508A stainless steel main control panel that shall automatically control the equipment offered in this section.

2.03.2 Main Control Panel

2.03.2.1 Base Bid: NEMA 4X stainless steel enclosure for a single panel that will control both screens including:

- Main lockout/disconnect switch
- Hand/Off/Auto switch for each screen and compactor
- Fused disconnect
- Recycle timer
- Hour run meter
- Control transformer
- Fuses and breakers
- Motor starter
- Motor overload sensor
- Panel power light
- Screen run/fault lights
- Washing Compactor run/fault lights
- Reset pushbutton
- Emergency stop pushbutton
- Variable frequency screen drive
- Allen Bradley PLC

2.03.2.2 Alternate Bid: Two panels that will each control one screen as described above in 2.03.2.1.

2.03.3 Ancillary Control Components

2.03.3.1 Ultrasonic differential level system consisting of the following per screen:

- NEMA 4X enclosure with viewing window
- Milltronics Hydro-Ranger 200 controller with real-time 4-20mA output
- Two (2) NEMA 7 transducers
- Programming remote

2.03.4 The screen rakes shall operate based upon timer settings and/or influent water level as per operator preferences.

2.03.5 SCADA system alarms shall include:

- Torque
- Motor Temperature (if available)
- Overload
- Power Failure
- High Level

2.04 SURFACE PREPARATION AND PAINTING

2.04.1 All stainless steel materials, including hardware, shall be acid passivated for quality control, removal of heat affected discoloration, surface treatment for corrosive environments and to provide a uniform finish to stainless surfaces.

2.04.2 All ferrous surfaces (except stainless steel) shall be coated with a pre-primer, primer, and an exterior top coating, or fusion bonded polyester coating suitable for humid/wet environments for superior corrosion protection.

2.04.3 Motor and gearbox shall be manufacturer's standard coating for humid/wet environments for superior corrosion protection.

2.05 SPARE PARTS

The manufacturer will supply the following spare parts, per screen supplied, with the equipment:

- Ten (10) hook links and elements spacers
- Two (2) grid axles
- Two (2) guide links
- One (1) brush for the screen

2.06 ACCESSORIES

The manufacturer will supply the following accessories, with the equipment:

- One (1) 1" explosion proof brass body solenoid valves
- One (1) 1.5" wash water strainers
- One (1) wash water pressure gauges
- One (1) freeze protection packages including thermostat in control panel, heat strips, insulation and stainless steel covers.

PART 3 EXECUTION

3.01 WARRANTY

3.01.1 The Manufacturer of the equipment supplied under this specification shall provide a warranty for a period of 2 years commencing on acceptance and/or beneficial occupancy by the Owner but no later than 6 months from the date of shipment by the Manufacturer. The Manufacturer shall guarantee that the equipment furnished is suitable for the purpose intended and free from defects in design, materials and workmanship. In the event that the equipment fails to perform as specified the Manufacturer shall, at his option, promptly repair, modify or replace the defective equipment.

3.02 FACTORY TESTING

3.02.1 The screening system and all components shall be factory assembled and tested for a minimum of 24 hours prior to shipment. The equipment shall be shipped fully assembled and shall be capable of being set in place and field erected by the Contractor with minimal field assembly.

3.02.2 During the factory test period the screening system shall be adjusted as required assuring proper operation on completion of the field installation. The Manufacturer shall supply a certification of the completion of the factory testing of the assembled screening system and appurtenances and shall certify as to the equipment being in satisfactory operating condition at time of shipment. The Engineer and/or Owner may, at their own option and expense, witness the factory test.

3.03 DELIVERY AND STORAGE

- 3.03.1 The screening system shall be appropriately crated and delivered to protect against damage during shipment.
- 3.03.2 An authorized representative of the Contractor shall inspect the screens on delivery to the jobsite and shall report any damage or missing components to the Manufacturer and the Engineer within 72 hours of receipt of the shipment.
- 3.03.3 The Contractor shall store and temporarily support equipment prior to installation in strict accordance with the Manufacturer's recommendations and instructions. Protect all exposed surfaces. Keep records of the storage parameters and the dates that storage procedures were performed. The Contractor shall be responsible for work, equipment, and materials until inspected, tested and finally accepted.
- 3.03.4 Protect the equipment from being contaminated by dust, dirt, vibration and moisture.
- 3.03.5 Temporarily connect equipment with built in motor space heaters to a power source and keep heaters in operation. Rotate all shafts that have bearings on at least a monthly basis.

3.04 INSTALLATION

- 3.04.1 The installation of the equipment shall be as indicated on the drawings and in strict accordance with the Manufacturer's instructions and recommendations.
- 3.04.2 The contractor shall coordinate with the utility staff to assure that the wastewater system remains fully operational at all times.
- 3.04.3 The contractor shall remove and dispose of the first existing screen while leaving the second existing screen in place and fully operational.
- 3.04.4 The first screen shall be completely installed, field tested, adjusted and commissioned while the existing screen in the second position remains fully operational. When the first screen has been operational for a period of at least 1 week, the owner may issue approval of that portion of the work.
- 3.04.5 With the approval of the first screen, then removal and disposal of the second screen may be started.
- 3.04.6 The second screen shall be completely installed, field tested, adjusted and commissioned while the first screen remains fully operational.

3.05 FIELD TESTS, ADJUSTMENTS AND COMMISSIONING

- 3.05.1 The equipment shall be shipped completely factory assembled. Contractor shall verify all access dimensions, channel dimensions, and any interior building dimensions to ensure equipment may be installed as a factory assembled units.

- 3.05.2 After completion of the installation, the equipment shall be inspected and certified by an authorized representative of the Manufacturer as being in compliance with the Manufacturer's recommendations and requirements. At such time as the Manufacturer has deemed the installation to be acceptable, the Manufacturer's authorized service representative shall make any required adjustments and shall start the equipment to assure proper operation.
- 3.05.3 The Manufacturer's authorized representative shall provide instruction to the plant personnel as to the operation and maintenance of the equipment including commissioning, shut down, on-line operations, lubrication and preventative maintenance.
- 3.05.4 Manufacturer shall state field service rates for a Service Engineer to Owner and Contractor. In the event that the field service time required by this section should not be sufficient to properly place the equipment into operation, and the requirement for additional time is beyond the manufacturer's responsibility, additional time shall be purchased by Contractor to correct deficiencies in installation, equipment, or material without additional cost to Owner.
- 3.05.5 The Contractor shall include in his bid, the cost of the above referenced authorized service representative for a minimum of three (3) eight hour days onsite to complete the certifications and training described in this specification section.
- 3.05.6 Each screen shall operate and perform properly for a minimum of 1 continuous week before commissioning is considered over.
- 3.05.7 Upon satisfactory completion of the one week commissioning period the contractor shall provide a written notice to the owner that the work is complete and ready for final inspection.

END OF SECTION

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SECTION 33 35 11.02

WASHER COMPACTOR (HYDRO-DYNE)

PART 1 GENERAL

1.01 SUMMARY

1.01.1 The contractor shall furnish labor, materials, equipment and other necessary items required to construct a complete washer compactor system as specified herein. This is not part of the base bid but is part of an alternate bid item.

1.01.2 The contractor shall include the design of modifications to the existing electrical system to provide adequate electrical service to the washer compactor. This will include an update Arc Flash Study and associated re-labeling. The contractor shall furnish labor, materials, equipment and other necessary items required to construct those electrical system modifications.

1.01.3 The contractor shall include the connection of the new washer compactor system to the existing SCADA system. The contractor shall furnish labor, materials, equipment and other necessary items required to integrate the systems.

1.01.4 The contractor shall include the connection of existing water lines to the new washer compactor system. The contractor shall furnish labor, materials, equipment and other necessary items required to connect the water system to the washer compactor. (The existing screen does not have a connection to the water system but one is nearby.)

1.01.5 The contractor shall include a connection that will carry all wash water from the washer compactor back into the influent flow channel. The contractor shall furnish labor, materials, equipment and other necessary items required to carry the wash water back to the influent channel. (The existing screen does not have a connection for drainage back to the influent channel.)

1.02 RELATED REQUIREMENTS

1.02.1 The work shall be performed in accordance with the following standard specifications and codes as amended by the City of Sedona:

- Maricopa Association of Governments, "Uniform Standard Specifications for Public Works Construction", 2016 edition (MAG Specifications);
- Maricopa Association of Governments, "Uniform Standard Details for Public Works Construction", 2016 edition (MAG Details);
- "City Code, Amendments to MAG Specifications, 7-15-11 and 12",
- "International Building Code" (IBC) 2006,
- "International Plumbing Code" (IPC) 2006,
- "International Mechanical Code" (IMC) 2006,
- "National Electric Code" (NEC), 2005;

1.02.2 The properties of all materials, design, fabrication and performance of the equipment to be furnished under this section shall be in accordance with the latest

issue of applicable standard specifications. The governing authorities of these standards are listed below.

- AFBMA, American Federation of Bearing Manufacturers Association
- AGMA, American Gear Manufacturers Association
- AICS, American Institute of Steel Construction
- AISI American Iron and Steel Institute
- ANSI, American National Standards Institute
- ASCE, American Society of Civil Engineers
- ASME, American Society of Mechanical Engineers
- ASTM, American Society of Testing and Materials
- AWS, American Welding Society
- IBC, International Building Code
- IEC, International Electric Code
- IEEE, Institute of Electrical and Electronics Engineers
- NEC, National Electrical Code
- NEMA, National Electrical Manufacturers Association
- SSPC, Steel Structures Painting Council, American National Standards Institute
- Underwriters Laboratory (UL)

1.03 SUBMITTALS

The submittal shall be provided to the engineer that includes all the following information:

- 1.03.1 Compliance Statement: Listing each Specification Section stating compliance with the Specifications, each minor nonconformity that is within the intent of the Specification and proposed nonconformities. Provide short descriptions of minor nonconformities, and detailed explanation and drawings of other nonconformities.
- 1.03.2 Certified shop drawings showing all important details of construction, dimensions and anchor bolt locations.
- 1.03.3 Descriptive literature, bulletins, and catalogs of the equipment.
- 1.03.4 Schematic electrical wiring diagram and electrical controls information for the equipment.
- 1.03.5 Complete motor and drive data including lubrication requirements.
- 1.03.6 The total weight of the equipment.
- 1.03.7 A complete bill of materials of all equipment.
- 1.03.8 A list of spare parts that are supplied with the equipment.
- 1.03.9 Electrical plans coordinated with the existing electrical system sealed by an electrical engineer. This will include an updated Arc Flash Study.
- 1.03.10 SCADA plans coordinated with the existing SCADA system.

- 1.03.11 Plumbing plan to show the connection of the existing water system to the new washer compactor and the connection of the drains from the washer compactor back to the influent channel.

1.04 OPERATION AND MAINTENANCE MANUALS

Submit operations and maintenance manuals in three ring binders for the equipment in compliance with the Contract documents, 30 days prior to shipment. Manuals shall include:

- 1.04.1 Contact name, address, and telephone number of the equipment manufacturer's Service Department and Parts Department.
- 1.04.2 Descriptive literature, including illustrations, covering the operational features of the equipment, specific for the particular installation, with all inapplicable information omitted or marked out.
- 1.04.3 Operating, maintenance and troubleshooting information.
- 1.04.4 Complete maintenance parts list.
- 1.04.5 Complete connection, interconnecting and assembly diagrams.
- 1.04.6 Approved shop drawings including complete electrical information.

1.05 QUALIFICATIONS

- 1.05.1 All the equipment specified under this Section shall be supplied by a single manufacturer involved in the manufacture of the screening equipment. Qualified manufacturers shall have a minimum of ten (10) years' experience with wastewater screening systems, specifically including washer compactors, for consideration.
- 1.05.2 If equipment is not manufactured by supplier, including welding and machining, the name and contact information of manufacturing facility must be supplied. If more than one manufacturer is used all companies and facilities must be provided.
- 1.05.3 If patents protecting equipment are not owned by supplier then an affidavit must be supplied stating owner of design and expiration of licensing agreement.

1.06 DESIGN REQUIREMENTS

- 1.06.1 System Description:
 - 1.06.1.1 The Washer Compactor will be positioned between the screening channels and will be fed by a sluice system.
 - 1.06.1.2 The Washer Compactor will be adequately sized to handle all the screenings and wash water that will be generated by the screen at peak flow. The system will be required to wash the screenings to reduce the organic content and compact the remaining solids into a dry plug.

1.06.1.3 The Washer Compactor will generally comprise of a screw auger rotating within the washing and drainage trough, a wash water system, a compaction zone and an outlet chute arrangement.

1.06.1.4 All stainless steel (including frame, grid, and drive components) mentioned below as stainless steel shall be T316 stainless steel. All hardware shall be T316 stainless steel.

1.06.1.5 The system is located in Sedona, AZ at an elevation of 4,100 feet. All components shall be suitable for that location and elevation.

1.06.2 Screen:

Refer to 33 35 11.01 for specifications on the screens.

1.06.3 Washer Compactor:

The washer and compacting system will be designed to meet the following design parameters:

Number of Washing Compactors	1
Organic Removal, Max.:	90%
Volume Reduction Min.:	50%
System wash water requirements	18 gpm @ 40 psi

Existing Loading from 0.5 inch bar spacing 10.9 cf (1.7 cf per mgd)
(The loading shall be adequate for the increase expected from the 0.25 inch bar spacing specified for the screen.)

PART 2 PRODUCTS

2.01 MANUFACTURER

2.01.1 The equipment shall be the Washer Compactor (Whitetip Shark) as provided by Hydro-Dyne Engineering, Inc., Clearwater, FL. Other than the named supplier, all manufacturers proposing equipment described herein, will provide a detailed submittal package that demonstrates full compliance with the specifications.

2.01.2 If submitted equipment requires arrangement differing from that specified, prepare and submit for review complete structural, mechanical, and electrical drawings and equipment lists showing all necessary changes and embodying all special features of equipment proposed. Any changes are at no additional compensation and the Manufacturer will be responsible for all engineering costs of redesign by the Engineer, if necessary.

2.01.3 The manufacturer of the washer compactor shall be the same as the manufacturer of the screen. The two systems shall be coordinated.

2.02 WASHER COMPACTOR

2.02.1 Screenings Transfer Sluice

2.02.1.1 The screenings sluice will collect screenings and wash water from the discharge hopper of the screens and transfer them by gravity directly into the

Washer Compactor's washing trough. Mechanically driven conveyors are not acceptable.

- 2.02.1.2 The sluice will be manufactured from stainless steel (T316). It shall comprise of U-shaped lengths of trough that will be flange connected/welded to the desired overall length.
 - 2.02.1.3 The Manufacturer will design and supply the support leg structure manufactured from stainless steel (T316). The legs will be suitable for fixing to a concrete floor.
 - 2.02.1.4 Covers will be a lightweight, no more than 6 feet long and easily removed by a single operator.
 - 2.02.1.5 The manufacturer shall supply a solenoid valve that will be fitted into the back plate of the sluice. The contractor will connect to a local plant water supply. The water supply will provide supplementary transport water.
- 2.02.2 Washer Compactor
- 2.02.2.1 The main body will be the washing trough that will receive screenings and wash water directly from the discharge point of the screen. The Washer Compactor will sit between both screens.
 - 2.02.2.2 The washing trough will house the screw auger and provide a dedicated section to reduce organic content. It will comprise of angled side walls manufactured from 10 gauge stainless steel (T316) that will direct the screenings on to the screw auger, and a drainage section in which the screw auger will ride.
 - 2.02.2.3 The drainage section will be manufactured from stainless steel (T316) that has been machined with 5mm slots. The slots will be perpendicular to the direction of the screw so that the shearing action will prevent material collecting in the slots. The screw will not require stiff nylon brushes to keep the section clean.
 - 2.02.2.4 The underside of the washing trough will be a catch pan that will collect the contaminated water that passes through the drainage section. The catch pan will feed a minimum 4 inch diameter outlet connection. The Contractor will connect the pipe to take the water back to the main flow.
 - 2.02.2.5 The stainless steel screw auger will sit in the washing trough. Washer Compactors with shaft less screws are not acceptable as a shaft is required to support the flight and provide necessary torque and compaction.
 - 2.02.2.6 The auger will be a varied pitch screw supported at the compaction end by minimum 5" wide UHMWPE Flight Support Bearing that creates a supporting collar around the screw flight. Each bearing ring will be designed to rotate through 180 degrees to provide a second wear surface below the screw. Each wear surface shall be fitted with a set screw that can be removed for inspection. The operator will be able to inspect and rotate the bearing by removing the outside cover without disassembling the equipment.

- 2.02.2.7 The end of the screw shall be reinforced with a triangular shaped stainless steel gusset welded behind the final screw flight to provide protection in this high wear/high torque area and to assist in compression of the screenings.
- 2.02.2.8 The screw will rotate allowing wash water and free organic/fecal material finer than trough openings to escape and return to the influent flow. The wash water system will flush the separated organic material through the drainage section in solution or as small particles.
- 2.02.2.9 A portion of the washing water will enter the washing trough with the screenings. This will be supplemented by spray nozzles that will direct water on to the screenings prior to compaction. They will be individually set at different angles to maximize the washing opportunity. The nozzles will be recessed into the side wall of the washing trough to protect from ragging and blockage.
- 2.02.2.10 The screw will transfer the washed screenings into the compaction zone. This will be a section of stainless steel pipe followed by the UHMWPE flight support bearing. The total length of this section will at a minimum equal two full pitches of the screw flight.
- 2.02.2.11 The compacted screenings will be pushed through the compaction zone and pass through a 45 degree elbow. The outlet chute will be tapered at 1 degree along the full length and will elevate the dewatered screenings to discharge by gravity into a waste receptacle (by others).

2.02.3 Drive Mechanism

- 2.02.3.1 Each Washer Compactor will have a single 2 HP, continuous duty electric motor suitable for a 240/3/60 supply and rated for a Class 1 Div. 1 explosion proof environment. The motor will be TEFC NEMA rated. Approved motor manufacturers include:
- Nord,
 - US Motors/Emmerson,
 - Baldor,
 - Toshiba,
 - GE, and
 - Marathon.
- 2.02.3.2 Approved gearbox manufacturers include: Faulk, Winsmith, Rexnord, and Dodge.
- 2.02.3.3 There shall be the ability to change the height of the screw within the washing trough by using adjustment bolts on the gearbox plate. This will prevent excess wear of the screw flights and trough.

2.03 CONTROL PANEL

- 2.03.1 The main panel controls for the washer compactor shall be incorporated into the control panel(s) for the screens. All components shall meet the same specifications.
- 2.03.2 The washer compactor shall be cycled on and off by remote control signals

from the main control panel. The washer compactor shall be capable of being cycled by a screen cycle counter.

2.04 SURFACE PREPARATION AND PAINTING

2.04.1 All stainless steel materials, including hardware, shall be acid passivated for quality control, removal of heat affected discoloration, surface treatment for corrosive environments and to provide a uniform finish to stainless surfaces.

2.04.2 All ferrous surfaces (except stainless steel) shall be coated with a pre-primer, primer, and an exterior top coating, or fusion bonded polyester coating suitable for humid/wet environments for superior corrosion protection.

2.04.3 Motor and gearbox shall be manufacturer's standard coating for humid/wet environments for superior corrosion protection.

2.05 SPARE PARTS

None required.

2.06 ACCESSORIES

The manufacturer will supply the following accessories, with the equipment:

- Two (2) 1" explosion proof brass body solenoid valves
- One (1) 1.5" wash water strainers
- One (1) wash water pressure gauges
- One (1) freeze protection packages including thermostat in control panel, heat strips, insulation and stainless steel covers.

PART 3 EXECUTION

3.01 WARRANTY

3.01.1 The Manufacturer of the equipment supplied under this specification shall provide a warranty for a period of two years commencing on acceptance and/or beneficial occupancy by the Owner but no later than 6 months from the date of shipment by the Manufacturer. The Manufacturer shall guarantee that the equipment furnished is suitable for the purpose intended and free from defects in design, materials and workmanship. In the event that the equipment fails to perform as specified the Manufacturer shall, at his option, promptly repair, modify or replace the defective equipment.

3.02 FACTORY TESTING

3.02.1 The washer compactor system and all components shall be factory assembled and tested for a minimum of 24 hours prior to shipment. The equipment shall be shipped fully assembled and shall be capable of being set in place and field erected by the Contractor with minimal field assembly.

3.02.2 During the factory test period the washer compactor system shall be adjusted as required assuring proper operation on completion of the field installation. The Manufacturer shall supply a certification of the completion of the factory testing of the

assembled washer compactor system and appurtenances and shall certify as to the equipment being in satisfactory operating condition at time of shipment. The Engineer and/or Owner may, at their own option and expense, witness the factory test.

3.03 DELIVERY AND STORAGE

- 3.03.1 The washer compactor system shall be appropriately crated and delivered to protect against damage during shipment.
- 3.03.2 An authorized representative of the Contractor shall inspect the washer compactor on delivery to the jobsite and shall report any damage or missing components to the Manufacturer and the Engineer within 72 hours of receipt of the shipment.
- 3.03.3 The Contractor shall store and temporarily support equipment prior to installation in strict accordance with the Manufacturer's recommendations and instructions. Protect all exposed surfaces. Keep records of the storage parameters and the dates that storage procedures were performed. The Contractor shall be responsible for work, equipment, and materials until inspected, tested and finally accepted.
- 3.03.4 Protect the equipment from being contaminated by dust, dirt, vibration and moisture.
- 3.03.5 Temporarily connect equipment with built in motor space heaters to a power source and keep heaters in operation. Rotate all shafts that have bearings on at least a monthly basis.

3.04 INSTALLATION

- 3.04.1 The installation of the equipment shall be as indicated on the drawings and in strict accordance with the Manufacturer's instructions and recommendations.
- 3.04.2 The contractor shall coordinate with the utility staff to assure that the wastewater system remains fully operational at all times.
- 3.04.3 The contractor shall install the washer compactor with the first screen installation so that it is operational with the first screen.
- 3.04.4 The contractor shall complete the installation the washer compactor with the second screen installation so that it is operational with the first screen.

3.05 FIELD TESTS, ADJUSTMENTS AND COMMISSIONING

- 3.05.1 The equipment shall be shipped completely factory assembled. Contractor shall verify all access dimensions, channel dimensions, and any interior building dimensions to ensure equipment may be installed as a factory assembled units.
- 3.05.2 After completion of the installation, the equipment shall be inspected and certified by an authorized representative of the Manufacturer as being in compliance

with the Manufacturer's recommendations and requirements. At such time as the Manufacturer has deemed the installation to be acceptable, the Manufacturer's authorized service representative shall make any required adjustments and shall start the equipment to assure proper operation.

- 3.05.3 The washer compactor shall also be field tested after erection in the presence of the Owner and Engineer to confirm and verify the structural and mechanical compliance to the specification. As a minimum, field testing shall include demonstration that the washer compactor can pass four (4) 12-inch long oak 2x4's, four (4) red bricks and four (4) 12-inch long pieces of 4-inch diameter Schedule 80 PVC pipe. The field acceptance test shall include demonstrating that the washer compactor operates without vibration, jamming or overheating and perform its specified function satisfactorily.
- 3.05.4 The Manufacturer's authorized representative shall provide instruction to the plant personnel as to the operation and maintenance of the equipment including commissioning, shut down, on-line operations, lubrication and preventative maintenance.
- 3.05.5 Manufacturer shall state field service rates for a Service Engineer to Owner and Contractor. In the event that the field service time required by this section should not be sufficient to properly place the equipment into operation, and the requirement for additional time is beyond the manufacturer's responsibility, additional time shall be purchased by Contractor to correct deficiencies in installation, equipment, or material without additional cost to Owner.
- 3.05.6 The Contractor shall include in his bid, the cost of the above referenced authorized service representative for a minimum of two (2) eight hour days onsite to complete the certifications and training described in this specification section.
- 3.05.7 The washer compactor shall operate and perform properly for a minimum of 1 continuous week with both screens operating before commissioning is considered over.
- 3.05.8 Upon satisfactory completion of the one week commissioning period the contractor shall provide a written notice to the owner that the work is complete and ready for final inspection.

END OF SECTION

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SECTION 33 35 12.01

SCREEN (VULCAN)

PART 1 GENERAL

1.01 SUMMARY

- 1.01.1 The contractor shall furnish labor, materials, equipment and other necessary items required to construct a complete coarse screening system as specified herein.
- 1.01.2 The contractor shall include the design of modifications to the existing electrical system to provide adequate electrical service to the screens. This will include an update Arc Flash Study and associated re-labeling. The contractor shall furnish labor, materials, equipment and other necessary items required to construct those electrical system modifications.
- 1.01.3 The contractor shall include the connection of the new screening system to the existing SCADA system. The contractor shall furnish labor, materials, equipment and other necessary items required to integrate the systems.
- 1.01.4 The contractor shall include the connection of existing water lines to the new screening system. The contractor shall furnish labor, materials, equipment and other necessary items required to connect the water system to the screens. (The existing screen does not have a connection to the water system but one is nearby.)
- 1.01.5 The contractor shall include a connection that will carry all wash water from the screens back into the influent flow channel. The contractor shall furnish labor, materials, equipment and other necessary items required to carry the wash water back to the influent channel. (The existing screen does not have a connection for drainage back to the influent channel.)

1.02 RELATED REQUIREMENTS

- 1.02.1 The work shall be performed in accordance with the following standard specifications and codes as amended by the City of Sedona:
- Maricopa Association of Governments, "Uniform Standard Specifications for Public Works Construction", 2016 edition (MAG Specifications);
 - Maricopa Association of Governments, "Uniform Standard Details for Public Works Construction", 2016 edition (MAG Details);
 - "City Code, Amendments to MAG Specifications, 7-15-11 and 12",
 - "International Building Code" (IBC) 2006,
 - "International Plumbing Code" (IPC) 2006,
 - "International Mechanical Code" (IMC) 2006,
 - "National Electric Code" (NEC), 2005;
- 1.02.2 The properties of all materials, design, fabrication and performance of the equipment to be furnished under this section shall be in accordance with the latest issue of applicable standard specifications. The governing authorities of these standards are listed below.

- AFBMA, American Federation of Bearing Manufacturers Association
- AGMA, American Gear Manufacturers Association
- AICS, American Institute of Steel Construction
- AISI American Iron and Steel Institute
- ANSI, American National Standards Institute
- ASCE, American Society of Civil Engineers
- ASME, American Society of Mechanical Engineers
- ASTM, American Society of Testing and Materials
- AWS, American Welding Society
- IBC, International Building Code
- IEC, International Electric Code
- IEEE, Institute of Electrical and Electronics Engineers
- NEC, National Electrical Code
- NEMA, National Electrical Manufacturers Association
- SSPC, Steel Structures Painting Council, American National Standards Institute
- Underwriters Laboratory (UL)

1.03 SUBMITTALS

The submittal shall be provided to the engineer that includes all the following information:

- 1.03.1 Compliance Statement: Listing each Specification Section stating compliance with the Specifications, each minor nonconformity that is within the intent of the Specification and proposed nonconformities. Provide short descriptions of minor nonconformities, and detailed explanation and drawings of other nonconformities.
- 1.03.2 Certified shop drawings showing all important details of construction, dimensions and anchor bolt locations.
- 1.03.3 Descriptive literature, bulletins, and catalogs of the equipment.
- 1.03.4 Schematic electrical wiring diagram and electrical controls information for the equipment.
- 1.03.5 Complete motor and drive data including lubrication requirements.
- 1.03.6 The total weight of the equipment.
- 1.03.7 A complete bill of materials of all equipment.
- 1.03.8 Electrical plans coordinated with the existing electrical system sealed by an electrical engineer. This will include an updated Arc Flash Study.
- 1.03.9 SCADA plans coordinated with the existing SCADA system.
- 1.03.10 Plumbing plan to show the connection of the existing water system to the new screens and the connection of the drains from the new screen back to the influent channel.

1.04 OPERATION AND MAINTENANCE MANUALS

Submit operations and maintenance manuals in three ring binders for the equipment in compliance with the Contract documents, 30 days prior to shipment. Manuals shall include:

- 1.04.1 Contact name, address, and telephone number of the equipment manufacturer's Service Department and Parts Department.
- 1.04.2 Descriptive literature, including illustrations, covering the operational features of the equipment, specific for the particular installation, with all inapplicable information omitted or marked out.
- 1.04.3 Operating, maintenance and troubleshooting information.
- 1.04.4 Amount of and specification for any lubricant required.
- 1.04.5 Complete maintenance parts list.
- 1.04.6 Complete connection, interconnecting and assembly diagrams.
- 1.04.7 Approved shop drawings including complete electrical information.

1.05 QUALIFICATIONS

- 1.05.1 All the equipment specified under this Section shall be supplied by a single manufacturer involved in the manufacture of the screening equipment. Qualified manufacturers shall have a minimum of ten (10) years' experience with wastewater screening systems, specifically including through flow continuous belt screens and Washer Compactors, for consideration.
- 1.05.2 If equipment is not manufactured by supplier, including welding and machining, the name and contact information of manufacturing facility must be supplied. If more than one manufacturer is used all companies and facilities must be provided.
- 1.05.3 If patents protecting equipment are not owned by supplier then an affidavit must be supplied stating owner of design and expiration of licensing agreement.

1.06 DESIGN REQUIREMENTS

- 1.06.1 System Description:
 - 1.06.1.1 The screen will have a continuous stainless steel belt that automatically rotates within the internal guide system of the static frame.
 - 1.06.1.2 The screen herein specified will be of the straight through type that will present a clean screening grid to the influent flow at all times.
 - 1.06.1.3 The solids will collect as a mat on the front face of the continuous belt. The belt will intermittently rotate and elevate the solids to the discharge point. Larger objects will be picked up by a series of hooks.

- 1.06.1.4 The solids will be automatically removed at the top of the screen into an internal hopper and be fed to the screening handling system.
- 1.06.1.5 The continuous belt will be directly driven by drive sprockets that shall support and rotate the grid assembly.
- 1.06.1.6 The screen will be totally enclosed and have access covers that will be lightweight and easily removable for maintenance.
- 1.06.1.7 All stainless steel (including frame, grid, and drive components) mentioned below as stainless steel shall be 316 stainless steel. All hardware shall be 316 stainless steel.
- 1.06.1.8 The system is located in Sedona, AZ at an elevation of 4,100 feet. All components shall be suitable for that location and elevation.
- 1.06.1.9 The power supply for the existing screens is 480 volt, 3 phase. The appropriate motor or transformer will need to be provided.

1.06.2 Design Flow:

Peak flow	6.4 mgd
Average flow	2.0 mgd

1.06.3 Channel Configuration:

Channel width	1.5 feet	(18 inches)
Channel depth	6.0 feet	(72 inches)
Maximum Influent Depth	4.0 feet	(48 inches)

1.06.4 Bar Screen:

Number of screens	2	
Angle of Screen	75°	
Screen grid opening (Base Bid)	0.5 inch	(12 mm)
Screen grid opening (Alternate Bid)	0.25 inch	(6 mm)
Min. Structural design differential of frame/grid at 100% blinding	4.0 feet	(48 inches)
Min. Drive design differential (operating)	4.0 feet	(48 inches)
Discharge height above grade (base bid)	5.0 feet	(60 inches)
(Discharge Height above grade for the alternate bid is to be coordinated with the washer compactor included in the alternate bid.)		

1.06.5 Performance:

The bar screens shall each be designed to meet the following design parameters at the full design flow (with the other screen not operating):

Maximum head loss at 30% blinding	12 inches
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1.06.6 Washer Compactor:

The washing and compacting system will be designed to meet the following design parameters:

Number of Washing Compactors	1
Diameter of screw	8 inches

Diameter of shaft	2.375 inches
Compactor discharge height above grade	5.00 feet (60 inches)
System wash water requirements	18 gpm @ 40 psi
Existing Loading from 0.5 inch bar spacing (The loading shall be adequate for the increase expected from the 0.25 inch bar spacing specified for the screen.)	10.9 cf (1.7 cf per mgd)

PART 2 PRODUCTS

2.01 MANUFACTURER

2.01.1 The equipment shall be a Multi-Rake Bar Screen, Model VMR-30 as manufactured by Vulcan Industries, Inc. of Missouri Valley, IA. Clearwater, FL. Other than the named supplier, all manufacturers proposing equipment described herein, will provide a detailed submittal package that demonstrates full compliance with the specifications.

2.01.2 If submitted equipment requires arrangement differing from that specified, prepare and submit for review complete structural, mechanical, and electrical drawings and equipment lists showing all necessary changes and embodying all special features of equipment proposed. Any changes are at no additional compensation and the Manufacturer will be responsible for all engineering costs of redesign by the Engineer, if necessary.

2.02 GENERAL

2.02.1 The equipment furnished shall positively clean and remove debris from the incoming wastewater by means of a bar rack, installed in a concrete channel designed to retain debris. A traveling chain and raking mechanism removes and elevates the debris to a discharge scraper mechanism. The bar rack shall be cleaned by multiple rakes engaging the upstream side bar rack from the bottom of the channel and removing the debris. The debris shall be lifted above the top of the channel and discharged through the downstream side to a sluice trough.

2.02.2 The mechanically cleaned multiple rake bar screen system shall be fully automatic and shall consist of the following components:

Bar Rack	Frame, Supports and Guides
Dead Plate	Drive Machinery
Discharge Chute	Anchor Bolts
Wiper Assembly	Rake & Chain Assembly
Electrical Controls and Control Panel	

In addition, any other components required to provide a system, which will be capable of fully performing the functions specified.

2.02.3 Designs employing the use of cables, threaded stems, hydraulic cylinders or that do not utilize a lower positive mechanical bar rack engagement system to remove debris from the channel shall not be acceptable. The use of two or more motors to complete a screen cleaning cycle is not acceptable.

2.02.4 All platforms, ladders or other safety devices required, as a part of this equipment design shall be in accordance with applicable OSHA regulations.

- 2.02.5 The design shall be such to ensure that all manufacturer recommended preventive maintenance to the bar screen can be accomplished at the operating floor level.
- 2.02.6 All equipment shall be designed and built for 24-hour intermittent service and for moderate shock without overheating, excessive vibration or strain.

2.03 FRAME ASSEMBLY

- 2.03.1 The side frames shall be formed from plate with engineered bends and provided with bracing to form a rigid assembly capable of withstanding all operating forces when installed in accordance with manufacturer's instructions.
- 2.03.2 The frame shall be manufactured of 316 stainless steel plate, having a minimum thickness of 1/4-inch. The frame shall have a minimum width suitable for the existing channel and extend fully from the bottom of the channel to the top of the bar screen assembly. The side frames shall be attached to a flush bottom base plate manufactured of 316 stainless steel plate, having a minimum thickness of 3/8-inch.
- 2.03.3 Each side frame shall include chain guides attached to the frame to align the rake teeth into the screen bars and maintain engagement in the bar rack. The chain guides shall assist in deflecting flow and solids away from the chain and lower guides to minimize materials from collecting on the guides and chain. The chain guides shall be manufactured of 316 stainless steel.

2.04 RAKE & CHAIN ASSEMBLY

- 2.04.1 The rake and chain assembly shall consist of multiple rakes attached to the roller links of the roller chain. The roller chain shall engage onto adjustable upper sprockets and fixed lower guide rail bearings on each side of the screen.
- 2.04.2 The upper sprockets shall be key mounted onto a drive shaft. The sprockets shall have a pitch of 125mm and a width of 25mm to match the roller chain and shall have a 316 stainless steel hub and sprocket teeth.
- 2.04.3 The lower guide rail bearing assemblies shall be bolted to the side frames and shall provide positive engagement of the rake teeth into the bar rack. The lower guide rail bearing assembly shall consist of a field replaceable stainless steel hub with an integral abrasion resistant polymeric bearing surface. The bearing surface shall be a self-lubricating design.
- 2.04.4 Rake drive chains shall be pitch roller type chain constructed of 316 stainless steel side link plates and 17-4PH stainless steel rollers, bushings and pins rated for a maximum of 24,000 lbs. operating force. The drive chains shall be 125mm pitch with 70mm diameter rollers and 6mm link plates.
- 2.04.5 Each rake head assembly shall consist of a rake tooth plate and rake shelf. Rake head shall be precision cut from 1/2-inch thick plate having a minimum depth of 8-inches. The rake head teeth shall be shaped to properly engage the clear space openings in the bar rack. The rake teeth shall engage into the bar rack a minimum of 50 percent of the bar depth. The rake tooth plate shall be replaceable and shall

attach to a formed rake shelf. The formed rake shelf and integral end plates shall be manufactured from ¼-inch thick plate. Each rake head shall have a minimum carrying capacity of 0.22 cu ft/ft of rake head width. The rake tooth plate, shelf and attachment hardware shall be 316 stainless steel.

2.05 DRIVE ASSEMBLY

- 2.05.1 The bar screen shall be provided with an integrated drive assembly consisting of a TEFC electric motor and helical worm gear reducer. The drive motor and gear reducer shall be mounted on the drive shaft and the frame. The drive shaft shall operate in a grease-able bearing mounted on the external side of the frame. The entire drive assembly will be supported by adjustable jacking plates mounted on the exterior of the frames to provide rake alignment and proper chain tension.
- 2.05.2 The electric motor shall be close-coupled to the reducer. The motor shall be a minimum 2 horsepower with a service factor of 1.0. Electrical characteristics shall be 230/460 volt, 3-phase, 60 Hertz, Class F/B rise insulation, 40 degree C Ambient, inverter duty. Approved motor manufacturers include:
- Nord,
 - US Motors/Emmerson,
 - Baldor,
 - Toshiba,
 - GE, and
 - Marathon.
- 2.05.3 The gear reducer shall be of the helical worm gear type and shall be capable of elevating the weight of the rake and chain assembly plus its maximum calculated debris load.
- 2.05.4 Gear reducers shall have ball or roller bearings throughout with all moving parts immersed in oil.
- 2.05.5 Helical gears shall be of alloy steel with threads precision ground and polished after casehardening.
- 2.05.6 The worm gear shall be high strength alloy bronze.
- 2.05.7 Gear shafts shall be of high strength alloy steel ground to required tolerances.
- 2.05.8 Approved gearbox manufacturers include
- Faulk,
 - Winsmith,
 - Rexnord, and
 - Dodge.
- 2.05.9 All ball or roller bearings shall be rated and manufactured by a member of the Antifriction Bearing Manufacturer's Association. At least one bearing on each shaft shall be of the combined radial and thrust type.

2.05.10 Gear reducer units shall meet the standards of the AGMA for such equipment under moderate shock, 24-hour service with a minimum service factor of 1.25.

2.05.11 The output capacity of the gear reducer shall be equal to the motor horsepower less reducer losses at the rated service factor.

2.06 BAR RACK

2.06.1 The bar screen shall be provided with a removable bar rack.

2.06.2 The bar rack shall consist of equally spaced, parallel bars. The bars shall be straight and inclined at 75 degrees above the horizontal plane.

2.06.3 Base Bid: Bar spacing shall be 0.50 inches (12 mm).

2.06.4 Alternate Bid: Bar spacing shall be 0.25 inches (6 mm).

2.06.5 The bottom of the bars shall be attached to a flush bottom, base plate. The bar rack shall extend from the base plate to the connection point on the dead plate.

2.06.6 The bottom of the bar rack shall be provided with extended curved parallel bars, which shall allow each raking mechanism to engage the bottom most portion of the bar rack prior to reaching the inclined section of the rack.

2.06.7 Bar racks requiring a recess in the bottom of the flow channel shall not be allowed.

2.06.8 The inclined section of the bar rack shall consist of trapezoidal bars that shall be 5/16-inches thick by 5/32-inches thick by 1 9/16-inches deep (8mm x 4mm x 40mm). The bars shall extend 12-inches above the maximum water level.

2.06.9 The bar rack shall be manufactured of 316 stainless steel.

2.07 DEAD PLATE

2.07.1 The bar screen shall be provided with a fixed dead plate extending from the upper portion of the bar rack connection to the screenings discharge point.

2.07.2 The plate shall be flat without undulation so that the rake head teeth will ride no closer than 1/16-inch from the dead plate and no further than 1/4-inch from the dead plate. It shall be securely fastened to the side frames.

2.07.3 Designs in which the dead plate does not extend to the point of discharge shall not be acceptable. The dead plate shall be manufactured of 316 stainless steel having a minimum thickness of 1/4-inch.

2.08 DISCHARGE CHUTE

2.08.1 The rakes shall be designed to reach a predetermined discharge height above the floor elevation. A directing (discharge) chute positioned a minimum 45 degrees from horizontal and located at the top of the dead plate shall be a part of each bar screen and shall be manufactured of 316 stainless steel having a minimum

thickness of 1/8-inch.

- 2.08.2 The chute shall be shrouded on the sides and shall be manufactured of 316 stainless steel having a minimum thickness of 1/8-inch.

2.09 DEAD PLATE/DISCHARGE CHUTE HEAT TRACING

- 2.09.1 A dead plate and discharge chute heater shall be supplied as an integral part of the bar screen mechanism to prevent ice and screenings buildup.

- 2.09.2 The dead plate and chute shall be insulated on the downstream side with one-inch thick semi-rigid fiber insulation board capable of withstanding temperatures from -60 to 450 degrees F. The insulating material shall have a density of not less than 3.0 lbs/cubic feet and shall have a foil vapor barrier attached to one side.

- 2.09.3 The heating element shall consist of a self-limiting cable rated 10.0 watts per foot at 120 volt AC and shall be capable of maintaining a constant temperature of 150 degrees F. The buss wires shall be 16 AWG copper inside a semi-conductive polymer matrix. The cable shall be jacketed with a flame retardant and water-resistant insulating thermoplastic rubber material.

- 2.09.4 The heating element and insulation system shall be covered with minimum 14-gauge type 304 stainless steel metal sheeting, gaskets and sealed against moisture.

- 2.09.5 The entire system shall contain U.L. listed components.

2.10 WIPER ASSEMBLY

- 2.10.1 A pivoting wiper mechanism will be positioned at the point of discharge and shall have a replaceable ultra high molecular weight polyethylene (UHMW) wiper blade.

- 2.10.2 During each cycle, the wiper blade shall contact the rake heads at its inner surface during upward travel and shall scrape the debris off the end of the rake head and through the discharge chute. The entire wiper mechanism including the wiper arms shall be fully contained inside the framework of the bar screen.

- 2.10.3 The wiper mechanism, excluding the wiper blade, shall be manufactured of 316 stainless steel. No moving parts shall extend beyond the framework or the discharge chute.

- 2.10.4 The design shall be such that the rake repositions the wiper mechanism. The wiper mechanism design shall allow the rake assembly to be operated in reverse, through the wiper mechanism, without the need to manually lift the wiper assembly.

- 2.10.5 The grease fittings for the wiper arms shall be extended and secured to the side frames in an area where they can be easily accessed by plant personnel.

- 2.10.6 Shock absorbers shall be provided to cushion the release of the wiper.

2.11 FRAME ENCLOSURES

- 2.11.1 The bar screen shall be provided with removable enclosure panels on the upstream portions of the bar screen above the operating floor.
- 2.11.2 The removable enclosure panels shall be provided with engineered bends. The panels shall be manufactured of 20-gauge 316 stainless steel held in place by latches. Each panel shall be provided with two (2) handles for panel removal / replacement. All handles and latches shall be 316 stainless steel.

2.12 FASTENERS

- 2.12.1 All fasteners shall be 316 stainless steel unless otherwise indicated in this specification. All threaded fasteners shall be coated with a nickel based anti-seize thread lubricant prior to assembly.
- 2.12.2 All anchor bolts shall be 316 stainless steel unless otherwise indicated in this specification. Anchor bolts shall be ample size and strength for the purpose intended and as shown on the Contract Drawings.

2.13 CONTROL PANEL

2.13.1 General Information

- 2.13.1.1 The control system, both local and main, shall be designed and manufactured by the bar screen manufacturer.
- 2.13.1.2 The manufacturer will supply one UL listed 508A stainless steel main control panel that shall automatically control the equipment offered in this section.

2.13.2 Local Controls

- 2.13.2.1 One (1) NEMA 4X frame mounted end of travel proximity switch to allow parking of the rake heads following completion of the cleaning cycle and to count rake cycles for initiation of the sluice trough. Proximity switch shall be single pole, double throw (SPDT) and rated not less than 10 amps at 120 volts AC.
- 2.13.2.2 One (1) NEMA 4X local control station with FORWARD-OFF-REVERSE and HAND-OFF-AUTO selector switches and a mushroom head EMERGENCY STOP push-button. The FORWARD-OFF-REVERSE switch shall be spring return from REVERSE to OFF. The electrical components on the bar screen shall be pre-wired to the local control station. PVC coated aluminum conduit shall be furnished unless otherwise specified. The local control station shall be mounted on the side frame unless otherwise specified.

2.13.3 Main Control Panel

- 2.13.3.1 Base Bid: Furnish one (1) main control panel for both bar screens. The main control panel shall be totally enclosed, front access type with top/side/bottom entry. All controls shall be manufactured by a U.L. listed control panel facility and shall bear a U.L. label.

- 2.13.3.2 Alternate Bid: Furnish two (2) main control panels, one for each bar screen. The main control panel shall be totally enclosed, front access type with top/side/bottom entry. All controls shall be manufactured by a U.L. listed control panel facility and shall bear a U.L. label.
- 2.13.3.3 Construction of the main control panel shall be NEMA 4X, 316 stainless steel construction with indicating devices and switches mounted on the front door.
- 2.13.3.4 Main control panel wiring shall be neatly cabled and supported in nonflammable wiring raceways. Wiring shall be minimum 16-gauge MTW stranded wire.
- 2.13.3.5 The main control panel wiring shall contain all power and control devices shown on the drawings (wiring diagrams), which shall include, but not be limited to, the following:
- One (1) control power ON-OFF selector switch.
 - One (1) HAND-OFF-AUTO selector switch for operation of the bar screen drive.
 - One (1) FORWARD-OFF-REVERSE selector switch for manual operation. Spring return from Reverse.
 - One (1) amber pilot light for "Over Current" indication.
 - One (1) white pilot light for control power.
 - One (1) momentary "Reset" push-button for over current/over rotate reset.
 - One (1) adjustable repeat cycle timer to automatically initiate operation of the bar screen.
 - Control relays, wiring and circuitry required to implement control logic.
 - One (1) variable frequency drive unit – Allen Bradley Powerflex 40
 - One (1) circuit breaker
 - Control logic shall be PLC based with timers and counters written in control logic. Timers and counters shall be adjustable via operator interface on the exterior of the control panel. Operator interface shall be a Red Lion with a minimum 7" screen and the PLC shall be an Allen Bradley MicroLogix 1400.
 - One (1) surge arrestor to protect the PLC.
 - One (1) 480 VAC to 120 VAC step down control power transformer sized to accommodate the heat tracing system.
 - One (1) Milltronics HydroRanger 200 ultrasonic differential level controller.
 - One (1) elapsed time meter.
 - One (1) line filter to control line-to-ground noise to the PLC.
 - One (1) interposing relay on each PLC output.
 - One (1) surge suppressor on each interposing relay on the PLC outputs.
 - One (1) five port Ethernet switch.
 - One (1) 24VDC power supply for the Ethernet switch and OIT.
 - One (1) elapsed time meter
- 2.13.3.6 All selector switches, pushbuttons and pilot lights shall be NEMA rated components. IEC rated components are not acceptable.

- 2.13.3.7 The screen rakes shall operate based upon timer settings and/or influent water level as per operator preferences.
- 2.13.4 SCADA system alarms shall include:
- Torque
 - Motor Temperature (if available)
 - Overload
 - Power Failure
 - High Level

2.14 SEQUENCE OF OPERATION

2.14.1 The bar screen shall be manually operable from the local control station. During normal operation, the traveling rakes shall operate in a continuous up and down direction. The operator can manually reverse the rake assembly travel direction by using the HAND-OFF-AUTO and FORWARD-OFF-REVERSE selector switches. During normal operation, the traveling rakes shall operate in a continuous up and down direction at a normal speed of 10 ft/min. During predetermined high differential level conditions, the rakes shall operate in a continuous up and down direction at a high speed of 20 ft/min. The operator can manually reverse the rake assembly travel direction by using the HAND-OFF-AUTO and FORWARD-OFF-REVERSE selector switches. In the REVERSE position the rake will run at the normal operation speed.

2.14.2 With the HAND-OFF-AUTO selector switch in the HAND position, the bar screen shall run as dictated by the FORWARD-OFF-REVERSE selector switch. In the AUTO position, the bar screen shall be automatically started based on a timed function as described below:

2.14.2.1 The bar screen shall be cycled on and off by remote control signals from the main control panel repeat cycle timer. Cycle frequency and duration times shall be set through the local timer.

2.14.2.2 Normal timer start shall be overridden by a demand signal generated from a differential level controller. The differential level controller located within the remote control panel shall measure the head loss across the bar screen. Once a preset level differential has been reached, a signal in the form of a dry contact closure is generated for starting the bar screen. Once directed to start, the bar screen system will continue to operate normal speed until the head loss is reduced to a preset operating differential level. The differential level controller shall also be capable of measuring an emergency high differential level across the bar screen. Once a preset emergency high differential level has been reached, the bar screen rake assembly will continuously operate at a high speed until the emergency high differential level is reduced to a preset operating differential level. Differential level shall be measured by ultrasonic transducers mounted upstream and downstream of the bar screen.

2.14.3 Control logic shall be included to provide overload protection in case of screen blockage that would stall the raking mechanism. If a blockage were encountered, the controls would stop the raking mechanism, reverse direction (low speed in reversal operations) to dislodge the blockage with the preceding rake, and

then reverse to the normal raking direction. Once the blockage is dislodged, the operating sequence continues as normal. If the blockage is not dislodged after three (3) reversals, the screen will stop operation and an alarm signal will be generated.

2.15 PROTECTIVE COATINGS

2.15.1 Stainless steel and plastic components shall not be painted. The stainless steel structural components shall be passivated after fabrication to remove embedded iron, surface rust and weld burn. All other surfaces shall be solvent cleaned to remove dirt, oil and foreign materials.

2.15.2 Cleaned surfaces shall be shop primed with one (1) coat of Tnemec Series N69-1212 primer, or equal, to attain a minimum dry film thickness of 2.5 mils. The motor and gear reducer shall be finish coated with two (2) coats TNEMEC Series 74 Endura-Shield, or equal, to attain a total minimum dry mil thickness of 5 mils. The motor and gear reducer shall be painted the same color. Non-stainless steel controls panels shall have manufacturer's standard paint finish.

2.16 SPARE PARTS

2.16.1 The Manufacturer shall furnish the following spare parts as the total amount of spare parts for this specification section.

- One (1) wiper blade

2.16.2 All spare parts shall be properly packaged, labeled and stored where directed by the Owner or Engineer.

PART 3 EXECUTION

3.01 WARRANTY

3.01.1 The Manufacturer of the equipment supplied under this specification shall provide a warranty for a period of two years commencing on acceptance and/or beneficial occupancy by the Owner but no later than 6 months from the date of shipment by the Manufacturer. The Manufacturer shall guarantee that the equipment furnished is suitable for the purpose intended and free from defects in design, materials and workmanship. In the event that the equipment fails to perform as specified the Manufacturer shall, at his option, promptly repair, modify or replace the defective equipment.

3.02 TESTING

3.02.1 The screen shall be factory assembled and factory run tested. The main control shall also be factory tested. If the screen is manufactured outside of the United States, the screen shall be factory tested at the point of manufacture and factory tested a second time as a complete assembly (including the motor) in the United States prior to shipment to the jobsite. The main control panel shall also be factory tested with the equipment prior to shipment.

3.02.2 The screen shall also be field tested after erection in the presence of the Owner and Engineer to confirm and verify the structural and mechanical compliance

to the specification. The field acceptance test shall include demonstrating that the rake teeth properly engage the bar rack along the length of the bar rack and that the screen can be run continuous for 4-hours without overheating.

3.03 DELIVERY AND STORAGE

- 3.03.1 The screening system shall be appropriately crated and delivered to protect against damage during shipment.
- 3.03.2 An authorized representative of the Contractor shall inspect the screens on delivery to the jobsite and shall report any damage or missing components to the Manufacturer and the Engineer within 72 hours of receipt of the shipment.
- 3.03.3 The Contractor shall store and temporarily support equipment prior to installation in strict accordance with the Manufacturer's recommendations and instructions. Protect all exposed surfaces. Keep records of the storage parameters and the dates that storage procedures were performed. The Contractor shall be responsible for work, equipment, and materials until inspected, tested and finally accepted.
- 3.03.4 Protect the equipment from being contaminated by dust, dirt, vibration and moisture.
- 3.03.5 Temporarily connect equipment with built in motor space heaters to a power source and keep heaters in operation. Rotate all shafts that have bearings on at least a monthly basis.

3.04 INSTALLATION

- 3.04.1 The installation of the equipment shall be as indicated on the drawings and in strict accordance with the Manufacturer's instructions and recommendations.
- 3.04.2 The contractor shall coordinate with the utility staff to assure that the wastewater system remains fully operational at all times.
- 3.04.3 The contractor shall remove and dispose of the first existing screen while leaving the second existing screen in place and fully operational.
- 3.04.4 The first screen shall be completely installed, field tested, adjusted and commissioned while the existing screen in the second position remains fully operational. When the first screen has been operational for a period of at least 1 week, the owner may issue approval of that portion of the work.
- 3.04.5 With the approval of the first screen, then removal and disposal of the second screen may be started.
- 3.04.6 The second screen shall be completely installed, field tested, adjusted and commissioned while the first screen remains fully operational.

3.05 FIELD TESTS, ADJUSTMENTS AND COMMISSIONING

- 3.05.1 The equipment shall be shipped completely factory assembled. Contractor shall verify all access dimensions, channel dimensions, and any interior building dimensions to ensure equipment may be installed as a factory assembled units.
- 3.05.2 The Contractor shall provide the services of a factory-employed service technician who shall adequately inspect the installation, test the equipment furnished under this Contract and instruct the Owner's operating personnel in its maintenance and operation. Factory personnel are required. Manufacturer's representatives are not deemed acceptable to provide the start-up service. The services of the technician shall be provided for two separate trips for each screen installation as follows:
- 3.05.2.1 One (1) trip of one (1) day of service to supervise the installation of the bar screen (if required).
- 3.05.2.2 One (1) trip of two (2) days of service to inspect and certify the installation prior to startup and instruct Owner's personnel in proper operation and maintenance of the equipment.
- 3.05.2.3 Start-up service and training for the bar screen can be combined with the service for the washing press if the same company provides both pieces of equipment.
- 3.05.3 Each screen shall operate and perform properly for a minimum of 1 continuous week before commissioning is considered over.
- 3.05.4 Upon satisfactory completion of the one week commissioning period the contractor shall provide a written notice to the owner that the work is complete and ready for final inspection.

END OF SECTION

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SECTION 33 25 12.02

WASHER COMPACTOR (VULCAN)

PART 1 GENERAL

1.01 SUMMARY

- 1.01.1 The contractor shall furnish labor, materials, equipment and other necessary items required to construct a complete washer compactor system as specified herein. This is not part of the base bid but is part of an alternate bid item.
- 1.01.2 The contractor shall include the design of modifications to the existing electrical system to provide adequate electrical service to the washer compactor. This will include an update Arc Flash Study and associated re-labeling. The contractor shall furnish labor, materials, equipment and other necessary items required to construct those electrical system modifications.
- 1.01.3 The contractor shall include the connection of the new washer compactor system to the existing SCADA system. The contractor shall furnish labor, materials, equipment and other necessary items required to integrate the systems.
- 1.01.4 The contractor shall include the connection of existing water lines to the new washer compactor system. The contractor shall furnish labor, materials, equipment and other necessary items required to connect the water system to the washer compactor. (The existing screen does not have a connection to the water system but one is nearby.)
- 1.01.5 The contractor shall include a connection that will carry all wash water from the washer compactor back into the influent flow channel. The contractor shall furnish labor, materials, equipment and other necessary items required to carry the wash water back to the influent channel. (The existing screen does not have a connection for drainage back to the influent channel.)

1.02 RELATED REQUIREMENTS

- 1.02.1 The work shall be performed in accordance with the following standard specifications and codes as amended by the City of Sedona:
- Maricopa Association of Governments, "Uniform Standard Specifications for Public Works Construction", 2016 edition (MAG Specifications);
 - Maricopa Association of Governments, "Uniform Standard Details for Public Works Construction", 2016 edition (MAG Details);
 - "City Code, Amendments to MAG Specifications, 7-15-11 and 12",
 - "International Building Code" (IBC) 2006,
 - "International Plumbing Code" (IPC) 2006,
 - "International Mechanical Code" (IMC) 2006,
 - "National Electric Code" (NEC), 2005.
- 1.02.2 The properties of all materials, design, fabrication and performance of the equipment to be furnished under this section shall be in accordance with the latest

issue of applicable standard specifications. The governing authorities of these standards are listed below.

- AFBMA, American Federation of Bearing Manufacturers Association
- AGMA, American Gear Manufacturers Association
- AICS, American Institute of Steel Construction
- AISI American Iron and Steel Institute
- ANSI, American National Standards Institute
- ASCE, American Society of Civil Engineers
- ASME, American Society of Mechanical Engineers
- ASTM, American Society of Testing and Materials
- AWS, American Welding Society
- IBC, International Building Code
- IEC, International Electric Code
- IEEE, Institute of Electrical and Electronics Engineers
- NEC, National Electrical Code
- NEMA, National Electrical Manufacturers Association
- SSPC, Steel Structures Painting Council, American National Standards Institute
- Underwriters Laboratory (UL)

1.03 SUBMITTALS

The submittal shall be provided to the engineer that includes all the following information:

- 1.03.1 Compliance Statement: Listing each Specification Section stating compliance with the Specifications, each minor nonconformity that is within the intent of the Specification and proposed nonconformities. Provide short descriptions of minor nonconformities, and detailed explanation and drawings of other nonconformities.
- 1.03.2 Certified shop drawings showing all important details of construction, dimensions and anchor bolt locations.
- 1.03.3 Descriptive literature, bulletins, and catalogs of the equipment.
- 1.03.4 Schematic electrical wiring diagram and electrical controls information for the equipment.
- 1.03.5 Complete motor and drive data.
- 1.03.6 The total weight of the equipment.
- 1.03.7 A complete bill of materials of all equipment.
- 1.03.8 A list of spare parts that are supplied with the equipment.
- 1.03.9 Electrical plans coordinated with the existing electrical system sealed by an electrical engineer. This will include an updated Arc Flash Study.
- 1.03.10 SCADA plans coordinated with the existing SCADA system.

- 1.03.11 Plumbing plan to show the connection of the existing water system to the new washer compactor and the connection of the drains from the washer compactor back to the influent channel.

1.04 OPERATION AND MAINTENANCE MANUALS

Submit operations and maintenance manuals in three ring binders for the equipment in compliance with the Contract documents, 30 days prior to shipment. Manuals shall include:

- 1.04.1 Contact name, address, and telephone number of the equipment manufacturer's Service Department and Parts Department.
- 1.04.2 Descriptive literature, including illustrations, covering the operational features of the equipment, specific for the particular installation, with all inapplicable information omitted or marked out.
- 1.04.3 Operating, maintenance and troubleshooting information.
- 1.04.4 Complete maintenance parts list.
- 1.04.5 Complete connection, interconnecting and assembly diagrams.
- 1.04.6 Approved shop drawings including complete electrical information.

1.05 QUALIFICATIONS

- 1.05.1 All the equipment specified under this Section shall be supplied by a single manufacturer involved in the manufacture of the screening equipment. Qualified manufacturers shall have a minimum of ten (10) years' experience with wastewater screening systems, specifically including washer compactors, for consideration.
- 1.05.2 If equipment is not manufactured by supplier, including welding and machining, the name and contact information of manufacturing facility must be supplied. If more than one manufacturer is used all companies and facilities must be provided.
- 1.05.3 If patents protecting equipment are not owned by supplier then an affidavit must be supplied stating owner of design and expiration of licensing agreement.

1.06 DESIGN REQUIREMENTS

- 1.06.1 System Description:
 - 1.06.1.1 The Washer Compactor will be positioned between the screening channels and will be fed by a sluice system.
 - 1.06.1.2 The Washer Compactor will be adequately sized to handle all the screenings and wash water that will be generated by the screen at peak flow. The system will be required to wash the screenings to reduce the organic content and compact the remaining solids into a dry plug.

1.06.1.3 The Washer Compactor will generally comprise of a screw auger rotating within the washing and drainage trough, a wash water system, a compaction zone and an outlet chute arrangement.

1.06.1.4 All stainless steel (including frame, grid, and drive components) mentioned below as stainless steel shall be 316 stainless steel. All hardware shall be 316 stainless steel.

1.06.1.5 The system is located in Sedona, AZ at an elevation of 4,100 feet. All components shall be suitable for that location and elevation.

1.06.2 Screen:

Refer to 33 35 12.01 for specifications on the screens.

1.06.3 Washer Compactor:

The washing and compacting system will be designed to meet the following design parameters:

Number of Washing Compactors	1
Screenings Capacity (batch service):	33 cf/hr
Screenings Capacity (continuous service):	99 cf/hr
Organic Removal, Max.:	90%
Volume Reduction Min.:	50%
System wash water requirements	19 gpm @ 35 psi

Existing Daily Loading from 0.5 inch bar spacing 10.9 cf (1.7 cf per mgd)
(The loading shall be adequate for the increase expected from the 0.25 inch bar spacing specified for the screen.)

PART 2 PRODUCTS

2.01 MANUFACTURER

2.01.1 The equipment shall be the Washer Compactor (Model EWP 250/1200) and Sluice (Model ST-12) as provided by Vulcan Industries, Inc. of Missouri Valley, IA. Other than the named supplier, all manufacturers proposing equipment described herein, will provide a detailed submittal package that demonstrates full compliance with the specifications.

2.01.2 If submitted equipment requires arrangement differing from that specified, prepare and submit for review complete structural, mechanical, and electrical drawings and equipment lists showing all necessary changes and embodying all special features of equipment proposed. Any changes are at no additional compensation and the Manufacturer will be responsible for all engineering costs of redesign by the Engineer, if necessary.

2.01.3 The manufacturer of the washer compactor shall be the same as the manufacturer of the screen. The two systems shall be coordinated.

2.02 WASHER COMPACTOR

2.02.1 General

- 2.02.1.1 The washer compactor shall be provided to reduce the organic content, moisture content and volume of screenings material from the multiple rake screen. Screenings material shall enter the inlet hopper and be transported by the rotating screw into the washing zone. In the washing zone, wash water is sprayed through the hollow shaft screw and into the screenings material to help dissolve and remove organic material.
- 2.02.1.2 During normal flow conditions, the washer compactor shall be operated in a forward and reverse sequence via a programmable logic controller (PLC). The screenings will be transported into the washing zone where the screw shall stop rotation. Wash water will then be injected through the hollow shaft screw and into the screenings. The screw will then reverse, bring the screenings out of the washing zone and stop rotation to allow the washing zone to be flushed. The screw then once again operates in the forward direction and repeats the washing sequence. This adjustable washing process shall be repeated a minimum of six (6) times to ensure thorough cleaning of the screenings material.
- 2.02.1.3 During peak loading conditions, the washing process shall automatically switch to operate in the forward direction to handle the larger amount of screenings with only short intervals of reversing to ensure that material does not accumulate on the shaft of the screw.
- 2.02.1.4 Four (4) manual ball valves shall be provided, one (1) for each solenoid valve, to allow personnel to isolate the solenoid valves or throttle the amount of wash water.

2.02.2 Inlet Hopper

- 2.02.2.1 The inlet hopper shall be designed to direct screenings material from the sluice trough into the screw housing. The inlet hopper shall be constructed of 316 stainless steel. All attachment hardware shall be of 316 stainless steel.

2.02.3 Screw Housing

- 2.02.3.1 The screw housing and associated components shall be constructed of 316 stainless steel. The inlet flange shall have a minimum thickness of 3/4-inch and the outlet flange shall have a minimum thickness of 9/16-inch. The outlet flange shall incorporate a 10-inch pipe bolt pattern for connection to the discharge pipe.
- 2.02.3.2 The dewatering section shall incorporate anti-rotation bars around the complete circumference to contain the screenings material and prevent rotation of the screenings during the dewatering process. Counter sunk perforations shall be provided in the dewatering zone to allow the removal of the filtrate during compaction. Wash water inlets shall be provided on the top of the washing zone and on the top of the dewatering zone for automatic periodically flushing.
- 2.02.3.3 A hinged cover for the dewatering section shall be held in place by a latching system to allow easy inspection. A resilient seal shall be mounted to the

cover to form a watertight seal with the screw housing. Designs that utilize covers that rely on tools for removal or designs where the cover is not removable are not acceptable.

- 2.02.3.4 The bottom of the housing shall contain a 1/2-inch thick, 316 stainless steel wedge wire section for drainage. The wedge wire section shall be constructed of individual profiled bars and shall have 2 mm linear openings. Round or slotted perforated holes in the drainage area are specifically excluded.

2.02.4 Hollow Shaft Screw

- 2.02.4.1 The hollow-shaft screw shall be constructed of alloy steel and it shall have a nominal outside diameter of 8-1/2 inches. The shaft shall be a minimum of 2-1/2 inches in diameter. The shaft shall be hollow with perforations located in the washing zone to allow wash water to be injected into the screenings from the inside out. Designs incorporating only radial or external spraying from the outside of the screw housing are not acceptable.
- 2.02.4.2 The outer flights shall be cold formed from continuous lengths of steel bar with a minimum thickness of 3/4-inch. After fabrication the screw shall be precision machined to ensure that it is concentric along its length. The distance between the flights shall be arranged to allow transportation into the washing zone and compaction in the dewatering zone.
- 2.02.4.3 The screw shall have a minimum Brinell hardness of 200 and hard facing shall be applied to the end of the screw to extend the useful service life.
- 2.02.4.4 A 316 stainless steel reinforced nylon brush shall be attached to the hollow shaft screw with setscrews in the drainage area to help prevent debris from blinding the drain. To reduce wear on the brush, the design shall be such that the screw shall not be allowed to rest in the press housing. The screw shall be fully supported and cantilevered off of the thrust bearing.

2.02.5 Thrust Bearing

- 2.02.5.1 An independent, 316 stainless steel axial thrust bearing shall be flange mounted to the drive and flange mounted to the press body. The thrust bearing shall fully support the screw and handle the load created during compaction and reversal of the screw. The thrust bearing shall have a fabricated 316 stainless steel housing and shall utilize self-aligning double tapered roller bearings located between two sets of double lip seals. The flanges on the housing shall have a 9/16-inch minimum thickness. Designs that utilize the bearing inside the gear reducer are not acceptable.
- 2.02.5.2 An O-ring seal shall be mounted in a machined groove on the face of the bearing to seal against the press body. The screw shall be cantilevered off the thrust bearing to prevent the screw from resting inside the screw housing.

2.02.6 Drive Assembly

- 2.02.6.1 The washer compactor shall be complete with an integrated drive assembly consisting of a TEFC Class 1, Division 1, Group D, explosion-proof electric reversing motor close-coupled to a gear reducer.

2.02.6.2 The motor shall be a 5.0 horsepower, 230/460 volt, 3 phase, 60 Hertz with a service factor of 1.15. The motors shall be rated at 40°C ambient with Class F insulation and shall have a Class B temperature rise at full load. The nominal motor speed shall be 1800 rpm. Approved motor manufacturers include:

- Nord,
- US Motors/Emmerson,
- Baldor,
- Toshiba,
- GE, and
- Marathon.

2.02.6.3 The gear reducer shall be parallel shaft helical gear reducer having a minimum 105:1 gear ratio. The gear reducer shall have a minimum output torque rating of 18,500 in/lbs at 15 rpm.

2.02.6.4 Gear reducers shall have ball or roller bearings throughout with all moving parts immersed in oil. Gears shall be of alloy steel with threads precision ground and polished after casehardening. Shafts shall be of high strength alloy steel ground to required tolerances. All ball or roller bearings shall be rated and manufactured by a member of the Antifriction Bearing Manufacturer's Association. At least one bearing on each shaft shall be of the combined radial and thrust type.

2.02.6.5 Approved gearbox manufacturers include:

- Faulk,
- Winsmith,
- Rexnord, and
- Dodge.

2.02.7 Drain Pan

2.02.7.1 A drain pan shall be mounted to the bottom of the screw housing along the full length of the housing. The pan shall be sloped towards the drain and it shall be provided with a flushing nozzle on the dewatering end and a minimum 4-inch diameter drainpipe on the drive end. The pan shall be held in place by a latching system to allow fast and easy removal. Designs that utilize drain pans that rely on tools for removal or designs where the drain pan is not removable are not acceptable.

2.02.7.2 The drain pan shall incorporate a resilient seal along its top edge to form a watertight seal with the screw housing. The drain pan shall be constructed of a minimum 14-gauge 316 stainless steel.

2.02.8 Discharge Pipe

2.02.8.1 The discharge pipe shall be mounted to the pipe flange on the press body and designed to transport the washed, dewatered and compacted screenings to the appropriate receiving device. The discharge pipe shall be constructed of 316 stainless steel pipe and shall be of the configuration as shown on the Contract Drawings.

2.03 SLUICE TROUGH

2.03.1 General

2.03.1.1 The sluice trough shall be designed to collect and convey debris received from the bar screens into a screenings washer compactor. The sluice trough shall be able to convey the entire hydraulic flow and screenings to the washer compactor. The screenings inlet hopper shall be provided with a flush water solenoid valve and spray nozzle manifold (one each per side) for directing the collected screenings to the sluice trough. In addition, a sluice trough and sluice trough flushing solenoid valves shall be provided for connection to the head plate of the sluice trough and the flushing header mounted internal to the sluice trough. Manual ball valves shall also be provided for each water connection to allow personnel to isolate the solenoid valves or throttle the amount of flush/sluice water.

2.03.1.2 The sluice trough system shall consist of the following components:

Sluicing Trough	Removable Cover Panels
Inlet Hoppers	Support Legs
Anchor Bolts	
Floor Stand Mounted Local junction box and Water Valve Manifold	

2.03.1.3 In addition, any other components required to provide a system, which will be capable of fully performing the functions specified.

2.03.2 Inlet Hopper

2.03.2.1 The inlet hoppers shall be designed to direct wet screenings material into the sluice trough from the mechanical screens. The inlet zone will be completely shrouded to contain the screenings. The inlet hopper shall be 12-gauge thick minimum and be constructed of 316 stainless steel. All attachment hardware shall be of 316 stainless steel.

2.03.2.2 Each side of the hopper head plate shall be provided with a minimum 1" NPT coupling for connection of the flush water source.

2.03.3 Sluice Trough

2.03.3.1 The sluice trough shall be U-shaped and constructed of 10-gauge thick 316 stainless steel with minimum 12-inch width and 18-inch depth. The inside of the sluice trough shall be smooth and shall not allow any location for debris to collect while being conveyed. The trough shall be supported by 316 stainless steel legs.

2.03.3.2 The top of the trough shall be furnished with removable cover panels. The cover panels shall have a minimum thickness of 20-gauge and be constructed of 316 stainless steel.

2.03.3.3 The trough shall be provided with a minimum of two (2) flanged sections for field assembly. The flanged sections shall be fully gasketed and designed to not leak under any operational conditions.

2.03.3.4 The trough head plate shall be provided with a minimum 2" NPT coupling for connection of the sluice water source. In addition, a minimum 1" NPT coupling shall be provided for the internal sluice trough flushing nozzle pipe header.

2.03.3.5 An internally mounted flush water header pipe with a minimum of four (4) spray nozzles. The nozzles shall be suitably sized and equally spaced along the length of the header pipe.

2.03.4 Fasteners and Anchor Bolts

2.03.4.1 All fasteners shall be 316 stainless steel unless otherwise indicated in this specification. All threaded fasteners shall be coated with a nickel based anti-seize thread lubricant prior to assembly.

2.03.4.2 All anchor bolts shall be 316 stainless steel unless otherwise indicated in this specification. Anchor bolts shall be ample size and strength for the purpose intended and as shown on the Contract Drawings.

2.04 CONTROL PANEL

2.04.1 The main panel controls for the washer compactor shall be incorporated into the control panel(s) for the screens. All components shall meet the same specifications.

2.04.2 The washer compactor shall be cycled on and off by remote control signals from the main control panel. The washer compactor shall be capable of being cycled by a screen cycle counter.

2.04.3 Local controls shall consist of a NEMA 4X local control station with HAND-OFF-AUTO and FORWARD-OFF-REVERSE switches, an INITIATE push-button and a mushroom head EMERGENCY STOP push-button. The FORWARD-OFF-REVERSE switch shall be spring-loaded to OFF. The INITIATE push-button shall allow the starting a cleaning sequence when the local controls are used. The H-O-A and F-O-R switches shall be capable of operating the press if the PLC is out of service.

2.04.4 The local controls and solenoid valves shall be factory wired to a terminal strip located inside the local control station. Four (4) brass body solenoid valves, four (4) manual 316 stainless steel ball valves and a pressure gauge shall be provided as part of a valve wash water manifold. The solenoid valves shall be activated by the PLC in the main control panel to provide wash water intermittently during cleaning and flushing cycles. The local control station and valve manifold shall be mounted on a common floor mounted 316 stainless steel support stand.

2.04.5 The control panel wiring shall contain all power and control devices which shall include, but not be limited to, the following:

- One (1) control power On-Off selector switch.
- One (1) red pilot light for "Running" indication.
- One (1) amber pilot light for "Over Current" indication.
- One (1) amber pilot light for "Motor Overload" indication
- One (1) white pilot light for control power.

- One (1) momentary “common reset” push-button for over current/overload reset.
- One (1) programmable logic controller (PLC). The PLC shall be an Allen Bradley MicroLogix 1400 with on-board Ethernet port.
- One (1) operator interface terminal (OIT) located on the exterior of the control panel. The OIT shall be a Red Lion G307K200.
- One (1) surge arrestor to protect the PLC.
- One (1) line filter to control line-to-ground noise to the PLC.
- One (1) interposing relay on each PLC output.
- One (1) surge suppressor on each interposing relay on the PLC outputs.
- One (1) five port Ethernet switch.
- One (1) 24VDC power supply for the Ethernet switch and OIT.
- One (1) elapsed time meter.
- One (1) 480 VAC to 120 VAC control power transformer.
- One (1) Full voltage NEMA rated reversing starter. The magnetic starter shall be of the heater-less design and provide phase loss protection, short circuit self-protection and thermal memory. The solid-state overload shall be self-powered.
- One (1) current sensing relay (CSR). The CSR shall continuously monitor the motor current to prevent damage due to a jam obstruction or a unit malfunction. If the preset/adjustable current setting is reached, the equipment will be shut down and an alarm signal generated. The cause of the alarm should be investigated and corrected. The alarm shall be manually reset prior to the unit returning to normal operation.
- Spare contact for remote indication of “Over Current” alarm.
- Spare contact for remote indication of “Motor Overload” alarm.
- Spare contact for remote indication of “Running”.
- Control logic shall be PLC based with timers and counters written in ladder logic. Timers and counters shall be adjustable via an operator interface on the exterior of the control panel.
- One (1) HAND-OFF-AUTO switch.
- One (1) FORWARD-OFF-REVERSE switch.
- One (1) INITIATE push-button.
- One (1) circuit breaker

2.05 SURFACE PREPARATION AND PAINTING

- 2.05.1 All stainless steel materials, including hardware, shall be acid passivated for quality control, removal of heat affected discoloration, surface treatment for corrosive environments and to provide a uniform finish to stainless surfaces.
- 2.05.2 All ferrous surfaces (except stainless steel) shall be coated with a pre-primer, primer, and an exterior top coating, or fusion bonded polyester coating suitable for humid/wet environments for superior corrosion protection.
- 2.05.3 Motor and gearbox shall be manufacturer’s standard coating for humid/wet environments for superior corrosion protection.

2.06 SPARE PARTS

2.06.1 The Manufacturer shall furnish the following spare parts for the press.

- One (1) solenoid valve
- Two (2) sets of wear bars and attachment hardware (if applicable)

2.06.2 All spare parts shall be properly packed in a white wooden box, labeled and stored where directed by the Owner or Engineer.

PART 3 EXECUTION

3.01 WARRANTY

3.01.1 The Manufacturer of the equipment supplied under this specification shall provide a warranty for a period of two years commencing on acceptance and/or beneficial occupancy by the Owner but no later than 6 months from the date of shipment by the Manufacturer. The Manufacturer shall guarantee that the equipment furnished is suitable for the purpose intended and free from defects in design, materials and workmanship. In the event that the equipment fails to perform as specified the Manufacturer shall, at his option, promptly repair, modify or replace the defective equipment.

3.02 FACTORY TESTING

3.02.1 The washer compactor system and all components shall be factory assembled and tested for a minimum of 24 hours prior to shipment. The equipment shall be shipped fully assembled and shall be capable of being set in place and field erected by the Contractor with minimal field assembly.

3.02.2 During the factory test period the washer compactor system shall be adjusted as required assuring proper operation on completion of the field installation. The Manufacturer shall supply a certification of the completion of the factory testing of the assembled washer compactor and appurtenances and shall certify as to the equipment being in satisfactory operating condition at time of shipment. The Engineer and/or Owner may, at their own option and expense, witness the factory test.

3.03 DELIVERY AND STORAGE

3.03.1 The washer compactor system shall be appropriately crated and delivered to protect against damage during shipment.

3.03.2 An authorized representative of the Contractor shall inspect the washer compactor on delivery to the jobsite and shall report any damage or missing components to the Manufacturer and the Engineer within 72 hours of receipt of the shipment.

3.03.3 The Contractor shall store and temporarily support equipment prior to installation in strict accordance with the Manufacturer's recommendations and instructions. Protect all exposed surfaces. Keep records of the storage parameters and the dates that storage procedures were performed. The Contractor shall be

responsible for work, equipment, and materials until inspected, tested and finally accepted.

3.03.4 Protect the equipment from being contaminated by dust, dirt, vibration and moisture.

3.03.5 Temporarily connect equipment with built in motor space heaters to a power source and keep heaters in operation. Rotate all shafts that have bearings on at least a monthly basis.

3.04 INSTALLATION

3.04.1 The installation of the equipment shall be as indicated on the drawings and in strict accordance with the Manufacturer's instructions and recommendations.

3.04.2 The contractor shall coordinate with the utility staff to assure that the wastewater system remains fully operational at all times.

3.04.3 The contractor shall install the washer compactor with the first screen installation so that it is operational with the first screen.

3.04.4 The contractor shall complete the installation the washer compactor with the second screen installation so that it is operational with the first screen.

3.05 FIELD TESTS, ADJUSTMENTS AND COMMISSIONING

3.05.1 The equipment shall be shipped completely factory assembled. Contractor shall verify all access dimensions, channel dimensions, and any interior building dimensions to ensure equipment may be installed as a factory assembled units.

3.05.2 The Contractor shall provide the services of a factory-employed service technician who shall adequately inspect the installation, test the equipment furnished under this Contract and instruct the Owner's operating personnel in its maintenance and operation. Sales representatives are not deemed acceptable service technicians. The services of the technician shall be provided as follows: One (1) trip and two (2) days of service to inspect and certify the installation prior to startup and provide Owner's personnel in proper operation and maintenance of the equipment. Start-up service can be combined with the start-up service for the multiple rake screen.

3.05.3 The washer compactor shall also be field tested after erection in the presence of the Owner and Engineer to confirm and verify the structural and mechanical compliance to the specification. As a minimum, field testing shall include demonstration that the washer compactor can pass four (4) 12-inch long oak 2x4's, four (4) red bricks and four (4) 12-inch long pieces of 4-inch diameter Schedule 80 PVC pipe. The field acceptance test shall include demonstrating that the washer compactor operates without vibration, jamming or overheating and perform its specified function satisfactorily.

3.05.4 The washer compactor shall operate and perform properly for a minimum of 1 continuous week with both screens operating before commissioning is considered

over.

- 3.05.5 Upon satisfactory completion of the one week commissioning period the contractor shall provide a written notice to the owner that the work is complete and ready for final inspection.

END OF SECTION

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General Conditions

2016

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GENERAL CONDITIONS

1. CONTENTS

The following Contract Provisions are general in scope and may refer to conditions, which will not be encountered in the performance of the work, included in this Contract and which are not applicable thereto. Any requirements, provisions or other stipulation of these General Conditions, which pertain to a non-applicable condition, shall be excluded from the scope of the Contract. Where conflict appears, "Special Condition" shall take precedence over "General Conditions". Full compensation for compliance with these General Conditions shall be considered as included in the total and various bid items of the contract and the contract time.

2. DEFINITIONS AND TERMS

When the Contract indicates that work shall be "accepted, acceptable, approve, authorized, condemned, considered necessary, contemplated, deemed necessary, designated, determined, directed, disapproved, established, given, indicated, insufficient interpreted, ordered, permitted, rejected, required, reserved, satisfactory, specified sufficient, suitable, suspended, unacceptable, unsatisfactory," it shall be understood that these expressions are followed by the words "by the City of Sedona".

Wherever the following abbreviations, terms, or pronouns are used in the specifications, plans, or other Contract Documents, the intent and meaning shall be interpreted as follows:

ABBREVIATIONS

AAN	American Association of Nurserymen
AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ADOT	Arizona Department of Transportation
AGC	Associated General Contractors of America
AI	Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ANSI	American National Standards Institute, Inc.
ARA	American Railway Association
AREA	American Railway Engineering Association
ARTBA	American Road and Transportation Builders Association
ASCE	American Society of Civil Engineers
ASLA	American Society of Landscape Architects
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATSSA	American Traffic Safety Services Association
A WG	American Wire Gauge
AWPA	American Wood Preservers' Association
AWS	American Welding Society
AWWA	American Water Works Association

CRSI	Concrete Reinforcing Steel Institute
EIA	Electric Industries Association
FHWA	Federal Highway Administration, Department of Transportation
FSS	Federal Specifications and Standards
IEEE	Institute of Electrical and Electronics Engineers
IES	Illuminating Engineering Society
IMSA	International Municipal Signal Association
IPCEA	Insulated Power Cable Engineers Association
ITE	Institute of Transportation Engineers
MAG	Maricopa Association of Governments
MIL	Military Specifications
MUTCD	Manual on Uniform Traffic Control Devices
NEC	National Electrical Code
NEMA	National Electrical Manufacturers' Association
NIST	National Institute of Standards and Technology
NSF	National Sanitation Foundation (NSF)
SAE	Society of Automotive Engineers
UL	Underwriters Laboratories, Inc.

ADVERTISEMENT - A public announcement inviting proposals for work to be performed or materials to be furnished.

AWARD - The acceptance by the City of a proposal.

BASIS OF PAYMENT - The terms under which "work" is paid, as a designated pay item in accordance with the quantity measured and the pay unit.

BIDDER - Any individual, partnership, joint venture, firm or corporation submitting a proposal for the advertised work, acting directly or through a duly authorized representative.

CALENDAR DAY - Each and every day shown on the calendar, beginning and ending at midnight.

CERTIFIED INVOICE - An invoice from a supplier which has been reliably endorsed by the Contractor guaranteeing that the material was purchased and received for the project and establishing the value of the material.

CLAIM - A written demand or request for additional compensation or additional time submitted to the Engineer that:

- A. Contains the words "This is a claim...", within its Subject line or the first paragraph
- B. Cites the contractual basis for the demand or request
- C. Relates the Contractual basis cited to factual events occurring or that have occurred within the project.

COMPLETION DATE - The date on which the contract work is specified to be completed

CONTRACT ITEM (PAY ITEM) - A specifically named unit of work for which a price is provided in the Contract. The description, whether general or detailed, the content of the named unit of work shall be as per the project plans and specifications.

CONTRACT CHANGE ORDER - A written order issued to the Contractor by the City covering extra work, additions or alterations to the plans and specifications, and establishing the basis of payment and time adjustment for the work affected by the changes. The Contract Change Order is the only method authorized for changing the Contract.

CONTRACT DOCUMENTS - The following comprise the Contract Documents: Advertisement for Bids, Information for and Instructions to Bidders, Bid Proposal and Bid Guarantee Bond, Construction Contract, Change Orders, Addenda, Performance Bond, Labor and Material Payment Bond, Special Conditions, General Conditions, Technical Specifications, Notice of Award, Notice to Proceed, Drawings, Plans, Standard Specifications and Certificate of insurability. All of these documents together constitute the **CONTRACT**.

CONTRACT TIME - The number of calendar days allowed for the entire completion of the Contract, including authorized time extensions and work required to be complete after substantial completion. Where a calendar date of completion is specified, the Contract shall be completed on or before that date.

CONTRACTOR - Party contracting directly with the City to furnish and perform all work and services in accordance with the Contract Documents.

COUNTY - The County in which the work is to be done.

DAY - Unless otherwise defined shall mean "calendar" day.

ENGINEER - The City Engineer; or his designated representative.

EXTRA WORK - Work not provided for in the Contract as awarded but determined by the City to be essential to the satisfactory completion of the Contract within its intended scope.

FINAL ACCEPTANCE - The acknowledgment by the City that the project or the work has been completed in accordance with the Contract Documents and provides the date at which the warranty or guarantee period begins.

INSPECTOR - A person, persons, or firm authorized by the Engineer to make detailed reviews, observations, reports and determinations of contract performance.

MAY - Used to refer to permissive actions.

METHOD OF MEASUREMENT - The manner in which a pay item is measured to conform with the pay unit.

NOTICE OF CLAIM - A written notification submitted to the Engineer that a demand or request for additional compensation or additional time may be made. The notification shall

1. Contain the words "notification of a potential claim" within its Subject line or the first paragraph
2. Describe the occurrence which is the reason that the Notice of Claim is being presented

NOTICE TO PROCEED - Written notice to the Contractor to proceed with the contract work including, when applicable, the date of beginning of contract time. Start of Construction, as defined below, may start at a later date.

PLANS - The drawings and pictures depicting the location and special orientation of the work to be done.

PROJECT - The work to be completed pursuant to this contract.

PROPOSAL - A standard form plus information supplied by the City, which contains spaces for completion by the Bidder which, when completed in its entirety and executed by the Bidder, along with all required additional documents, shall constitute the Bid. Said Bid shall constitute the Contractor's offer to perform all work required as set forth in the Contract Documents for the amount of money stated in the Bid.

PROPOSAL FORM - The documents furnished by the City on which the offer of a bidder is submitted.

PROPOSAL GUARANTY - The security furnished with a proposal to Guaranty that the bidder will enter into the Contract if the proposal is accepted.

RIGHT OF WAY - A general term denoting land, property, or interest therein, acquired for or devoted to the construction of an improvement.

SALVABLE MATERIAL - Material that can be saved or salvaged. Unless otherwise designated or directed by the City or shown on the plans, all salvable material shall become the property of the Contractor.

SAMPLES - Samples are physical examples furnished or constructed by the Contractor to illustrate materials, equipment, workmanship or finishes, and to establish standards by which the work will be judged.

SHALL - Refers to mandatory actions by either the Contractor or the City.

SHOP DRAWINGS - Drawings, diagrams, illustrations, certificates, test reports, schedules, performance charts, brochures, shop layouts, fabrication layouts, assembly layouts, foundation layouts, wiring and piping layouts, specifications and descriptive literature required by the Contract Documents which the Contractor is required to submit for approval.

START OF CONSTRUCTION – The date in which the Contractor begins physical work at the project site. Restrictions on start of construction are provided in the General Conditions and may be specified in the Special Conditions.

SUBCONTRACTOR - Party supplying labor and/or material for work at the site of the project for, and under separate contract or agreement with, the Contractor. Nothing contained in the Contract Documents shall create any contractual relationship between the City and any subcontractor.

SUBSTANTIAL COMPLETION - The date when the work is sufficiently completed so it may be safely, conveniently, and beneficially utilized by the City for all of the purposes for which it

was intended. Reduced liquidated damages are chargeable for a project or portions thereof which have separately specified damages, if there are items of work remaining to be performed relative to such work once full substantial completion status has been attained. In such cases the amount of liquidated damages due shall be twenty-five percent (25%) of the unreduced liquidated damage amount stated in the contract.

SUPERINTENDENT - The Contractor's authorized representative in charge of the work.

WORK - The furnishing of all labor, materials, equipment, and all other incidentals necessary to the successful and acceptable completion of all obligations as described in the Contract Documents, and the carrying out of all of the duties and obligations imposed by the Contract.

3. CONTRACTOR'S UNDERSTANDING

- A. It is understood and mutually agreed that by submitting a proposal, the Contractor acknowledges that he has carefully examined all documents pertaining to the work, the locations, accessibility, and general character of the site of the work and all existing buildings and structures within and adjacent to the site, and has satisfied himself as to the nature of the work, the condition of existing buildings and structures, the conformation of the ground, subsurface conditions, the character, quality, and equipment, machinery, plant, and any other facilities needed preliminary to and during prosecution of the work, the general and local conditions, the construction hazards, and all other matters, including but not limited to any labor situation which can in any way affect the work under the Contract. It is further mutually agreed that by submitting a proposal, the Contractor acknowledges that he has satisfied himself as to the feasibility and correctness of the Contract Documents for the construction of the work and that he accepts all the terms, conditions, and stipulations contained therein; and that he is prepared to work in peace and harmony with other Contractors performing work on the site.
- B. No verbal agreement or conversation with any officer, agent, or employee of the City, either before or after the execution of the Contract, shall affect or modify any of the terms, conditions, or other obligations set forth in any of the Contract Documents.
- C. The Contractor understands that, unless specifically stated otherwise in the contract documents, the intent of the contract documents is to provide complete and operable facilities. The Contractor's bid amount for this project, therefore, shall be and is considered to be for completion in conformity with this understanding, regardless of whether some aspect of the work to be performed is named as a separate bid item or not.

4. DEFECTIVE WORK

- A. A City Representative, designated by the City Engineer, shall give written notice of the noncompliance to the Contractor, when, and as often as the City Representative determines through his inspection that procedures, material, equipment or workmanship incorporated in the Project does not meet the requirements of the Contract. Within five (5) working days from the receipt of such notice, the Contractor shall undertake the work necessary to correct such deficiencies, and to bring the work into compliance with the Contract Documents. Should the Contractor not agree with the City Representative's determination, and as a condition precedent to any request for either additional compensation or time extension, or both, resulting from the City Representative's determination, the Contractor shall within

three (3) working days provide a Notice of Claim to the Engineer that he may claim additional compensation, time or both, and detailed explanation of the Contractor's position. The Contractor shall document the costs associated with the corrective work with daily records and cost data and shall furnish such information to the Inspector daily. Receipt of cost data shall not be construed to be an acceptance of the corrective work, or an authorization for a Change Order to cover the corrective work. Failure by the Contractor to provide the specified written notice of an intention to make a claim shall be sufficient basis to reject any related claim subsequently submitted.

- B. Prior to initial acceptance of the Project, the City may, at its option, retain work, which is not in compliance with the Contract if the City determines that such defective work is not of sufficient magnitude or importance to make the work dangerous or undesirable. The City also may retain defective work, if in the opinion of the Inspector, and with concurrence of the City Engineer, removal of such work is impractical or will create conditions, which are dangerous or undesirable. Just and reasonable value, for such defective work, shall be judged, by the Engineer and appropriate deductions shall be made in the payments due, or to become due to the Contractor. Initial acceptance shall not act as a waiver of the City's right to recover from the Contractor an amount representing the deduction for retention of defective work.

5. NOTICE AND SERVICE THEREOF

Where the manner of giving notice is not otherwise provided for in the Contract Documents, any notice to the Contractor from the City relative to any part of the Contract shall be in writing and considered delivered and the service thereof completed, when said notice is posted to the Contractor at the address given in the Contractor's proposal, or at the last business address known to the City, or delivered in person to the Contractor or his authorized representative on the site or transmitted electronically by facsimile or electronic mail using phone numbers and addresses last provided by the Contractor. It is mutually agreed that such notice shall be sufficient and adequate. The Contractor shall provide the City, upon written request, facsimile phone numbers and electronic mail addresses, in writing.

6. MATERIAL AND EQUIPMENT SPECIFIED BY NAME

When material or equipment is specified by reference to one or more patents, brand names, or catalog numbers, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements, and that other materials or equipment, of equal capacities, quality and function may be considered. The Contractor may offer material or equipment of equal or better quality and performance in substitution for those specified which he considers would be in the City's interest to accept. After the Award of the Contract, the City will consider offers for substitution only from the Contractor and will not acknowledge or consider such offers from suppliers, distributors, manufacturers, or Subcontractors.

Substitutions

The Contractor's offer of substitution shall be made in writing to the Engineer and shall include sufficient data to enable the Engineer to assess the acceptability of the material or equipment for the particular application and requirements. If the offered substitution necessitates changes to or coordination with other portions of the work, the data submitted shall include drawings and details showing such changes. Contractor agrees to perform these changes as part of the

substitution of material or equipment. Within thirty (30) calendar days after the receipt of the offer of substitution, the Engineer will review the material submitted by the Contractor and notify the Contractor if approved for use or objections, if any, to the proposed substitution or if further information is required. Upon notification by the Engineer, the Contractor shall either provide the approved material or equipment, which complies with project specifications, or furnish requested additional information. While the Engineer might not take any objections to the proposed substitution and may approve the same, such action shall not relieve the Contractor from responsibility for the efficiency, sufficiency, quality and performance of the substitute material or equipment, in the same manner and degree as the material and equipment specified by name. Any cost differential associated with a substitution shall be reflected in the Contractor's offer of substitution and the Contract Documents shall be modified by a Change Order.

When the specifications state the construction shall be performed by the use of certain methods and equipment, such methods and equipment shall be used unless other methods are authorized by the Engineer. If the contractor desires to use a method or type of equipment other than those specified, he may request authority from the Engineer to do so. The request shall be in writing and shall include a full description of the method and equipment proposed to be used and an explanation of the reasons for desiring to make the change. If approval is given it will be on the condition that the Contractor will be fully responsible for producing construction work in conformity with the Contract Documents. If material or equipment is specified by only one patent or proprietary name, or by the name of only one manufacturer, it is for the purpose of standardization, or because the City knows of no equal. If standardization is the reason for using one name to specify any material or equipment, the specifications will so state, and substitutions will not be considered. In other cases, the Contractor may offer substitutions in the same manner as requesting a Change Order for products he considers being equal to those specified.

7. CONTRACT BONDS AND GUARANTEES

- A. The Contractor shall provide two surety bonds on the forms provided, each in an amount equal to 100% of the contract price. One shall serve as security for the faithful performance of the work and the other as security for the faithful payment and satisfaction of the persons furnishing materials and performing labor on the work. The bonds shall be issued by a corporation duly and legally licensed to transact surety business in the State of Arizona. Such bonds shall remain in force throughout the period required to complete the work and thereafter for a period of 365 calendar days after final acceptance of the work, plus 365 calendar days following the repair of any work pursuant to the guarantees herein made. The surety's liability on the bonds shall not exceed the underwriting limitations for the respective surety specified in Circular 570, published by the United States Department of the Treasury.
- B. Should any surety or sureties be deemed unsatisfactory at any time by the City, notice will be given to the Contractor to that effect and he shall forthwith substitute a new surety or sureties satisfactory to the City. No further payment shall be deemed due or will be made under this Contract until the new surety shall qualify and be accepted by the City.
- C. The Contractor guarantees to the City that all materials and equipment furnished under this Contract will be new and of good and sufficient quality, free from faults and defects as is necessary to complete the project as required by the Plans and Specifications.

8. INSURANCE

- A. The Contractor, at Contractor's own expense, shall purchase and maintain the herein stipulated minimum insurance with companies duly licensed, possessing a current A.M. Best, Inc. Rating of B+6, as minimum and approved and licensed to do business in the State of Arizona with policies and forms satisfactory to the City.
- B. All required insurance herein shall be maintained in full force and effect until all work required to be performed under the terms of the Contract is satisfactorily completed and finally accepted - failure to do so may, at the sole direction of the City, constitute a material breach of this Contract.
- C. The Contractor's insurance shall be primary insurance, and any insurance or self-insurance maintained by the City shall not contribute to it.
- D. Any failure to comply with the claim reporting provisions of the policies or any breach of an insurance policy warranty shall not affect coverage afforded under the policy to protect the City.
- E. The policies, except Workers' Compensation, shall contain a waiver of transfer rights of recovery (subrogation) against the City, its agents, officers, officials and employees for any claims arising out of the Contractor's work or service.
- F. The insurance policies may provide coverage, which contains deductibles or self-insured retentions. Such deductible and/or self-insured retentions shall not be applicable with respect to the coverage provided to the City under such policies. The Contractor shall be solely responsible for deductible and/or self-insured retention and the City, at its option, may require the Contractor to secure the payment of such deductible or self-insured retentions by a surety bond or an irrevocable and unconditional letter of credit.
- G. The City reserves the right to request and to receive, within ten (10) working days, certified copies of any or all of the herein required insurance policies and/or endorsements. The City shall not be obligated, however, to review same or to advise Contractor of any deficiencies in such policies and endorsements, and such receipt shall not relieve Contractor from, or be deemed a waiver of, the City's right to insist on strict fulfillment of Contractor's obligations under this Contract.
- H. The insurance policies, except Workers' Compensation, required by this Contract shall name the City, its agents, officers, officials and employees as additional insured.
- I. The making of progress payments to the Contractor shall not be construed as creating an insurable interest by or for the City or be construed as relieving the Contractor or his Subcontractors of responsibility for direct physical loss, damage or destruction occurring prior to final acceptance.
- J. Any insured loss under the policies of insurance required by this Agreement shall be adjusted with the City and made payable to City for the insured, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph K of this Article of these General Conditions. City 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 shall be applied on account thereof, and the work and the cost thereof shall be covered by an appropriate Change Order.

- K. City shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within ten (10) working days after the occurrence of loss to City's exercise of this power. If such objection were made, City shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If required in writing by any party in interest, City shall upon the occurrence of an insured loss, give bond for the proper performance of these duties
- L. If City finds it necessary to occupy or use a portion or portions of the work prior to substantial completion of all of the work, such use or occupancy may be accomplished as provided in these General Conditions, provided that no such use or occupancy shall commence before the insurers providing the property insurance have acknowledged notice thereof and in writing effected the 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 lapse on account of any such partial use or occupancy.

M. REQUIRED COVERAGE

The Contractor shall obtain for itself and provide the City with Certificates of Insurance indicating the scope and extent of coverage as set forth below. Required coverage's may be modified by an amendment to the Contract Documents.

1. GENERAL LIABILITY

Contractor shall maintain Commercial General Liability insurance with a limit of not less than \$3,000,000 for each occurrence with a \$3,000,000 Products and Completed Operations Aggregate and \$3,000,000 General Aggregate Limit. The policy shall include coverage for bodily injury, broad form property damage, personal injury, products/completed operations and blanket contractual coverage including, but not limited to, the liability assumed under the indemnification provisions of this Contract, which coverage will be at least as broad as Insurance Service Office, Inc. Policy Form CG 000211093 or a11y replacement thereof. The coverage shall not exclude X, C, U.

Such policy shall contain a severability of interest provision, and shall not contain a sunset provision or commutation clause, or any provision, which would serve to limit third party action over claims.

The Commercial General Liability additional insured endorsement shall be at least as broad as the Insurance Service Office, Inc.'s, Additional Insured, Form B, CG20101185, and shall include coverage for Contractor's operations and products and completed operations.

If required by this Contract, the Contractor subletting any part of the work, services or operations awarded to the Contractor shall purchase and maintain, at all times during prosecution of the work, services or operations under this Contract, an Owner and Contractor's Protective Liability insurance policy for bodily injury and property damage, including death, which may arise in the prosecution of the Contractor's work, service or operations under this Contract. Coverage shall be on an occurrence basis with a limit not

less than \$3,000,000 per occurrence, and the policy shall be issued by the same insurance company that issues the Contractor's Commercial General Liability Insurance.

2. AUTOMOBILE LIABILITY

Contractor shall maintain Commercial Business Automobile Liability insurance with a combined single limit for bodily injury and property damage of not less than \$1,000,000 each occurrence and \$2,000,000 for more than one person and property damage in the sum of not less than \$1,000,000 resulting from any one accident which may arise from the operation, actions or omissions of the Contractor or any Subcontractor in the performance of the project, and with respect to the Contractor's owned, hired, and non-owned vehicles assigned to or used in performance of the Contractor's work. Coverage will be at least as broad as coverage code 1, "any auto", (Insurance Service Office, Inc. Policy Form CA 00011293, or any replacements thereof). Such insurance shall include coverage for loading and offloading hazards. If hazardous substances, materials or wastes are to be transported, MCS 90 endorsement shall be included and \$5,000,000 per accident limits for bodily injury and property damage shall apply.

3. WORKERS' COMPENSATION

The Contractor shall carry Workers' Compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction of Contractor's employees engaged in the performance of the work; and, Employer's Liability insurance of not less than \$1,000,000 for each accident, \$1,000,000 disease for each employee, and \$1,000,000 disease policy limit.

In case any work is subcontracted, the Contractor will require the Subcontractor to provide Workers' Compensation and Employer's Liability to at least the same extent as required of the Contractor.

The Contractor shall furnish the City with a Certificate of Waiver of Subrogation under the terms of the Workmen's Compensation insurance. The Contractor shall defend, protect, and save harmless the City from and against all claims, suits, and actions arising from failure of the Contractor or the Subcontractor to maintain such insurance.

4. BUILDERS' RISK (PROPERTY) INSURANCE

The Contractor shall purchase and maintain, on a replacement cost basis, Builders' Risk insurance in the amount of the initial Contract Amount as well as subsequent modifications thereto for the entire work at the site. Such Builders' Risk insurance shall be maintained until final payment has been made or until no person or entity other than the City has an insurable interest in the property required to be covered, whichever is earlier. This insurance shall include interests of the City, the Contractor, and all Subcontractors and Sub-Subcontractors in the work during the life of the Contract and course of construction, and shall continue until the work is completed and accepted by the City. The insurance shall cover work performed under the Contract and materials, equipment or other items to be incorporated therein, while the same are located at the construction site, stored off-site, or at the place of manufacture. The policy shall cover not less than losses due to fire, mischief, weather, vandalism, malicious mischief, wind, collapse, riot, aircraft, smoke or any other casualty, including but not limited to earthquakes, tornadoes or other cataclysmic events, until the date of initial acceptance of the work. For new construction projects, the Contractor agrees to assume full responsibility for loss or damage to the work being performed and to the buildings under

construction. For renovation construction projects, the Contractor agrees to assume responsibility for loss or damage to the work being performed at least up to the full Contract Amount unless otherwise required by the Contract Documents or amendments thereto.

Builders' Risk insurance shall be on an all-risk policy form and shall also cover false work and temporary buildings and shall insure against risk of direct physical loss or damage from external causes including debris removal, demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's service and expenses required as a result of such insured loss and other "soft costs" as required by the Contract.

Builders' Risk insurance must provide coverage from the time any covered property becomes Contractor's control and/or responsibility, and continue without interruption during construction or renovation or installation, including any time during which the covered property is being transported to the construction installation site, and while on the construction or installation site awaiting installation. The policy will provide coverage while the covered premises or any part thereof are occupied. Builders' Risk insurance shall be primary and not contributory.

If the Contract requires testing of equipment or other similar operations, at the option of the City, the Contractor will be responsible for providing property insurance for these exposures under a Boiler Machinery insurance policy.

The maximum deductible allowable under this policy shall be \$5,000. The policies providing this insurance shall name the City, its agents and attorneys, the City Engineer, and the Design Engineer as additional insured as their respective interests shall appear.

5. **BLASTING INSURANCE:**

If the Contractor determines that the performance of the project will require use of explosives, the public liability and property damage insurance shall specifically cover all liability arising out of the Contractor's acquisition, storage and use of explosives. If work requiring use of explosives is not discovered until after the commencement of the work, upon discovery, the Contractor shall immediately procure blasting insurance as required by this paragraph. The Contractor shall not undertake any blasting without submission to the City of a Certificate of Insurance covering all liability due to blasting regardless of amount. Any delays incurred by the Contractor in procuring blasting insurance shall not be grounds for an extension of time for completion of the project, nor for any additions to the contract price.

6. **OTHER INSURANCE:**

The Contractor shall carry and maintain all other insurance including Flood Insurance as may be required by Federal, State, County and City laws or ordinances. The Contractor may be required to, at the discretion of the City, maintain additional fire and extended coverage with an endorsement for vandalism and malicious mischief in his name and also in the name of the City in an amount of not less than \$100,000.00.

The Contractor may utilize up to \$2,000,000 in excess liability coverage to meet the above-required limits for insurance. Any deductibles shall be declared and the City may require deposits be made to it up the amount of such deduction, at its sole discretion.

7. CERTIFICATES OF INSURANCE

Prior to commencing Services under this Contract, Contractor shall furnish the City with Certificates of Insurance, or formal endorsements as required by the Contract, issued by Contractor's insurer(s), as evidence that policies providing the required coverage's, conditions and limits required by this Contract are in full force and effect.

All Certificates of Insurance required by this Contract shall be identified with a bid serial number and title. A \$25.00 administrative fee shall be assessed for all Certificates received without the appropriate bid serial number and title. Each of the Certificates of Insurance shall contain a clause substantially in the following words:

It is hereby understood and agreed that if this policy is canceled, a written notice of such cancellation shall be mailed to the City of Sedona within ten (10) working days.

Such insurance coverage obtained by the Contractor other than Workmen's Compensation Coverage, shall name the City, the City Engineer, the Design Engineer, and their directors, officers, principals, agents, attorneys, and employees as Additionally Insured.

Insurance evidenced by these certificates shall not expire, be canceled, or materially changed without fifteen (15) days prior written notice to the City.

All certificates of insurance and endorsements required to be purchased by Contractor pursuant to this Article shall be filed with the City. Certificates shall be acceptable to City. If a policy does expire during the life of the Agreement, a renewal certificate of the required coverage must be sent to the City not less than five days prior to expiration date.

Each certificate of insurance shall include the job site and project number. Coverage shown on certificate of insurance must coincide with the requirements in the text of the Contract Documents.

9. SCHEDULE OF CONSTRUCTION

- A. The Contractor shall submit to the City within five (5) days after award of Contract, or as may be otherwise requested by the City, a schedule showing the order in which the Contractor proposes to carry on the work and at a rate sufficient to successfully construct all of the Work set forth in the Contract Documents within the Contract Period. Such schedule shall show the dates at which the Contractor will start and complete the several parts of the Work. The schedule shall identify the following items if applicable:

1. Potholing.
2. Mobilization.
3. Roadway work to be broken down at a minimum, on a street by street basis.
4. Pipeline work to be broken down on a manhole to manhole basis and individual pump station construction or abandonment.
5. Site prep.
6. Drainage improvements prep and construction.
7. Ramp prep, construction and finish.
8. Sidewalk prep, construction and finish.

9. Bridge prep, abutment construction, bridge construction, bridge placement, and finish.
10. Traffic control.
11. Demobilization
12. SWPPP.
13. Other items as applicable and/or listed in the bid schedule.

The schedule shall also show the order of construction and delivery dates at which the Contractor will start and complete the several other parts of the Work, the order of construction and delivery dates of critical materials and equipment along with monthly payment estimates, dates for submittal of working drawings and shop drawing to the Engineer for review, and the name of the project superintendent. The City shall be notified in writing of changes in the project superintendent. The schedule shall be subject to review and comment by the City as per MAG specifications section 108.4. The schedule shall be binding on the Contractor and shall be complied with by the Contractor unless, for good cause shown, a modification of the schedule shall be requested in writing to and approved by the City. The schedule shall also:

1. Be updated with each progress billing.
2. Include a detailed two week look ahead, indicate work requiring inspection, and be updated at each progress meeting.
3. Show work tasks progress in time periods of seven days or less unless otherwise approved by the Engineer.
4. Identify the critical path(s) for the work and task float.
5. Identify tasks corresponding to bid item descriptions when possible. Less comprehensive task designations may be used to comply with 2 above.
6. Conform to any time and location constraints identified in permits and the contract documents.
7. Span the current contract date to the end of the contract time.
8. Be submitted in an electronic format compatible with Microsoft Project Standard 2007, and hard copy format.
9. Identify long lead items.

The schedule format (size, color, type format) shall be such that the different tasks, durations, critical path and durations can be easily distinguished. The Contractor shall also provide a listing of tasks and durations with the schedule. If the schedule and list is being provided prior to a Notice to Proceed it need not include dates for start and completion of tasks. Any schedule and list provided after the Notice to Proceed has been issued shall include dates. A schedule and list shall be provided on the date of the Notice to Proceed. The Contractor shall begin work on the project site within five (5) working days of the Notice to Proceed, unless stated otherwise in specifications. Failure to do so is sufficient cause for termination in addition to other remedies the City may have.

- B. Where the City's operations require specific sequencing of the work, such sequencing requirements as provided for in the Contract Documents shall be followed.
- C. When progress has not kept pace within two weeks of the schedule or if otherwise requested by the City the Contractor shall update his schedule within five (5) working days of the City's written request. The revised schedule will include a description of what actions will be done by the Contractor to bring the project back on schedule. **Failure to**

not provide a revised schedule within one week of its request may result in the withholding of \$750 from any progress payment due. Each written request by the City shall be considered a separate request and subject to the withholdings specified, provided it is within the following billing cycle from a previous request.

- D. The Contractor shall provide the City with a list of emergency phone numbers, addresses, pager numbers, facsimile numbers, and electronic mail addresses for contacting key personnel in the case of any after-hours emergency.
- E. The Contractor shall furnish the City with a schedule for hours of work. In it, the Contractor shall note the begin work, begin daily clean-up and daily shutdown times to be followed by the Contractor during the project unless otherwise changed. The Contractor's regular work hours on regular workdays shall be between 7:00 AM and 5:30 PM Monday through Thursday, unless otherwise stated in the specifications. Friday work is permitted between 7:00 AM and 5:30 PM for work that does not require City inspection. This work hours timeframe shall be considered to include start-up of equipment and daily clean-up of the work area. Weekends and Holidays for the City of Sedona shall be considered non-regular work hours. Permission to work non-regular work hours shall be subject to approval by the Engineer and the provisions of General Conditions, Section 39. **The Engineer may deduct \$250 per day for work outside of approved work hours after issuance of one written warning during the course of the project.**

The City of Sedona has the following holiday schedule:

New Year's Day, January 1st

Martin Luther King/Civil Rights Day, 3rd Monday of January

President's Day, 3rd Monday in February

Memorial Day, Last Monday in May

Independence Day, July 4th

Labor Day, 1st Monday in September

Veteran's Day, November 11th

Thanksgiving Day, 4th Thursday in November AND the Friday after Thanksgiving Day

Christmas Day, December 25th

10. PROGRESS MEETINGS

Periodic meetings shall be held between the City of Sedona officials, Contractor, and other affected agencies, at a standard time and place, and at a frequency to be established during the pre-construction meeting. These meetings shall be used to discuss scheduling and matters related to the project.

11. TAXES

The Contractor shall be responsible for and shall include in his bid prices all applicable taxes, including but not limited to Federal, State, and Local Taxes.

12. ASSIGNMENTS

The Contractor shall not assign the whole or any part of the Contract or any monies due or to become due hereunder without the written consent of the City and of the Surety on the Contractor's Bond. A copy of such consent of Surety, together with a copy of the assignment,

shall be filed with the City. If the Contractor assigns all or any part of any monies due or to become due under the contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any monies due or to become due to the Contractor shall be subject to prior claims and liens of all persons, firms, and corporations for services rendered; for the payment of all materials and equipment furnished and for payment of all materials and equipment used or rented in the performance of the Work called for in the Contract; and for the payment of any liens, claims, or amounts due the Federal, State, or local government or any of their funds.

13. SUBCONTRACTING

- A. Subcontractors will not be recognized as employees or agents of the City, nor as having any privity of contract with the City. All persons engaged in the work of construction will be considered by the City to be employees of the Contractor. The Contractor will be held responsible for their work and for all materials provided by them, which shall be subject to the provisions of the Contract.
- B. Each subcontract shall contain a suitable provision for cancellation or termination thereof should the Subcontractor neglect or fail to conform to every provision of the contract.
- C. Subcontractors collectively shall not perform more than fifty percent (50%) of the value of the total work required pursuant to the Contract Documents. **The Contractor agrees that should this percentage be exceeded the City may consider the Contractor in breach of this contract and/or make deductions equal to one half of one percent of the total approved contract value for each one percent of subcontracted work beyond that allowed above.** The Contractor shall perform fifty percent (50%) of the contract work using the Contractor's own organization as construed in ADOT Standard Specifications 2000 Section 108.01.
- D. The City of Sedona encourages all contractors to utilize minority and women owned businesses whenever possible.

14. COOPERATION AND COLLATERAL WORK

- A. In general, the Contractor shall be responsible for the scheduling and coordination of his work with any other work, which may be, carried on in the construction areas for this project by other parties or by the City simultaneously with his construction work. The contractor shall include in his bid any costs, which may be involved on his part as a result of coordinating his construction with such other activity.
- B. \When two or more Contractors are employed by the City in related or adjacent work, each shall conduct his operations in such manner as to not cause any delay or hindrance to the other and shall properly connect and coordinate the execution of their respective work with the other. The City will not be responsible for damage caused by such delays, and such delays will not entitle the contractor(s) to an extension of time. The Contractor shall afford other Contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work.

If the proper execution of any part of the Contractor's work depends upon the work of any other Contractor, the Contractor shall inspect and promptly report to the City Engineer any discrepancies between the executed work and the drawings or any defects in such work that

render it unsuitable for such proper execution. The failure of the Contractor to inspect and report shall constitute an acceptance of the other contractor's work as fit and proper for the reception of his own work. The exception is for defects, which may develop in the other contractor's work, after the execution of the Contractor's collateral work that would not have been discovered before the Contractor's collateral work began.

- C. The contractor shall coordinate his work, and cooperate with any other persons or entities operating on or adjacent to the site of the project.

Where persons employed by other persons or entities are engaged in or near the construction areas for this project, and where such work on the part of said parties results in a delay in performance by the Contractor, and where such delay, in the opinion of the City Engineer, is of such nature that it could not have reasonably been foreseen or anticipated by the Contractor in time for him to take steps to prevent same, then the Contractor shall be entitled to an extension of time.

The Contractor shall promptly make good any injury or damage caused by him that may be sustained by other Contractors or employees of the City. The Contractor shall join his work to that of others and perform his work in proper sequence in relation to that of others.

15. LINES AND GRADES

The Contractor shall be responsible for providing all construction staking and surveying needed to construct the facilities in accordance with the Plans and Specifications, and shall include such costs in his bid for the applicable items of work. The Contractor shall employ a surveyor licensed in the State of Arizona to perform all surveying necessary to construct this project to the lines and grades provided in the plans. The Contractor shall provide to the Engineer the Surveyor's listing of lines, grades, distances, curve information and point data (including northing, easting and elevation) used to actually establish project staking at least two working days prior to establishing subgrade, setting forms, placing pre-cast facilities, pouring concrete, installing pipe, or placing asphalt. The Contractor shall provide a set of as-built plans showing manhole and inlet inverts, rim and grate elevations, gutter elevations at 50-foot intervals, changes of grade, invert and finished grade elevations of concrete structures at the center and corners, and the inlet and outlet ends of pipes. The surveyor shall seal and designate them as as-built plans. This as-built plan is in addition to the Status As-Built and Record As-Built required under other provisions of these specifications. The Final contract payment shall not be due until all as-built plans have been submitted and accepted. Any work performed without complying with the Survey requirements in these specifications shall be considered unauthorized work and subject to the provisions of MAG section 105.11. As-Built plans shall be submitted in the following formats: hard copy in the same size as provided by the City to the Contractor for the contract, AutoCAD 2006, and .pdf.

The Contractor shall pothole utility facilities and report results to the Engineer at least two (2) working days prior to excavating for installation of roadways, asphalt patches, catch basins, underground pipes, manholes, footings, vaults, and basins. The report shall indicate any conflicts or inadequate clearances as related to the work to be performed. Failure to perform potholes and report results, as required, will result in the loss of the right to make a claim for changes in compensation and time due to conflicts, interference, protection or other costs related to the utility, as such, a claim would have been mitigated by performing the pothole timely.

16. EXCAVATIONS, UNDERGROUND FACILITIES LOCATION, AND STORMWATER POLLUTION PREVENTION.

The Contractor in the execution of the Work shall conform to all applicable Federal and State laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over employment discrimination, wages and working conditions, and the construction of the Work, including but not limited to all construction codes, O.S.H.A. Requirements, and safety codes, which may apply to (1) performance of the Work; (2) protection of adjoining and adjacent property; (3) maintenance of passage-ways, guard fences or other protective facilities; and shall obtain all permits and pay for licenses and approvals necessary for the construction of the Work and give all required notices.

ARS-40-360.22 Excavations: Determining locations of underground facilities; providing information. This statute requires that no person shall begin excavation before the location and marking are complete or the excavator is notified that marking is unnecessary and requires that upon notification, the owner of the facility shall respond as promptly as practical, but in no event later than two working days. The “Blue Stake Center” (1-800-782-5348) was formed to provide a more efficient method of compliance with this statute.

ARS-40-360.23 Making excavations in careful, prudent manner: liability for negligence. This statute states that obtaining information as required does no excuse any person making any excavation from doing so in a careful and prudent manner nor shall it excuse such persons from liability for any damage or injury resulting from his negligence.

ARS-40-360.28 Civil penalty: Liability. If the owner or operator fails to locate, or incorrectly locates the underground facility, pursuant to this article, the owner or operator becomes liable for resulting damages, costs and expenses to the injured party.

Licenses and Permits:

The Contractor shall be required to obtain, at his expense, the appropriate licenses and permits from the City of Sedona before the start of construction. It is the duty of the Contractor to determine that all necessary permits have been obtained. Costs associated with obtaining a license are not waived.

Arizona Pollutant Discharge Elimination System (AZPDES) Permit

A. General requirements:

The Contractor shall comply with the AZPDES Stormwater requirements for construction sites pursuant to the requirement of the Arizona Department of Environmental Quality (ADEQ). The Contractor shall be designated as permittee and shall be responsible for providing the necessary labor and materials, and for taking the appropriate measures to assure compliance with the ADEQ requirements, as well as other Federal, State and local requirements pertaining to storm water discharges. As the permittee, the contractor is responsible for completing, in a manner acceptable to the ADEQ, all documents required including the following:

1. Storm water Pollution Prevention Plan (SWPPP) for the project including certification form. The contractor will be required to submit for approval, update and revise the SWPPP as necessary throughout the construction of the project in order to assure compliance with permit requirements. The completed SWPPP shall be kept on the project

site at all times during construction of the project.

2. Notice of Intent (NOI) to be covered by Arizona General Permit for Arizona including certification of signature.
 3. Notice of Termination (NOT) of coverage under AZPDES (upon project completion).
- B. Regardless of whether compliance with AZPDES is required the Contractor shall prepare a Storm Water Pollution Prevention Plan. That Plan shall at a minimum address the following issues:
- Designation, maintenance and clean-up of vehicle storage, fueling, lubrication and maintenance areas
 - Clean up and off-site disposal of excess construction materials including asphalt, concrete, paints, oils, and wrapping materials
 - Daily work day clean-up of debris in work area
 - Prevention of wind born debris/Dust Control Plan
 - Prevention of erosion resulting from rain or watering activities'
 - Measures to prevent silt and debris generated by this project from migrating beyond the construction site boundaries. Measures such as trapping and removing debris and dirt generated, or other measures acceptable to the Engineer, shall be taken.
 - The Contractor shall comply with the City of Sedona General Storm Water Pollution Prevention Guidelines, this includes filing the City Notice of Intent.

C. Submittals:

1. Preliminary copies of the NOI and SWPPP shall be submitted to the Engineer two days prior to the preconstruction meeting. Any necessary revisions to the SWPPP shall be subject to review by the Engineer, prior to implementation.
2. The Contractor shall submit completed, signed NOI forms at least forty-eight (48) hours prior to the initial start of construction on the project to the Arizona Department of Environmental Quality in Phoenix, Arizona (ADEQ, 1110 West Washington Street, Phoenix, AZ. 85007). Generally projects of less than one (1) acre may not be applicable to this requirement at this time. If the project is subject to these requirements, the Contractor shall be designated the permittee.
3. Failure by the contractor (or any of its appropriate subcontractors) to submit the NOI forms within the required timeframe shall result in delay of the start of construction, but shall not prohibit issuance of the Notice to Proceed, at the City's sole discretion. A copy of the completed NOI shall be posted on the construction and a copy of the SWPPP shall be kept on the construction site.

Contractor's Responsibilities:

1. It is the Contractor's responsibility to perform inspection of all storm water pollution control devices on the project on a monthly basis and following each rainfall. The contractor shall prepare reports on these inspections and retain these reports for a period of three years following project completion. Inspection reports shall be submitted monthly to the CITY along with payment requests. The contractor shall maintain all

storm water pollution control devices on the project in proper working order, including cleaning and/or repair during the duration of the project.

2. No condition of either the AZPDES or the SWPPP shall release the contractor from any responsibilities or requirements under other environmental statutes and regulations.
 3. Upon total project completion, acceptance, and de-mobilization, the contractor shall submit its completed, signed NOT form to the ADEQ with copies to the same agencies who received copies of the NOI, thereby terminating all AZPDES permit coverage for the project.
- D. Payment: There shall be no separate payment made to the Contractor for all material, labor, and other incidental costs relating to the provision, installation, and maintenance of items relating to this permit during project construction. Such incidental costs shall include contractor costs in order to assure proper operation of the pollution-control devices installed including all maintenance, cleaning, and disposal costs associated with clean-up and repair following storm events or other runoff or releases on the project.

17. EXISTING UTILITIES, RIGHTS-OF-WAY, EASEMENTS

A. EXISTING UTILITIES

Because of the nature of this contract, existing utilities are not shown or indicated in these specifications, except to note that their locations are within rights of way, streets and easements throughout the City of Sedona area. The fact that utilities are not shown shall not relieve the Contractor of the following responsibilities:

1. The Contractor shall be responsible for the preservation of all existing water, sewer, storm sewer, buried transmission lines or any cable or utility. If damaged, all costs for the necessary repairs shall be paid by the Contractor.
2. The Contractor shall locate and verify the location of all existing utilities prior to any excavation. This shall be done at least two (2) days prior to excavation for installation of project facilities or ordering equipment or materials for those facilities.
3. The Contractor shall be responsible for the location of all service lines.
4. Continuation of Service - All services shall be maintained to all areas at all times during the construction period, except when it is necessary to shut down a line to make a connection with the new line. Residents shall be given twenty-four (24) hour notice when it is known that the service will be interrupted. The Sedona-Oak Creek Fire District shall be kept advised of the status of all fire hydrants affected by any work on this Project.
5. The Contractor is responsible for as-building all existing utilities within the improvement area (location, depth, and material).

B. RIGHTS-OF-WAY AND EASEMENTS

The City will furnish land, right-of-way, or easements as shown in the Contract Documents for the performance of the Work under the Contract. Contractor shall confine his operations to the land, right-of-way or easements furnished, and will restore the same to their original conditions to the extent reasonably possible prior to final acceptance of the work. Prior to construction or entry thereon, the Contractor shall obtain copies of and become familiar with any agreements and stipulations used by the City in acquiring temporary or permanent easements.

The Contractor shall remain within easement areas and rights-of-way obtained or owned by the City or easement areas the Contractor has obtained. Disturbed areas shall be reasonably restored upon completion of installation of the project improvements and related appurtenances in the easement. The Contractor shall be responsible to adhere to easement provisions whether the easement was obtained by Contractor or City. A temporary 4-foot high orange fence shall be placed to define the work area for all easements encompassing all work that occurs outside the City right-of-way. Clearing by manual means for the purpose of defining the area to be fenced shall be the only activity allowed on the easement before the fence is placed. City shall provide the Contractor with a copy of the easement agreement with the property owner, upon request. Contractor shall be responsible for all restoration of the easement as described in the easement agreement. Trees and larger vegetation shall be preserved to the maximum extent practicable.

The Contractor shall be responsible for the preservation of all existing property pins. If disturbed or damaged the Contractor shall be responsible for all costs associated with the restoration of any property pin disturbed by the Construction activities. Any property monuments, which require resetting, shall be reset under the direction of a licensed Surveyor by the State of Arizona and proper documentation recorded with the appropriate County.

Access by Residents: The Contractor shall ensure that all residents have access from the Street to their property each night. When access to a resident's property cannot be maintained during normal working hours (week days), the Contractor must personally notify the affected residents two working days in advance of the closure. Such notification shall be documented in writing to the Engineer. Emergency access shall not be blocked, for any reason without the express written permission from the owner.

Access to Public Facilities: The Contractor shall assure that safe access to facilities including, but not limited to, parking lots, picnic shelters, playgrounds, and pedestrian ways is provided. Any disruption to the public's normal use of said facilities shall not occur without the express written permission from the City.

Intersection and Driveway Maintenance: Once work has commenced in a particular street, the Contractor shall provide and maintain access facilities to all connecting streets, intersections and private driveways by ramping or surfacing with suitable materials to ensure access at all times. If in the opinion of the City, such facilities, or materials used, are not capable of supporting traffic, the Contractor shall remove the materials and provide better-suited materials, including asphalt concrete or similar, as directed by the Engineer. This work shall be considered incidental to the Project, and all costs shall be borne by the Contractor. Failure to comply with these requirements may result in stoppage of the work until corrected as determined by the Engineer, with no time extension being granted for such delay to the Project.

18. OPERATIONS, LAYDOWN YARD AND STORAGE AREAS

- A. All operations of the Contractor (including laydown yard, storage of materials, supplies, and equipment) shall be confined to areas authorized by the City. **The City of Sedona does not have available construction staging or material lay down facilities, except as specified otherwise in the specifications.** The Contractor is responsible for arranging and providing for such facilities as is deemed necessary for carrying out the work of this contract. The City does not warrant or represent in any way the availability of staging or material lay down areas within the City or vicinity of the project. It is the Bidder's responsibility to make such determinations. The price paid for mobilization shall include all costs for and associated with providing construction staging and material lay down facilities necessary for constructing the project. If a mobilization item is not included in the specification, the cost for compliance with item shall be considered as included in the unit price (s) bid for the various items of work. The Contractor shall be liable for all and any damages caused by him to such premises.

The Contractor shall comply with the following, regarding laydown yards:

- Any use of vacant property adjacent to or near the project used for parking or servicing equipment and/or storing of material will require the Contractor to provide written approval from the property owner, homeowner associations as applicable, and the filling of a temporary use permit from the City of Sedona.
- A copy of the property owner's approval shall be submitted to the Engineer, stating the use of the laydown yard for use during the construction of this project is acceptable.
- The Contractors yard shall be enclosed with a six (6) foot temporary fence.
- Storage of Gasoline will require Fire Department approval.
- Clearing or grading of the site in excess of fifty (50) CY of soil will require a grading permit. No grading will be allowed which changes the drainage path for the parcel without the approval of the City Engineering Department. All existing pipes and drainage facilities at the laydown yard will be maintained in working order at all times.
- A stabilized construction entrance will be required if the vacant property laydown yard is not already gravel or pavement. The laydown yard shall be adequately maintained to control dust and mud from leaving the property.
- Work in the laydown yard shall be scheduled so as to comply with any City noise or light Ordinances and these specifications.
- Equipment, materials, etc., shall be located so as to minimize impact to adjacent properties.
- Before any grading of any laydown yard, property corners will be located for the parcel. Any property pins disturbed by the Contractors operations will be replaced prior to final acceptance of the project.
- The Contractor shall obtain a written release from the property owner, homeowner's associations or similarly concerned parties after completion of use. A copy of the release shall be presented to the Engineer.
- Equipment and material shall not be stored in the right-of-way and/or street easement during non-work hours without permission of the Engineer. Such permission shall be subject to finding that it is impractical to move the equipment or material because of size or that permission has been granted to close the right-of-way to all traffic, including local traffic. Lack of construction yard or other staging

area shall not be considered as reason to grant permission. Such permission, if granted, shall be subject to conditions determined at the sole discretion of the Engineer.

- B. The Contractor shall hold and save the City free and harmless from liability of any nature or kind arising from any use, trespass, or damage occasioned by his operations on the premises of third persons.
- C. The Contractor shall be wholly responsible for the care, compliance with law, and storage of materials, supplies or equipment delivered on the work site or purchased for use thereon. Stored materials, supplies, or equipment shall be carefully and continuously protected from damage or deterioration and so located so as to facilitate inspection by the City. The responsibility for the care and storage of materials, supplies, or equipment shall be with the Contractor whether such materials, supplies, or equipment are furnished by the Contractor or by the City. Storage of materials, supplies, or equipment shall not unduly interfere with the progress of the Contractor's Work or the work of any other contractor.
- D. Traffic Control:

Adequate traffic flow shall be maintained at all times, all barricading and temporary signage for detours and traffic control must meet the standards set by the Manual of Uniform Traffic Control Devices (MUTCD) and the City Engineer. If traffic control is not a separate bid item; then, it is considered incidental to the work and shall be included as appropriate in the Contractors bid. The Contractor must also take responsibility for public safety, meaning:

 - 1. That, except for alleyways, one lane of the roadway for each direction must be kept open at all times; OR
 - 2. Certified flaggers must be provided to properly channel traffic at all times when two separate lanes (one each direction) cannot be maintained open; OR
 - 3. Total closure of a roadway shall only occur with the written permission of the City Engineer. For all rights-of-ways requiring closure for any work therein, appropriate permits shall be obtained. Prior to start of construction, the Contractor shall provide the Engineer with planned traffic control methods and procedures for this project. A notice of closure for residents, along with a map showing the planned area of distribution shall be included as part of the planned methods and procedure. Proper traffic control and advance warning signage shall be in place prior to any road closure.
 - 4. When detours or road closures are implemented an overall map showing anticipated flow of traffic shall be provided.
 - 5. The Contractor shall have a designated person responsible for overall traffic control on-site at all times.
 - 6. A Traffic Control Plan shall be submitted for review. The plan is intended to be a guide; Contractor shall submit any proposed revisions for approval by the Engineer.
 - 7. Pedestrian traffic must be maintained at all times, on at least one side of the road.
 - 8. The Contractor shall supply a Public Announcement showing closures and detours.

E. Water Use

1. All water used by Contractor for testing, compaction, dust control, or other uses related to construction, shall be obtained by the Contractor from an approved water source. The Contractor shall be responsible for all deposits, charges and fees.

Reclaimed water is available to the Contractor for dust control and other on-site construction uses at no cost to the Contractor (other than testing costs noted below), according to the following limitations (any required water outside these limitations shall be provided by the Contractor from an approved source):

- a. Reclaimed water will be available for use by the Contractor Monday – Friday. It shall be the Contractor's responsibility to apply for and obtain a Type 2 General Water Reuse Permit (Class A+ Reclaimed Water) from ADEQ for dust control and other construction uses. Contractor shall also be responsible for the cost of fecal coliform testing. The cost of testing is \$50 for each day that water is taken for construction use.
- b. Water shall be provided from the effluent pump station wetwell at the Wastewater Treatment Plant using contractor-provided submersible pump.
- c. Contractor is responsible to supply conveyance and storage facilities for water made available by the City. Contractor shall record and report to the City on a weekly basis the date and amount of water used.

F. Dust and Debris Control

- 1. The contractor shall cover all trucked loads of soil, rock and material that may drop from, be sifted from or blown from the vehicle. The City may require that trucks arriving with uncovered loads not be allowed to deliver material to the project, regardless of whether or not the truck is the contractor's, a subcontractor's, a service provider's, or a material supplier's vehicle. If trucks leave the site with uncovered loads the City reserves the right to do one or more of the following:**
 - a. The truck will not be allowed on the site
 - b. The contract compensation will be reduced by \$150 per observed uncovered load. The contract time will be reduced by one day**
 - c. The Police Department may issue a citation.
2. Pine slash and/or cut down pine trees shall be removed from the City within 24 hours, including any non-working days, of being broken or cut. This measure is to minimize pine bark beetle infestation in Sedona.
3. The contractor shall take measures to prevent blowing debris and/or dust from the site.
4. Dust Control shall comply with the following:
 - a. Dust control shall be maintained at all times on the project. Spray nozzles shall be used as necessary on equipment to reduce dust. Mist shall be visible when standing adjacent to the equipment.
 - b. A Dust Control Plan shall be submitted prior to Start of Construction.
 - c. Cleanup and Dust Control shall be in compliance with MAG Section 104.1.3 and 104.1.4.

5. The contractor shall clean any dirt tracked from the project work area from streets and sidewalks using equipment and methods that will not create excessive dust. Sweeping is the preferred cleaning method. Washing of streets and/or sidewalk and other paved areas will require special permission from the Engineer and shall be subject to conditions imposed by the Engineer. The City reserves the right to require that the Contractor to cease work that is resulting in excessive tracked mud and/or dirt from and within the project area, and to require cleaning prior to allowing the ceased work to continue. The exercise of the City's right and impacts there from shall not provide a basis for claim by the contractor. Failure of the Contractor to cease work shall be sufficient reason for the City to reduce the contract time by one calendar day per incident, at the City's sole discretion.
6. Dirt, debris, wastewater and other debris shall not be disposed of in stormwater facilities and/or natural drainage channels. The City may require inspection of stormwater facilities and/or natural drainage channels prior to and during the work to verify compliance with this requirement. The City may require the contractor to clean stormwater facilities and/or natural drainage channels if the contractor has disposed of material to them. Final Completion will not be issued until all stormwater facilities have been inspected and approved.

G. Open Trenches

MAG Specification Section 601.2.10 is modified to limit the length of open trench to 1100 feet within the project. An open trench includes any longitudinal excavated area 3 inches or more below adjacent land which has settled or been left lower intentionally. All open trenches shall properly marked and protected so as to warn pedestrians and vehicular traffic of a low area.

19. RIGHT-OF-ENTRY

Contractor shall provide to the City, Architect-Engineer, or representative of the Federal, State, County, District and Municipal governmental officials and services, the proper facilities for access to the Work, whenever it is in preparation or progress.

20. ACCESS AND DRAINAGE

The Contractor shall keep a sufficient clear area around fire hydrants to permit their full and effective use in case of fire. The Contractor shall keep natural drainage and watercourses unobstructed by spoil piles, material storage, or any other operations, or provide for other equal courses effectively placed.

21. SANITARY CONVENIENCES

The Contractor shall furnish the necessary sanitary conveniences, properly secluded, for the use of work persons during construction, and these conveniences shall be maintained in a manner that will be inoffensive and in compliance with Federal, State and local health and sanitation requirements.

22. CLEANUP PRACTICES

- A. The Contractor shall at all times during the progress of the work maintain a reasonably clean job site, this includes, but is not limited to, keeping signs clean and legible, minimizing mud, rock, and dirt on roadways, and keeping ditches free of trash and construction materials. If in the opinion of the Engineer, excessive dust, mud or debris exists at the job site, the Contractor shall immediately remove said material as directed. All costs associated with this work shall be borne by the Contractor. The location of debris and material stockpiles shall be as directed by the Engineer.
- B. The Contractor shall begin his daily clean-up process at a typical time agreed to by the City at the pre-construction meeting. If the Contractor's operations and daily shut-down exceed a forty hour work week or eight hour day then the City will be entitled to withhold a portion of the Contractor's progress payment for City "overtime" work pursuant to Section 32 and 39, unless authorized by the Engineer.
- C. The site shall be kept clean of trash and debris including but not limited to, loose construction materials, such as sand, cement, lime, wood pieces, building paper, and other miscellaneous paper. All trash and debris shall be placed in an appropriate number of approved containers and moved and disposed of off the site daily in a location where it will not be possible to be dispersed. No burning of trash or debris will be permitted on the site, except where designated by the Engineer. The laydown yard shall have a minimum of one container of appropriate size at all times.

When site daily clean-up has not been kept up as requested in writing by the City the Contractor shall bring the site into compliance with the City within 24 hours or the City shall withhold \$350 for each day out of compliance.

- D. Before final payment, the Contractor shall remove all rubbish, excess materials, temporary structures, and equipment. All parts of the work shall be left in a neat and presentable condition. Excess mounds of earth shall be leveled and ruts and depressions filled, such that the completed work is attractive. If in the opinion of the Engineer, the Contractor does not maintain the Construction Site in a safe and clean condition, or does not adequately clean up the site at the completion of the work, or rectify any valid complaints of damage to property resulting from the Construction, the City may clean up or rectify damage and charge the costs thereof to the Contractor.
- E. The Contractor shall be responsible for locating sites and making arrangements for disposal of all material removed from the site. This includes concrete, asphalt, unsuitable or unstable trench material and any other trash, rubbish or debris generated as a result of construction. Asbestos, hazardous substances or materials, hazardous waste or any other regulated substances or materials shall be disposed of in accordance with all applicable federal, state and local regulations.
- F. All vegetation and improvements removed from easements by the Contractor shall be removed or repaired by the Contractor in accordance with the easement agreement with the property owner, the same being done at no additional cost to the City.

23. PLANS AND SPECIFICATIONS

- A. The City will provide the Contractor with four (4) sets of plans, drawings, and specifications after the execution of the Contract. If additional plans, drawings, and specifications are required, the Contractor shall compensate the City for it.
- B. When, in the opinion of the City, revised partial plans, drawings and specifications are required to clarify or reflect authorized changes or additional work the City shall provide four (4) copies of such revisions to Contractor. The Contractor must pay for any additional copies. Contractor shall immediately post such revisions to his record set of Contract Documents.
- C. The plans, drawings, and specifications are the property of the City, and are furnished to the Contractor for the construction of Work under the Contract only.
- D. The data given in the specifications and shown on the plans and drawings is believed to be accurate but the accuracy is not guaranteed. The Contractor must confirm all levels, locations, measurements, and verify all dimensions on the job site prior to construction and adapt his Work into the exact limits of construction. Scale measurements taken from plans are only for reference.
- E. Drawings showing the details of the Work specified are designated "plans" or "drawings" and together with the specifications form an integral part of the Contract Documents.

24. CORRELATION OF DOCUMENTS

- A. Plans, drawings, and specifications are cooperative and supplementary. Portions of the Work, which can best be illustrated by the plans or drawings, may not be included in the specifications and portions best described by the specifications may not be depicted on the plans or drawings. All items necessary or incidental to completely construct or erect the Work specified shall be furnished, whether called for in the specifications or shown on the plans or drawings. Unless otherwise stated the plans and specifications shall be considered to require construction or erect of a complete and operable facility.
- B. Special Conditions shall take priority over Technical Specifications, which shall take priority over General Conditions; large-scale drawings shall take precedence over small-scale drawings. In case of a disagreement between the plans, drawings, and specifications, or within a document itself, the better quality and the greater quantity of work shall be estimated and included in the bid and contract sums and the matter drawn to the City's attention for further decision, and possible issuance of an addendum.

25. SHOP DRAWINGS, SAMPLES, AND OPERATOR'S INSTRUCTION

- A. The Contractor shall furnish all Shop Drawings and Samples required by the Contract Documents. Shop Drawings of equipment and devices offered by the Contractor for approval of the City shall be in sufficient detail to adequately show construction and operation. The above material shall be submitted to the City for review in electronic format (.pdf and/or .dwg). Shop drawings submitted as herein provided by the Contractor and approved by the City for conformance with the design concept shall be executed in conformity with the Contract Documents unless otherwise required by the City.

- B. Work performed in connection with the fabrication, manufacture, shipment, or purchase of material or equipment prior to approval as specified shall be at the Contractor's sole risk and responsibility.
- C. Shop Drawings and Samples shall be accompanied by a letter of transmittal indicating that the Contractor has reviewed and approved the submittal. The transmittal shall give a list of the numbers and dates of the submittal, and shall be in the form required by the City. Any re-submittals shall show numbers and dates of previous submittals. Shop Drawings shall be complete in every respect and bound in sets.
- D. The Contractor shall submit all Shop Drawings and Samples (submittals) sufficiently in advance of construction requirements to allow ample time for checking, correcting, resubmitting, and rechecking to avoid any delay in progress of the Work. In no case however shall this time be less than five (5) working days without the consent of the Engineer. In the case of submittals for pump installations and similarly complex equipment the minimum timeframe shall be twenty (20) working days. This timeframe shall also apply to resubmittals. If more than five (5) submittals are made in a week the minimum City review time shall be extended by five (5) days for each submittal. The Contractor shall be solely responsible for delays and costs related to resubmittals or untimely submittals.
- E. Shop Drawings or Samples submitted shall be marked with the name of the Project, numbered, and bear the stamp of approval of the Contractor as evidence that the Shop Drawings and Samples have been checked by the Contractor. Any shop drawings or samples submitted without this stamp of approval shall not be considered and shall be returned to the Contractor for resubmission. If the Shop Drawings or Samples show variation from the requirements of the Contract, the Contractor shall call such variation to the City's attention in his letter of transmittal in order that, if acceptable and City gives written approval to the variation, suitable action may be taken for proper adjustment.
- F. By approving and submitting shop drawings and samples, the Contractor thereby represents that he has determined and verified all field dimensions and measurements, field construction criteria, materials, catalog numbers, and similar data, and that he has checked, and coordinated such submittals with the requirements of the Work and the Contract Documents.
- G. If a Shop Drawing or Sample, as submitted, indicates a departure from the Contract requirements which the City finds to be in the interest of the City and to be so minor as not to involve a change in the contract price or time for performance, it may approve the Drawings or Samples; provided, however, such departure is slight in nature and does not affect the design concept of the Work.
- H. All items of standard equipment shall be the latest model at time of delivery.
- I. When Shop Drawings are submitted for the purpose of showing the installation in greater detail, their approval shall not excuse the Contractor from requirements shown on the plans and specifications.
- J. Shop Drawing and Sample submittals not conforming completely with the above requirements shall be returned to the Contractor, without action, for re-submittal and the resulting delay shall be entirely the responsibility of the Contractor.

- K. The City's check and approval of Shop Drawings and Samples, specifications, and descriptive literature submitted by the Contractor shall be only for general conformance with design concept, as otherwise provided, and shall not be construed as:
1. Permitting any departure from the Contract requirements;
 2. Relieving the Contractor of the responsibility for any error in details, dimensions, or otherwise that may exist in such submittals;
 3. Constituting a blanket approval of dimensions, quantities, or details of the material or equipment shown; or
 4. Approving departures from additional details or instruction previously furnished by the City. Such check or approval shall not relieve the Contractor of the full responsibility of meeting all of the requirements of the Contract Documents.
- L. One (1) electronic copy and four (4) sets of bound operator's instructions and maintenance manuals shall be furnished by the Contractor for equipment furnished under the Contract that is specially listed or that is considered to be of a special or complex nature. Operator's instruction and maintenance manuals shall include, in part, detailed lubrication drawings showing type and frequency of lubrication. Detailed parts drawings shall show location, name and catalog numbers of parts.
- M. One (1) electronic copy and four (4) sets each of bound service parts manuals shall be furnished by the Contractor for all items of standard manufacture.
- N. All operator instructions, maintenance, and parts manuals shall be bound in permanent binders satisfactory to the City and shall be furnished to the City before final acceptance of the installation by the City.
- O. Four (4) copies of any manufacturer's guaranty/warranty or certificate for any type of material or equipment provided shall be submitted to the City prior to final acceptance of the Work by the City.

26. DRAWINGS SHOWING CHANGES DURING CONSTRUCTION

Throughout the progress of construction, the Contractor shall maintain a careful up-to-date record of all changes on the plans and drawings during actual construction. *With each progress payment invoice the Contractor shall provide a "Status As-Built" showing all work completed to date.* Callouts will identify type, size and quantity of each item installed. The Contractor shall annotate all sewer taps stationing upstream to downstream using swing ties from adjacent manholes or other method the Engineer may approve in writing. Upon completion of Work, and prior to acceptance by the City, the Contractor shall file with the City one set of complete contract drawings with all changes and Contractor's field construction notes neatly and legibly recorded thereon. Such drawings shall include but not be limited to, the exact routing and clearances, if changed from drawing location, of sewer, water, gas, oxygen supply, condenser water lines, fuel oil tanks and lines, fire protection lines, and any other major buried utility lines and routing of buried electrical feeder lines and changes to routing of conduit runs which are buried or concealed in concrete slabs. The Contractor shall furnish such As-Built utility and drainage invert and rim elevations as well as gutter, top of curb shots and horizontal location of valves and hydrants placed as a part of this construction. This information is for use by the City in the preparation of record "As-Built" Drawings. Curb and gutter shots shall be spaced no

further than 50 feet apart and shall include any significant bends, drops or other deviations from a straight horizontal or vertical alignment.

27. MATERIALS, EQUIPMENT, SUPPLIES, SERVICES, AND FACILITIES

- A. It is understood that, except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all materials, equipment rental, water, heat, light, fuel, power, transportation, superintendence, temporary construction of every nature, and all other services and facilities of every nature whatsoever necessary to execute, complete, and deliver the Work in a workman like manner within specified time.
- B. No materials, equipment, or supplies for the Work shall be purchased by the Contractor or by any Subcontractor subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.
- C. Equipment shall be properly equipped with safety devices including but not limited to spark arrestors, back up alarms, reflectors, signage, labeling, and lights.
- D. At least one (1) set of all appropriate Material Safety Data Sheets shall be maintained in a common location on the project site at an identified location during all working hours.

28. WORKMANSHIP, MATERIALS, AND EQUIPMENT

- A. All material and equipment furnished by the Contractor shall be new and unused and shall strictly conform to the Contract Documents. Competent labor, mechanics and tradesmen shall be used on the Work. Experienced manufacturer's representatives shall be used to supervise the installation of equipment as may be required by the City. Any special tools or equipment, which may be required, shall be provided by the Contractor.
- B. The acceptance at any time of materials or equipment by or on behalf of the City shall not be a bar to future rejection if they are subsequently found to be defective, inferior in quality or uniformity to the material or equipment specified, or are not as represented to the City.

29. QUALITY OF MATERIALS IN ABSENCE OF DETAILED SPECIFICATIONS

- A. Where the Contract requires that materials or equipment be provided or that construction work be performed, and detailed specifications of such materials, equipment or construction work are not set forth, the Contractor shall perform the work using materials and equipment as described in the specifications. Constructed or installed as described therein, and shall follow standard practices in the performance of construction work. The work performed shall be in conformity and harmony with the intent to secure a good, serviceable standard of construction.
- B. All tests and re-tests unless otherwise provided, shall be in accordance with the pertinent sections of the latest edition of the standards applicable to the material or devices to be tested. A partial list of the principal societies referred to and their Abbreviations follows:

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AISC	American Institute of Steel Construction

ANSI	American National Standards Institute
ASTM	American Society of Testing Materials
AWWA	American Water Work Association
CPI	Clay Pipe Institute
CS	Commercial Standards
FS	Federal Specifications
NEC	National Electric Code
TMCA	Tile and Marble Contractors of America

30. VARIATIONS FROM ESTIMATED QUANTITIES

When unit prices are utilized in the Contract Documents, it may be reasonably expected that there could be variations in final quantities from the estimated quantities by reason of actual conditions and/or change orders. An adjustment in compensation may be allowed only to the following extent:

- A. For a decrease greater than twenty percent (20%) in either the total cost of the contract or the total cost of a major item and when a reasonable cost analysis supports an increase in the pro rata share of fixed cost chargeable to this item in total, an adjustment in the monies due the Contractor may be made. The total amount, including any adjustment, will not exceed eighty percent (80%) of the original lump sum contract amount or, for a unit price item, the total amount, including adjustment, will not exceed eighty percent (80%) of the original extended unit bid price.
- B. For an increase greater than twenty percent (20%) in either the total cost of the contract or the total cost of a major item, any adjustment made will only apply to that cost in excess of one hundred twenty percent (120%) of the original bidding schedule. If either party presents a reasonable cost analysis that shows a change in the pro rata share of fixed costs chargeable to this item in total, an increase or decrease adjustment may be made. This increase or decrease adjustment will be made on such basis as is necessary to cover a reasonable estimate of cost, plus an allowance, not to exceed ten percent (10%), for overhead and profit.
- C. A major item is an item whose total cost, determined by multiplying the bidding schedule quantity and the contract unit price, is equal to or greater than the amount indicated below. A major item will remain a major item unless it is completely eliminated. Compensation for a completely eliminated major item shall be limited to the amounts indicated, but not to exceed the amount demonstrated by information provided to show the cost impact of the deletion, not including anticipated profit.

Total Contract amount as awarded equal to or greater than (in dollars)	But is less than (in dollars)	A major bid item Shall be equal to or greater than the following amount (in dollars)	If the item is completely eliminated compensation shall be limited to no more than (in dollars)
\$0.00	\$1,000,000	\$50,000 or 10% of the Contract amount as awarded	\$2,000

\$1,000,000	\$5,000,000	5% of the Contract amount as awarded	\$5,000
\$5,000,000	\$20,000,000	2.5% of the Contract amount as awarded	\$7,500

D. For either an increase or decrease in cost, no claim shall be made by the Contractor for any loss of anticipated profits.

31. PROGRESS PAYMENTS

- A. When monthly progress payments are authorized, the Contractor shall, on the date determined during the pre-construction meeting, submit to the City an itemized application for payment, supported by “Status As-Builts” and such data substantiating the Contractor's right to payment as the City may require, on forms acceptable to the City. Progress payments shall be made no more than once each calendar month and provided that there are a minimum fifteen (15) calendar days between payments, unless otherwise authorized on a payment-by-payment basis by the City Engineer or City Manager. Progress payments are subject to retainage of ten percent (10%) with possible reduction to five percent (5%) in accordance with the provisions of Arizona Revised Statutes.
- B. The Contractor shall provide to the City at the time of payment, a waiver and release to date from the Contractor and each and every Subcontractor and material supplier whose work or materials are included in the application for payment, evidencing that said Contractor, Subcontractor or material supplier has been paid in full to date.
- C. Unless otherwise provided in the Special Provisions, payment will not be made on account of materials or equipment not incorporated in the work, at the time of a request for payment, but delivered and stored at the site. Similarly, payment will not be made for materials or equipment stored at some other location unless agreed upon in writing. If payment is allowed per the Special Conditions, payment for materials or equipment stored on or off the site shall be conditioned upon submission by the Contractor of bills of sale or such other procedures satisfactory to the City to establish the City's title to such Materials or equipment or otherwise to protect the City's interest, including applicable insurance and transportation to the site for those materials and equipment stored off-site.
- D. The Contractor warrants that title to all materials, supplies, and equipment covered by an application for payment, whether incorporated into the Work or not, shall pass to the City, upon receipt of payment by the Contractor, free and clear of all liens, claims, security interests or encumbrances; and that such materials, supplies or equipment furnished or installed comply with the applicable requirements of the Contract Documents.
- E. The passing of title to the City as herein provided shall not be construed as relieving the Contractor of the sole and complete responsibility for:
1. The care and protection of the materials, supplies, equipment, and Work for which payment has been made.

2. The restoration of any damaged or destroyed Work, materials, supplies or equipment. Such responsibility shall continue until all Work under the Contract has been completed and accepted by the City.
- F. Under no circumstances shall payment constitute a waiver of the City's right to require the Contractor to fulfill all of the terms and conditions of this Contract.
- G. **INVOICE PROCESSING:** The City will not accept inaccurate, illegible, or incomplete invoices (requests for payments). Invoices shall be hard copy, with original signature. Electronic or facsimile signatures are not acceptable on the invoice.
1. The City distributes payments on every other Friday, beginning on 03/17/16 for calendar year 2016, unless holidays dictate otherwise.
 2. The Engineer must receive an acceptable, correct invoice with required supporting documentation not later than close of business on the Wednesday, nine (9) calendar days prior to the expected check distribution day.
 3. For projects longer than sixty (60) calendar days duration, each request for payment shall be accompanied by a progress schedule, effective through the invoice period. The City shall not release a payment until the contractor provides an acceptable, accurate, and updated project schedule.

32. PAYMENT WITHHELD

- A. The City may decline to certify payment on account of subsequently discovered evidence or observations, may nullify the whole or any part of any payment certificate previously issued to such extent as may be necessary to protect the City from loss on account of any one or more of the following:
1. Defective Work not remedied.
 2. A reasonable doubt that the Contract can be completed for the balance then unpaid.
 3. Unsatisfactory prosecution of the Work.
 4. Not maintaining a current project schedule.
 5. Not providing adequate progress payment "Status As-Builts".
 6. Deductions for not conforming to daily clean-up requirements.
 7. Deductions for reimbursement of City overtime inspection.
 8. Liquidated damages payable by the Contractor.
 9. Disputed Work or Materials.
 10. Failure to comply with other material provisions of the Contract.
 11. Third-party claims filed or reasonable evidence that a claim will be filed.
 12. Failure of the Contractor or Subcontractor to make timely payments for labor, equipment, and materials.
 13. Damage to the Owner.

In addition, the City reserves its rights under ARS Sections 32-1129.01 and 34-2211.

- B. When any of the above problems are resolved, payment shall be made for amounts withheld pursuant to Article 31.

33. MEASUREMENTS

- A. The itemized Application for Payment will be used by the Engineer as a basis for evaluating requests for payment, except in cases where unit prices have established the basis for payment shall include as a minimum the following items:
1. Separate cost itemizations for mechanical, piping, structural, electrical instrumentation, painting, pre-engineered structures, and architectural finish work.
 2. Separate cost line items, showing both purchase and installed cost, for the major equipment items listed in the bidding schedule.
 3. A separate line item for mobilization not to exceed ten percent (10%) of the total Contract amount. This limitation shall apply even when a bid item for mobilization is shown in the bid schedule, unless the Engineer has assigned a fixed cost for the item. Amounts excess of this limitation shall be included on the final payment.
 4. A separate line item for demobilization, not to exceed one-half of one percent (0.5%) of the total Contract amount. This limitation shall apply even when a bid item for demobilization is shown in the bid schedule, unless the Engineer has assigned a fixed cost for the item. Amount in excess of this limitation shall be included on the final payment.
 5. Separate line items for earthwork, demolition and clearing and grubbing, where appropriate. Measurement and payment for the various items shown by the Contract Drawings and described in the construction Specifications, and comprising the completed work, shall be subject to this Article.
- B. The contractor may subdivide any of the lump sum bid items in the proposal as necessary to identify items per (A) above, however the neither the total bid or the total of any subdivided bid item line shall exceed the total in the bid proposal as awarded.
- C. Payment for each item shall constitute payment in full for the furnishing of all materials, equipment, appurtenances, labor, plant and tools necessary to provide a complete workmanlike, finished, and satisfactory project, as shown by the Contract Drawings and described in the Specifications. Each item shall be completed with all necessary connections, testing, painting and related work accomplished to provide for the satisfactory use and/or operation of the item. No additional payment will be made for work related to each item, unless specifically noted or specified.
- D. No additional payments will be made for work related to any item unless specifically noted and called for in the Bid Proposal. Payment will be made at the unit price or lump sum price bid in the Bid Proposal.
- E. Measurement will be on the completed work in place, with no allowance for waste, and as may be more particularly described in the description of the various items set forth in the Specifications and as shown by the Contract Drawings.
- F. The quantities set forth in the Bid Proposal are used for the purpose of determining the basis of the Award of the Contract, and may be varied by the Engineer to conform to the requirements of the work as set forth in the Contract Drawings, and the Contractor agrees to perform the work on the basis of the prices bid for the items contained in the Bid Proposal regardless of whether or not the items or units are decreased or increased.**

- G. The Engineer shall have the right to order omitted from the Contract any item or a portion of the estimated quantity for any item found unnecessary to the work without violating the Contract or Performance Bond.
- H. Except in cases where unit prices form the basis for payment under the Contract, the Contractor shall, within twenty (20) days of receipt of the notice to proceed, submit a breakdown of the Contract price showing the value assigned to each part of the work including an allowance for profit and overhead. In submitting the breakdown, the Contractor certifies that it is not unbalanced and that the value assigned to each part of the work represents his estimate of the actual cost, including profit and overhead, of performing that part of the work. The breakdown shall be sufficiently detailed to permit its use by the Engineer as one of the bases for evaluating requests for payment.
- H. Mobilization and Demobilization: Payment for Mobilization shall include the cost for setting up Project offices and moving Equipment to the site, storage facilities, obtaining permits, and all other items required to prepare the Project site for commencement of construction activities. Demobilization shall include removal of Contractor's facilities and Equipment, and final cleanup, and all other items required to complete Demobilization.

Payment for mobilization shall be in accordance with Section 901 of ADOT Standard Specifications for Road and Bridge Construction (most current edition), except as modified by this section and General Conditions Section 18, 33, and 66. Retention shall apply to mobilization payments. The first payment for mobilization shall be contingent on providing:

1. A traffic control plan that has been approved by the Engineer
 2. The Storm Water Pollution Control Plan provisions are in place per the SWPPP in the Civil Plans
 3. The Contractor shall have a City of Sedona or ADEQ NOI for stormwater pollution prevention
 4. The Project Sign has been posted
 5. A complete project schedule as required by the General Conditions, Section 9.
- I. Excavation-Generally: The excavation rates shall include the amount for working in such a manner as not to interfere with the stability of adjacent structures and properties, for the costs of all timbering or other support required, for all necessary measures to keep the excavation free from water and sewage whether affected by floods, storms or otherwise, for working space, refilling, consolidating and disposal of surplus material from temporary spoil heaps or disposal as directed by the Engineer. The rate shall apply to the excavation in any material, including rock.

No extra payment will be made if the position of the work as set out will not allow the use of a mechanical plant or necessitates the cartage to temporary spoil heaps of excavated material and the reloading and cartage back for refilling of excavations or disposal.

34. PAYMENT, USE OR OCCUPANCY OF WORK

- A. No progress or final payment, nor any partial or entire use or occupancy of the Work or improvement, nor acceptance thereof, by the City shall be evidence of the performance of the Contract or construed to be acceptance of defective work or improper materials, either

wholly or in part. The Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute.

- B. The City shall have the right to take possession of, use, or occupy any completed or partially completed portions of the Work, notwithstanding the time for completing the entire Work or any portions, may, or may not, have expired. Such taking possession, use or occupancy shall not be deemed an acceptance of any Work until all Work has been completed in accordance with the Contract Documents. If such prior use or occupancy increase the cost, or delays the Work, the Contractor shall be granted such extra compensation or extension of time, or both, as City may determine.
- C. Consent of Surety and endorsement from the insurance carrier or carriers permitting prior occupancy or use of any completed or partially completed portions of the Work by the City shall be secured by the Contractor. Contractor and his Surety and enforcement from the insurance carrier or carriers permitting prior occupancy or use of any completed or partial completed portions of the Work by the City shall be secured by the Contractor. Contractor and his Surety and insurance carrier hereby agree that such consent shall not be unduly withheld.

35. CLOSEOUT PROCEDURE

When the Contractor considers that the Work, or a portion thereof which the City has allowed to be accepted separately, is substantially complete, the Contractor shall prepare a letter stating the work, or a portion of the work, is substantially complete and submit to the City a comprehensive list of items to be completed or corrected. Substantial completion shall not operate to change the contract time to which liquidated damages are applicable. Reduced liquidated damages are chargeable for a project or portions thereof which have separately specified damages, if there are items of work remaining to be performed relative to such work once full substantial completion status has been attained. In such cases the amount of liquidated damages due shall be twenty-five percent (25%) of the unreduced liquidated damage amount stated in the contract, and shall not begin until after the contract completion date.

The Contractor shall proceed promptly to complete and correct items on the list. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Upon receipt of the Contractor's list, the City will make an inspection to determine whether the Work or designated portion thereof is substantially complete. The City Engineer shall have the sole right to determine if a Work or portion thereof is substantially complete. If the City's inspection discloses any item, whether or not included on the Contractor's list, which is not in accordance with the requirements of the Contract Documents, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the City. The Contractor shall then submit a request for another inspection by the City to determine Substantial Completion. When the Work or designated portion thereof is substantially complete, the City will prepare a certificate of Substantial Completion which shall establish the date of Substantial Completion, shall establish responsibilities of the Contractor and City for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix a reasonable time within which the Contractor shall finish all items on the list accompanying the Certificate. If the Contractor does not complete the items within the time fixed by the City, the City, upon ten (10) working days notice, shall have the option to complete the uncompleted Work for the Contractor and deduct the cost from any amount due to the Contractor, whether or not the contract completion date has passed.

The Contractor may request a written statement from the City Engineer of what constitutes substantial completion by writing a letter of "Notice Of Intent to Declare Substantial Completion." The letter shall be sent no later than fifteen (15) working days prior to the anticipated date of Substantial Completion. The letter shall state what items the Contractor intends to complete prior to declaring substantial completion and what date substantial completion is anticipated by. The City Engineer shall respond to the letter within ten (10) working days accepting or adding to the list of items to complete prior to substantial completion. The City Engineer's response to the list shall not prevent the City Engineer from amending the list within a reasonable time prior to the anticipated date of substantial completion, or from considering factors not known at the time the response was prepared.

36. FINAL PAYMENT

- A. Prior to receiving final payment, the work shall be completed according to the Contract Documents, as determined by the City. Retention shall be as provided in A.R.S. §34-221. This includes, but is not limited to, submittal of complete as constructed documents.
- B. The acceptance of final payment by the Contractor shall operate as a release to the City of all claims by the Contractor for all things done or furnished in connection with the Contract and for every act and neglect of the City, and others relating to or arising out of the Work under the Contract, except for claims made in writing and still unsettled, and specifically itemized at the time the final payment request is made.
- C. No payment, final or otherwise, shall operate to release the Contractor or his Surety from any obligations under the Contract or under the Performance Bond or Labor and Materials Payment Bond, including, but not necessarily limited to anyone or more of the following:
 - 1. Obligations arising from or relating to latent defects.
 - 2. Faulty or defective work or material, which does not comply with the requirements of the Contract.
 - 3. Failure of the construction, equipment, or fixtures to perform properly in accordance with the requirements of the Contract Documents.
 - 4. Unsettled claims.
 - 5. Claims for non-payment of laborers, mechanics, material men, or suppliers, or for equipment used or rented.
 - 6. Claims under the maintenance requirements of the Contract Documents or any special warranties provided for in the Contract Documents.

37. SUPERVISION BY CONTRACTOR

- A. The Contractor or his designated representative will be required to give personal attention to the fulfillment of this Contract and to keep the work under control and in accordance with the Schedule for Completion. The contractor shall provide a competent Representative with full authority to receive and execute such instructions, orders or directions as the Engineer, or his agents or representatives may issue in connection with the Contract.

The Contractor will supervise and direct the work at all times. He has the obligation to determine the means, methods, techniques, sequences and procedures of construction, except in those instances where the City, to define the quality of an item of work, specifies in the

Contract a means, method, technique, sequence or procedure for construction of that item of work. The Contractor shall be responsible to perform the Work so that the quality of the Work conforms to the plans and the specifications while in progress and as finally completed.

- B. Instructions and information given by the City, Engineer, or his agents or representatives to the Contractor's representative on the work shall be considered as having been given to the Contractor. Before any work is done at the job site, the Contractor shall give written notice to the Engineer stating the name, home address and telephone number of the Contractor's representative. The Contractor shall also inform the Engineer in writing prior to any change of representative. A statement naming more than one person to be in charge depending upon which one is present at the time will not be acceptable.
- C. The Contractor shall file with the Engineer the names, addresses, and telephone numbers of representatives who can be contacted at any time in case of emergency. These representatives must be fully authorized and equipped to correct unsafe or excessively inconvenient conditions immediately on order of the Engineer.
- D. The Contractor shall pay and cause his Subcontractors to pay any and all accounts for labor, services, equipment, and materials used by the Contractor and his Subcontractors during the performance of work under this Contract, including all applicable taxes and insurance. Such accounts shall be paid as they become due and payable within the time limits set forth by law. The Contractor shall furnish proof of payment of such accounts to the City.
- E. **The plan or method of work suggested by the City or the Engineer to the Contractor but not specified or required, if adopted or followed by the Contractor in whole or in part, shall be used at the risk and responsibility of the Contractor. The City and the Engineer assume no responsibility therefore and in no way will be held liable for any defects in the work which may result from or be caused by the use of such plan or method of work.**

38. WEATHER

- A. During periods when weather or other conditions are unfavorable for construction, the Contractor shall pursue only such portions of the work as shall not be damaged thereby. No portions of the work where acceptable quality or efficiency will be affected by unfavorable conditions shall be constructed while those conditions exist. It is expressly understood and agreed by and between the Contractor and the City that the Contract time for completion of the work described herein is a reasonable time taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the work.
- B. The Contractor shall not be assessed liquidated damages, nor the cost of engineering and inspection during any delay in the completion of work caused by Acts of God, acts of the public enemy, acts of a public agency or owner, or a utility to provide for removal or relocation of existing utilities, unless such delay is caused in whole or in part by Contractor or any of its Subcontractors.
- C. A rain, windstorm, high water or other natural phenomena for the specific locality of the work, which might reasonably have been anticipated from historical records of the general

locality of the work, shall not be construed as abnormal. It is hereby agreed that rainfall greater than the following cannot be reasonably anticipated:

1. Daily rainfall equal to, or greater than, one inch during a month when the monthly rainfall exceeds the normal monthly average by fifteen percent or more.
2. Daily rainfall equal to, or greater than one and one-half (1-1/2) inch at any time.

Rainfall data shall be collected at the job site by the Contractor.

39. OVERTIME

Any Work necessary to be performed after regular working hours, on Sundays, or legal holidays, shall be performed without additional expense to the City unless otherwise provided in the Contract Documents.

The Contractor is responsible for completing his work activities within regular working hours. Should the Contractor elect to run his crews more than a typical 10-hour day, he may elect to with prior coordination with the City. Any inspection, which is required beyond the City of Sedona's Standard 10-hour work day due to extended work hours or late daily cleanup, is subject to a withholding by the City from the Contractor's progress payment for the cost of the overtime inspection during that period. The amount withheld shall be itemized by person and reflect any overtime premiums paid.

40. INDEMNIFICATION

A. To the fullest extent permitted by law, the Contractor shall defend, indemnify and hold harmless the City, its agents, officers, officials and employees from and against all tortuous claims, damages, losses and expenses (including but not limited to attorney fees, court costs, and the cost of appellate proceedings), relating to, arising out of, or alleged to have resulted from the acts, errors, mistakes, omissions, work, and/or services of the Contractor, its agents, employees or any tier of Contractor's subcontractors in the performance of this Contract. Contractor's duty to defend, hold harmless and indemnify the City, its agents, officers, officials and employees shall arise in connection with any tortuous claim, damage, loss or expense that is attributable to bodily injury, sickness, disease, death, or injury to, impairment, or destruction of property including loss of use resulting there from, caused by Contractor's acts, errors, mistakes, omissions, work or services in the performance of this Contract including any employee of the Contractor, any tier of Contractor's subcontractor or any other person for whose acts, errors, mistakes, omissions, work or services the Contractor may be legally liable. The Contractor shall, with respect to all work which is covered by or incidental to this Contract, indemnify and hold the City, Engineering Dept., all officers, employees, attorneys, agents of the City and the City Engineer, harmless from and against all of the following made by any person or entity not a party to this Agreement:

1. Any claim, liability, loss, damage, costs, expenses, including reasonable attorneys' fees, expert witness fees, court costs and other expenses of litigation, awards, fines, or judgments, arising by reason of the death or bodily injury to persons, injury to property, design defects (if design originated by Contractor only) or other loss, damage or expense, including any of the same resulting from any alleged or actual negligent or intentional acts or omissions of the Contractor, the Subcontractors, or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless

of whether it is caused in part by a party indemnified by this Contract and regardless of whether said acts or omissions of such party are active or passive.

2. Any claim, liability, loss, damage, costs, expenses, including reasonable attorneys' fees, expert witness fees, court costs and other expenses of litigation, awards, fines, or judgments, arising out of any dispute regarding the Contract or any work performed under the Contract.
 3. Any claim, liability, loss, damage, costs, expenses, including reasonable attorneys' fees, expert witness fees, court costs and other expenses of litigation, awards, fines, or judgments, arising out of any dispute regarding the Contract or any work performed under the Contract by any Subcontractor.
 4. Any loss or damage that may happen to the work or any part thereof, and any loss or damage to any of the materials or other property used or employed in performing the work, including any loss or damage during transit or storage of any property or materials, including any property or materials furnished by the City, including reasonable attorneys' fees, awards, fines, or judgments.
- B. However, the Contractor shall not be obligated under this Contract to indemnify the City with respect to the sole negligence or willful misconduct of the City or its agents or employees or Design Engineer.
- C. The indemnity obligations of this Contract shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which otherwise exists by statute or under the common law of the State of Arizona, except those in conflict with the express terms of these General Conditions. The law of comparative negligence, as adopted by the State of Arizona, shall be binding upon the relationship between the parties, except as set forth herein.**
- D. The amount and type of insurance coverage requirements set forth herein will in no way be construed as limiting the scope of the indemnity in this paragraph.

41. ACCIDENT PREVENTION - EMERGENCY - AUTHORITY TO ACT

After the Contract Notice to Proceed has been issued through final acceptance of the Contractor's work, it shall be the Contractor's responsibility for protection and safety of the public and workers twenty-four (24) hours a day, seven (7) days a week. This responsibility will also be placed on the Contractor after final acceptance when the Contractor is on site performing any Guaranty/Warranty work.

Whenever, in the opinion of the Engineer, the Contractor has not taken sufficient precaution for the safety of the public or the protection of the work to be constructed under this Contract, or of adjacent structures or properly, and whenever, in the opinion of the Engineer, an emergency has arisen and immediate action is considered necessary, then the City, with or without notice may provide suitable protection by causing work to be done and materials to be furnished and placed. The cost of such work and materials shall be borne by the Contractor, and if the same is not paid on presentation of the bills, such costs will be deducted from any amounts due or to become due to the Contractor. The performance of such emergency work shall not relieve the Contractor of responsibility for any damage that may occur.

42. PROTECTION OF WORK

The Contractor, at no additional expense to City, shall at all times safely guard and protect his own Work; provide, erect, and maintain suitable barriers around all improvements, work areas, excavations, or obstructions to prevent accidents; and provide, place, and maintain during the night sufficient lights, signals, and signs for this purpose on or near the Work. The Contractor shall at all times, until its completion and final acceptance, protect his Work apparatus, equipment, and material from accidental or any other damage; and make good any damages thus occurring at no additional cost to the City.

43. PROTECTION OF PROPERTY

- A. The Contractor, at no additional expense to the City, shall at all times (1) safely guard the City's property and abutting or adjacent property from injury, loss, or damage in connection with the Contract; (2) protect by false work, braces, shoring, or other effective means all buildings, foundations, walls, fences, property pins and other property along his line of Work, or affected directly by his Work, including, but not limited to the City's property, against damage; (3) cover or otherwise protect stockpiles of materials to avoid damage to any property from such materials; and/or (4) repair, replace, or make good any such damage, loss or injury, unless such is caused directly by the City or his duly authorized representatives.
- B. The Contractor shall exercise care to protect from injury all water lines, sanitary sewer lines, gas mains, telephone cables, electric cables, services pipes, and other utilities or fixtures which may be encountered during the progress of the Work. All utilities and other service facilities or fixtures if damaged, shall be repaired by the Contractor without additional compensation.
- C. The Contractor shall personally check and verify utility information on the plans. Where existing utilities or structures are shown on the plans or drawings, they are believed to be accurate but are not guaranteed to be such or that these are the only utilities or structures in the construction area. Protection is completely the responsibility of the Contractor and he must satisfy himself as to the existence and location of all utilities and structures.
- D. The Contractor shall give written notice of at least forty-eight (48) hours before breaking ground, to all persons, superintendents, inspectors, or those otherwise in charge of property, streets, water, gas, or sewer pipes, telephone or electrical cables, railroads, or otherwise who may be affected by the Contractor's operation in order that they may remove any obstruction for which they are responsible and have a representative on the site to see that their property is properly protected.

44. PROTECTION OF PERSONS

- A. The Contractor shall:
 - 1. At all times protect the lives and health of his employees under the Contract.
 - 2. Take all necessary precautions for the safety of all persons on or in the vicinity of the Work site.
 - 3. Comply with all applicable provisions of Federal, State, and Municipal safety laws and building codes.

4. Comply with all pertinent provisions of the "Manual of Accident Prevention on Construction" issued by the Associated General Contractors of America, Inc., latest edition, to prevent accidents or injury to persons, on, or adjacent to the premises where the Work is being performed. The Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the Work, all necessary safeguards for the protection of persons and shall post danger signs warning against the hazards created by such features of construction as protruding nails, rod hoists, well holes, elevator hatchways, scaffolding, window openings, stairways, and falling materials; and he shall designate a responsible member of his organization on the Work site whose duty shall be the prevention of accidents.
- B. The Contractor shall comply with all provisions of the "Occupational Safety and Health Act" (OSHA), including any amendments thereto and rules and regulations issued pursuant thereto, applicable to the Work and performance of the Contract. Whereas state in which Work is performed has passed legislation bearing on Occupational Safety and Health, such legislation and amendments thereto, together with rules and regulations issued pursuant thereto shall be complied with by the Contractor.

45. POTENTIALLY DANGEROUS WORK

- A. When the use of explosives, driving, or removal of piles, wrecking, excavation Work or other similarly potentially dangerous Work is necessary for the prosecution of the Work, the Contractor shall exercise the utmost care so as not to endanger life or property. The Contractor shall be fully responsible for any and all damages, claims, and for the defense of any actions against the City resulting from the prosecution of such Work in connection with or arising out of the Contract.
- B. The Contractor shall notify each private and public utility company or other owner of property having structures or improvements in proximity to the site of the Work, of his intent to perform potentially dangerous Work. Such notice shall be given sufficiently in advance to enable the companies or the owners of property to take such steps as they may deem necessary to relieve the Contractor of responsibility for all damages, claims, or the defense of any actions against the City resulting from the performance of such Work in connection with or arising out of the Contract.
- C. All explosives shall be stored in a secure manner and all storage places shall be marked clearly "EXPLOSIVES-KEEP OUT", and shall be in the care of competent watchmen at all times. Blasting Permits must be obtained from the Sedona-Oak Creek Fire District, 2860 Southwest Drive, Sedona, AZ 86336 (602) 282-6800.
- D. If blasting is required, building inspection reports must be conducted for properties within 150-feet of the proposed blasting area. For affected structures that are to remain after the construction, the report shall consider and document the existing structural and architectural condition of those structures. The intent of this report is to document the condition of such structures before construction, obtain agreement with the property owner, and use for comparison purposes after construction is completed, to ensure the structure was not damaged from construction activities. Blasting will only be considered if rock excavating equipment equal to or better than that provided by "drum-cutters" (see www.drumcutters.com), would not be effective for excavation.

46. PATENTS, COPYRIGHTS, AND ROYALTIES

- A. The Contractor shall assume all costs arising from the use of any patented article, material, device, equipment or process used or furnished by him in connection with, or incorporated in the Project. The Contractor shall save, and hold harmless the City and all officers and agents thereof from all damages, costs and expenses in law or equity (including attorneys' fees, expert witness fees, court costs, and other expenses of litigation) that may come at any time, arise or be set up by reason of any infringement or alleged infringement of any patent rights as a consequence of the installation or use of any such article, material, device, equipment or process in or about the Project. The Performance Bond required by Arizona Revised Statutes Section 34-221 shall be deemed to apply expressly to this provision of the Contract.
- B. Should the Contractor, his agent, employer or any of them be enjoined from furnishing or using any invention, article, material or plans supplied or required to be supplied or used under this Contract, the Contractor shall promptly pay such royalties and secure the requisite licenses; or, subject to acceptance by the City, substitute other articles, materials or appliances in lieu thereof which are of equal efficiency, quality, finish, suitability and market value to those planned or required under the Contract. Descriptive information of these substitutions shall be submitted to the Engineer for determination of general conformance to the Design concept and the Construction Contract. Should the City elect to refuse a substitution, the Contractor agrees to pay such royalties and secure such valid licenses as may be requisite for the City, his representatives, agents and employees or any of them, to use such invention, article, material or appliance without being disturbed or in any way interfered with by any proceeding in law or in equity on account thereof.

47. CHANGE ORDERS FOR CHANGED OR EXTRA WORK

- A. The City reserves the right at any time during the progress of the Work to make necessary alterations of, deviations from, additions to, or deletions from the Contract, or may require the performance of extra Work neither covered by the specifications nor included in the Proposal, but forming a part of the Work contracted for; provided however, the Contractor shall not proceed with any such change or extra Work without a written Change Order approved by the City. Until a resolution is reached by the City and the Contractor, the Contractor is to continue work on the project. Additional time may or may not be added to the projected (and approved) contract end date. Such changes or extra Work shall in no way injuriously affect or invalidate the Contract or the Contractor's bond, but the difference in cost shall be added to or deducted from the amount of the Contract, as the case may be. Adjustments, if any, in the amounts to be paid to the Contractor by reason of any such change or extra work shall be determined by one of the following methods in the order as listed:
 - 1. Method A Unit prices contained in the Contract Documents for the same type or class of work.
 - 2. Method B By an acceptable unit price proposal from the Contractor.
 - 3. Method C By an acceptable lump sum price proposal from the Contractor.
 - 4. Method D If neither Method "B" or "C" can be agreed upon before the change or extra work is started, then the Contractor shall be paid the "actual field cost" of the work plus eighteen percent (18%) or twelve percent (12%) as stated herein below.

- B. Whenever any change or extra work is to be done, for which unit prices for the same type or class of work are contained in the Contract Documents, such work shall be done and shall be measured and paid for pursuant to Method A herein above set forth and the other applicable portions of the Contract Documents, subject to Article 30 of the General Conditions. Full compensation for taxes, overhead and other costs shall be considered as included in the unit prices bid.
- C. Methods B and C shall include an itemized cost breakdown including overhead and profit. In determining the amount payable to the Contractor, an additional five percent (5%) may be added to the amount payable to a Subcontractor, but no "pyramiding" or additional percentage shall be authorized for any work done by a Subcontractor. This percentage may be increased to seven percent (7%) if the Contractor provides proof that it is paying transaction taxes for the subcontractor. The subcontractor percentage shall be considered as compensation for taxes paid on the subcontracted work, and any other costs or profit associated the subcontracted work. The taxes shall not be separately shown as a cost in the amount to which the seven percent (7%) is applied. Full compensation for taxes, overhead and other costs shall be considered as included in the unit price or lump sum price accepted whether such items are explicitly itemized or not.
- D. When any change or extra work is performed under "Method D", the term "actual field cost" of such change or extra work is hereby defined to be and shall include:
1. The actual wages paid to all the Contractor's workmen such as foremen, equipment operators, mechanics, and laborers, for the time actually performing the change or extra work. Superintendents are considered as compensated for in the overhead.
 2. All of the Contractor's materials and supplies incorporated in the change or extra work, unless the total cost for a particular material or supply is less than twenty dollars (\$20). Materials and supplies with a total cost of less than twenty dollars (\$20) will be considered as compensated for in the overhead and profit allowance.
 3. All machinery and equipment for the time actually employed or used in the performance of the changed or extra work shall be based on the submitted and approved schedule of equipment rates, unless the hourly cost for the machinery or equipment is less than twenty-five dollars (\$25.00) per hour or one hundred fifty dollars (\$150) per day. Items with rates less than twenty-five dollars (\$25.00) per hour or one hundred fifty (\$150) per day will be considered as compensated for in the overhead and profit allowance. The contractor shall submit machinery and equipment rates for approval prior to Start of Construction.
 4. Any transportation charges necessarily incurred in connection with any equipment authorized by the City for use on said change or extra work, but which is not already on site provided the transportation cost exceeds twenty-five dollars (\$25.00).
 5. All power, fuel, lubricants, water, and similar operating expenses as well as other expendable materials.
 6. Incidental expenses incurred as a direct result of such change or extra work, including payroll taxes and a pro rata portion of premium in the Performance Bond and Labor and Materials Payment Bond, and where the premiums therefore are based on payroll costs, on Public Liability and Property Damage insurance, Workmen's Compensation insurance, and Occupational Disease Disability insurance, Builder's Risk, and other insurance required by the Contract. **In order to be allowed these amounts shall be provided in writing when submitting the first request for a progress payment. These amounts**

payable by the City shall not change for the duration of the contract. The twelve percent (12%) mark-up shall not apply to these items.

7. No repairs, replacements, or other forms of overhead expense shall be included in "actual field costs".
 8. The Engineer may adjust the amount due under this method based upon a reasonable estimate of the actual cost of performing deleted work in the case of a change in work method or work material. In this case the amount due shall be the difference between the estimated cost to perform work per the original method based on conditions known at the time of the change to the extent such conditions are not the basis for a change, and the method proposed to be used plus the unit bid price for the original method.
- E. The Engineer may direct the form in which the accounts of the actual field costs shall be kept and may also specify in writing, before the work commences, the method of doing the work and the type and kind of machinery and equipment, if required, which shall be used in the performance of any change or extra work under method "D". In the event that machinery and heavy construction equipment are required for such change or extra work, the authorization and basis of payment for the use thereof shall be stipulated in the written Change Order.
- F. The twelve percent (12%) or eighteen percent (18%) of the "actual field cost" to be paid to the Contractor shall cover and be full compensation for the Contractor's profits, overhead, superintendence, and field and home office expense, and all other elements of cost not embraced within the "actual field cost" as defined herein. Eighteen percent (18%) shall be payable for Contractor costs for that portion of total change orders less than or equal to thirty thousand dollars (\$30,000). For that portion exceeding thirty thousand dollars (\$30,000) the twelve percent (12%) factor shall be applied to Contractor costs. In determining the amount payable to the Contractor, an additional percentage per C above may be added to the amount payable to a Subcontractor, but no "Pyramiding" or additional percentage shall be authorized for any work done by Subcontractors.
- G. No claim for any change or extra work of any kind shall be allowed unless the work is ordered and approved in writing by the City in the form of a Change Order.
- H. No anticipated profits shall be allowed for work deleted.
- I. If the City has work accomplished by other sources due the Contractor's failure to perform required work it may deduct an additional five hundred dollars (\$500) or five percent (5%) of the cost of accomplishing the work, whichever is greater, in addition to the cost of accomplishing the work using other sources. The City shall consider this additional amount as compensation for overhead and administration.
- J. The Contractor shall furnish satisfactory bills, payrolls, and vouchers covering all items of cost and when requested by the City, give the City access to accounts relating thereto.
- K. Any Change or extra work shall be considered a part of the Contract, subject to all of its terms, conditions, stipulations, review, guaranties, and tests may be performed without notice to the surety on the Contractor's bond. The Contractor and surety hereby agree to these provisions.
- L. The following language shall apply to all change orders:

“THIS CHANGE ORDER CONSTITUTES FULL, FINAL, AND COMPLETE COMPENSATION TO THE CONTRACTOR FOR ALL COSTS, EXPENSES, OVERHEAD, PROFIT, AND ANY DAMAGES OF EVERY KIND THAT THE CONTRACTOR MAY INCUR IN CONNECTION WITH THE WORK DESCRIBED IN THIS CHANGE ORDER, INCLUDING ANY IMPACT ON THE DESCRIBED WORK OR ON ANY OTHER WORK UNDER THE CONTRACT, ANY CHANGES IN THE SEQUENCES OF ANY WORK, ANY DELAY TO ANY WORK, ANY DISRUPTION OF ANY WORK, ANY RESCHEDULING OF ANY WORK, AND ANY OTHER EFFECT ON ANY OF THE WORK UNDER THIS CONTRACT. BY THE EXECUTION OF THIS CHANGE ORDER, THE CONTRACTOR ACCEPTS THE CONTRACT PRICE CHANGE AND THE CONTRACT COMPLETION DATE CHANGE, IF ANY, AND EXPRESSLY WAIVES ANY CLAIMS FOR ANY ADDITIONAL COMPENSATION, DAMAGES OR TIME EXTENSIONS, IN CONNECTION WITH THE DESCRIBED WORK.”

- M. The Contractor shall not be entitled to adjustments in contract price or contract time related to submittal of any cost estimates.

48. PROCEDURE FOR REQUESTING CHANGE ORDERS –EXTRA

- A. In case any instructions, either oral or written, appear to the Contractor to involve a change or extra work for which, in his opinion, he should receive extra compensation, he shall make a written request to the Engineer for a written Change Order authorizing such change or extra work. Should a difference of opinion arise as to what does or does not constitute a change or extra work, or concerning the payment thereof, and the City insists on conformance, the Contractor shall proceed with the work after presenting written notice of claim for extra cost to the City and shall keep an accurate account of the "actual field cost" thereof as provided for in Method "D" under "Changed or Extra Work". The Contractor shall thereby not waive any right he might have to compensation for the claimed "extra cost" in connection with a change or extra work. The matter shall be submitted to the City for final determination as to whether or not a change or extra work was involved, and if so, the amount due to the Contractor.
- B. Any claims for extra cost pursuant to this section, together with supporting documents and receipts, must be filed within ten (10) consecutive calendar days after performing the work for which extra cost is claimed. The City shall have the right to reject any claim for extra cost if the foregoing procedure is not followed.
- C. In giving instructions, the Engineer shall have the authority to make minor changes that do not involve extra cost or time of performance and are not inconsistent with the design concept and purposes of the contracted work; but otherwise, except in an emergency endangering life or property, no change or extra work shall be performed unless authorized by a written "Change Order" approved by the City Council or its designee in accordance with the City Code, and no claim for extra cost shall be valid unless so approved, except as otherwise provided herein.

49. PROCEDURE FOR REQUESTING CHANGE ORDERS--EXTRA TIME

- A. The Contract time may be changed only by a change order either alone or in conjunction with other changes. Any claim for an extension of Contract time shall be based on written notice delivered to the Engineer within seven days of the occurrence of the event giving rise to the

claim. Notice of the extent of the claim with supporting data shall be delivered within forty-five days of such occurrence unless Engineer allows an additional period of time to ascertain more accurate data. Notice of the extent of the claim must state the cause of the delay, the date of occurrence causing the delay, and the amount of additional time requested. Requests for extensions of time shall be supported by all evidence reasonably available or known to the Contractor, which would support the extension of time requested. If the Contractor is requesting an extension of time because of weather, he shall supply daily written reports to the Engineer describing such weather and the work which could not be performed that day because of such weather or conditions resulting there from and which he otherwise would have performed. The Engineer's acceptance of the daily reports shall not be deemed an admission of the Contractor's right to receive an extension of time or waiver of the City's right to strictly enforce the time provisions contained in the Contract Documents. Requests for extensions of time failing to include the information specified in this Article and requests for extension of time which are not received within the time specified above shall result in the forfeiture of the Contractor's right to receive any extension of time requested. Any change in the Contract time resulting from any such claim shall be incorporated in a change order. The percentages specified in Section 38 and 47 G above shall be considered to include full compensation for each day or portion thereof of extra time.

- B. The Contract time will be extended in an amount equal to time loss due to delays beyond the control of Contractor if a claim is made there for as provided in paragraph A. Such delays shall include, but not be limited to, acts or neglect by City or others performing additional work, or to fires, floods, labor disputes, epidemics, abnormal weather conditions, or act of God. No extension of the Contract time will be granted where the delay is attributable to a Subcontractor, manufacturer, fabricator, supplier or distributor or any other party performing services or furnishing material or equipment on behalf of the Contractor unless such party's delay is attributable to one of the above enumerated causes. Time limits concerning substantial completion and final completion as stated in the Contract Documents are of the essence.
- C. An extension of time may be granted by the City after the expiration of the time originally fixed in the Agreement or as previously extended, and the extension so granted shall be deemed to commence and be effective from the date of such expiration. However, such extension shall not be deemed to be a release of any of the City's rights under the Contract Document unless expressly stated as such.

50. DIFFERING SITE CONDITIONS

If conditions or objects are encountered at the site which are (1) sub-surface or otherwise concealed and which differ materially and substantially from those indicated or anticipated in the Contract Documents or (2) are of an unusual nature, which differ materially and substantially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, then notice, in writing, by the Contractor shall be given to the City promptly before conditions are disturbed and in no event later than 24 hours after first observance of the conditions. The City shall promptly investigate such conditions and, if they differ materially and substantially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the work, shall provide an equitable adjustment in the Contract Amount or Contract Period, or both as per Sections 47 through 49 of these General Conditions. If the City determines that the conditions at the site are not materially and substantially different from those indicated in the Contract

Documents and that no change in the terms of the Contract is justified, the City shall so notify the Contractor in writing, stating the reasons. No claim by the Contractor for an equitable adjustment shall be allowed if asserted after final payment has been made under this agreement. Weather, and the effects of weather on surroundings, surface, or subsurface are to be anticipated and do not constitute a differing condition. No contract change, which results in a benefit to the Contractor, shall be allowed unless the contractor has provided the required written notice. No contract adjustment will be allowed under this section for any effects caused on unchanged work.

51. WARRANTY PERIOD

- A. Besides guarantees required elsewhere, the Contractor shall and hereby does guarantee all work for a period of two (2) years after the date of final acceptance of the work by the City and shall repair and replace any and all work together with any other work, which may be displaced in so doing, that may prove defective in workmanship or materials within the two-year period from the date of final acceptance, without expense whatsoever to the City, ordinary wear and tear and unusual abuse or neglect excepted. If the Contractor is required to repair or replace any portion of the Project pursuant to the two-year guarantee provided by this section, the repair or replacement shall similarly be guaranteed for an additional one-year period from the date of completion of the repair. In the event of failure to comply with the above mentioned conditions, within a week (seven consecutive days) after being notified in writing by the City, the City is hereby authorized to proceed to have the defects repaired and made good at the expense of the Contractor, who hereby agrees to pay the cost and charges therefore immediately upon demand by the City. In case of emergency, where, in the opinion of the City, delay could cause serious loss or damage, repairs may be made without notice being sent to the Contractor and the expenses in connection therewith shall be charged to the Contractor.
- B. The Contractor guarantees to the City that all materials and equipment furnished under this Contract will be new and of good and sufficient quality, free from faults and defects as is necessary to complete the project as required by the plans and specifications.
- C. The City and the Contractor agree that the guarantee on the equipment possessed and used by the City, in accordance with Article 34 of these General Conditions, shall commence on the date that the City takes possession of the equipment and so notifies the Contractor in writing. City and Contractor further agree that such taking possession and use shall not be deemed as acceptance of any part of the work. Take-over of equipment may occur when such equipment can be put into routine service on a permanent basis at City's discretion.

52. AUTHORITY OF ENGINEER

- A. The Engineer shall furnish engineering services during construction of the work to the extent provided in the Contract Documents. He shall observe and review the work in the process of construction or erection. Compliance with the Contract Documents shall be the Contractor's responsibility notwithstanding such observation or review. The Engineer has authority to recommend suspension of the work when it appears such suspension may be necessary to accomplish the proper implementation of the intent of the Contract Documents. The authority to observe, review, or recommend suspension of all or any portion of the work, or exercise such other authority as may be granted by the Contract Documents, shall not be construed or interpreted to mean supervision of construction, which is the Contractor's responsibility, nor make the Engineer responsible for providing a safe place for the performance of work by the

Contractor or by the Contractor's employees or those of suppliers or subcontractors or for access, visits, use, work, travel, or occupancy by any other person. The provisions of MAG Sections 104.1.4 and 104.2.5 as contained in the 2012 edition apply to this contract.

- B. The Engineer shall have authority to reject any or all work, materials, or equipment, which do not conform to the Contract Documents, and to decide technical questions, which arise in the execution of the work. The Engineer shall determine the amount, quality, acceptability, and fitness of the several kinds of work, materials, equipment, and supplies which are to be paid for under the Contract and shall decide all questions which may arise in relation to said work and the construction thereof. The Engineer's estimates and decisions shall be final and conclusive, except as otherwise expressly provided. In case any question shall arise between the parties to the Contract relative to the Contract Documents, the determination or decision of the Engineer shall be a condition precedent to the right of the Contractor to receive any money or payment for work under the Contract affected in any manner or to any extent by such question.

53. DECISIONS OF THE CITY

If the Contractor is not in agreement with any final decision of the Engineer, then he may appeal, in writing, such decisions to the City Manager, who shall within a reasonable time after presentation, make decisions in writing on claims properly made by the Contractor. The appeal shall contain the final decision of the Engineer as an attachment, or in the absence of such final decision a copy of a certified letter sent to the Engineer, at least fifteen (15) working days prior to the appeal, requesting such a final decision in writing. The decision of the City Manager shall be regarded as final.

54. TEMPORARY SUSPENSION OF THE WORK

- A. The City Manager may, upon the recommendation of the Engineer, or by the Manager's own determination, suspend the work.
- B. Should the discovery of a potential archaeological or historic resource occur during construction, the Contractor shall cease work at that site, immediately notify the Engineer, and shall not proceed until instructed to do so by the City. In the event such a suspension of the work occurs, the provisions of Article 49 shall apply to extend the time for final completion of the work.

55. AUTHORITY AND DUTIES OF CITY'S FIELD REPRESENTATIVE

- A. Inspectors may be placed on the work to keep the City informed as to the progress of the work and the manner in which it is being done; to keep records; act as liaison between the Contractor and the City; and to call the attention of the Contractor to any deviations from the Contract Documents. However, failure of the inspector to call the attention of the Contractor to faulty work or deviations from the Contract Documents shall not constitute acceptance of said work.
- B. The inspector cannot control how the material is used; therefore, the responsibility for its safety and proper use shall be the Contractor's. Until the job is finally completed, the Contractor may do work that changes or modifies work previously done, and even though at any given time, a piece of work might be well done and acceptable in quality, the

responsibility for keeping it in that condition until the work is complete is the sole responsibility of the Contractor. For this reason, it is impossible to accept, finally, any portion of a project until the project as a whole is accepted and control of said project is transferred from the Contractor by final official written acceptance by the City.

- C. Any personal assistance which an inspector may give the Contractor will not be construed as the basis of any assumption of responsibility in any manner, financial or otherwise, by the inspector or the City.**
- D. The inspector is not and does not purport to be a Safety Engineer and is not engaged in that capacity by the City and shall have neither authority nor the responsibility to enforce construction safety laws, rules, regulations, procedures, or the safety of persons on and about the construction site.
- E. The presence or absence of an inspector on any job will be at the sole discretion of the City, and such presence, or absence of an inspector will not relieve the Contractor of his responsibility to obtain the construction results specified in the Contract Documents.
- F. The inspector is not authorized to approve or accept any portion of the work or to issue instructions contrary to the Contract Documents. Approvals, acceptance or instructions, when given, must be in writing and signed by the City. The inspector shall have authority to reject defective materials; however the failure of the inspector to reject defective material or any other work involving deviations from the Contract Documents shall not constitute acceptance of such work.
- G. Nothing in this subsection shall in any way be so construed as to require or to place responsibility for the method, manner or supervision of the performance of the work under this Contract upon the inspector, or the City. Such responsibility rests solely with the Contractor.

56. CHARACTER OF WORKERS, METHODS, AND EQUIPMENT

- A. The Contractor shall at all times employ sufficient skilled labor in accordance with Federal, State and local labor laws; and the proper equipment for completing the project in the manner and time required by the Contract. All equipment, which is proposed to be used on the project, shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the project shall be used such that it will not damage property adjacent to the work area.
- B. Any person employed by the Contractor or any Subcontractor who, in the opinion of the Engineer, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the Engineer, be removed from the work by the Contractor or Subcontractor employing such person, and shall not be employed again in any portion of the work without the approval of the Engineer. Should the Contractor or Subcontractor fail to remove such person as required above, or fail to furnish suitable and sufficient personnel for the proper prosecution of the work, the Engineer may suspend the work by written notice until such orders by the Engineer are followed by the Contractor. The Contractor or Subcontractor shall hold the City harmless from damages or claims for compensation that may occur in the enforcement of this section.

- C. The City may require submittal of Certified Payrolls at any time from the Contractor showing the employee names, addresses, Social Security Numbers, rates of pay, payments received, payroll deductions, occupational classification(s), and hours per day worked in such classification(s) for work performed on this project by employees. The contractor shall retain such records for the minimum time required by law or three (3) years after project completion, whichever is longer. The Contractor shall also be responsible to produce upon request from the City such payroll records from its subcontractors.

57. WARRANTY OF COMPLIANCE WITH STATE AND FEDERAL LAW

CONTRACTOR understands and acknowledges the applicability to it of the Americans with Disabilities Act, the Immigration Reform and Control Act of 1986 and the Drug Free Workplace Act of 1989. CONTRACTOR must also comply with A.R.S. § 34-301, "Employment of Aliens on Public Works Prohibited," and A.R.S. § 34-302, as amended, "Residence Requirements for Employees."

- A. Under the provisions of A.R.S. § 41-4401, CONTRACTOR hereby warrants to CITY that CONTRACTOR and each of its subcontractors will comply with, and are contractually obligated to comply with, all Federal Immigration laws and regulations that relate to their employees and A.R.S. § 23-214(A) (hereinafter "Contractor Immigration Warranty").
- B. A breach of the Contractor Immigration Warranty shall constitute a material breach of this contract and shall subject CONTRACTOR to penalties up to and including termination of this contract at the sole discretion of CITY.
- C. CITY retains the legal right to inspect the papers of any contractor or subcontractor employee who works on this contract to ensure that the contractor or subcontractor is complying with the Contractor Immigration Warranty. CONTRACTOR agrees to assist CITY in regard to any such inspections.
- D. CITY may, at its sole discretion, conduct random verification of the employment records of CONTRACTOR and any subcontractors to ensure compliance with Contractor's Immigration Warranty. CONTRACTOR agrees to assist CITY in regard to any random verification performed.
- E. Neither CONTRACTOR nor any subcontractor shall be deemed to have materially breached the Contractor Immigration Warranty if CONTRACTOR or any subcontractor establishes that it has complied with the employment verification provisions prescribed by sections 274A and 274B of the Federal Immigration and Nationality Act and the E-Verify requirements prescribed by A.R.S. § 23-214, Subsection A.
- F. The provisions of this article must be included in any contract that CONTRACTOR enters into with any and all of its subcontractors who provide services under this contract or any subcontract. "Services" are defined as furnishing labor, time or effort in the State of Arizona by a contractor or subcontractor. Services include construction or maintenance of any structure, building or transportation facility or improvement to real property.

58. QUALITY CONTROL AND TESTING

- A. The Contractor will support the Testing Company when contracted by the City for Quality Control and testing for specification compliance and assurance.

- B. During the progress, the work shall be subject to the review and observation of the City. The Contractor shall afford every reasonable facility and assistance to the City to make such review. If any work is covered up without approval or consent of the City, it will be uncovered for examination at the Contractor's expense.
- C. The fact that the City is on the job site shall not be taken as an acceptance of the Contractor's work or any part of it. The Contractor shall notify the City upon completion of his Contract, and the work shall be given final construction review by the City, and any tests and re-tests shall be witnessed by the City or his representative. If all parts of the work are acceptable and substantially comply with the intent of the Contract Documents, initial acceptance shall be made by the City. If parts of the work are not acceptable and require additional work or rework by the Contractor to complete the Project, such costs shall be borne by the Contractor.
- D. Contractor shall submit to the City, ten (10) days in advance of construction and without charge, samples or specifications of materials he proposes to use and shall not use these materials until he has received approval from the City.
- E. Contractor shall furnish tests and reports on tests of all materials, equipment and installations called for in the Contract Documents. The testing laboratory must be approved by the City and the Contractor shall pay the cost of the tests, and necessary re-tests, including all transportation charges unless otherwise provided by the Contract Documents.
- F. Required certificates of inspection, testing, or compliance shall be secured by the Contractor and promptly delivered by him to the Engineer. Certificates shall be provided within five (5) working days after the test is conducted. Each report shall indicate compliance with the specifications.
- G. The City reserves the right to perform additional inspections and testing deemed appropriate with their own forces or with outside consultants or testing agencies. Should such inspection or testing reveal work that is not in compliance with Contract Documents, such costs of inspection or testing, and any required rework shall be borne by the Contractor.
- H. Following is a summary of minimum frequency of testing the city shall require. If there are conflicts in the frequency of testing between this Section and the Technical Specifications, the stricter of the two will govern. This list is a partial list of major items of work, if an item is a part of the project and not listed the Contractor shall provide testing for that item. The Contractor shall provide the appropriate tests for the activities a part of the project. The City reserves the right to request a greater frequency for the testing.

The following frequencies are based on a maximum of 8" lifts. When the lifts are greater than 8", the frequency of testing shall increase proportionately with the increased depth of lift.

Activity	Frequency
Roadway Fills	1 each 300 ft per lift
AB Subgrade	1 each 300 ft per lift
AC Pavement	1 each 300 ft per lift
Trench Backfill	1 each 300 ft per lift

Concrete Curb & Gutter	4 cylinders per 50 cy concrete
Concrete Sidewalk	4 cylinders per 50 cy concrete

59. TERMINATION OF CONTRACT

- A. The City may, at any time, terminate the Contract at the City’s convenience and without cause. Such termination shall be effective upon receipt by Contractor of written notice from the City of such termination for the City’s convenience. Contractor shall cease operations as directed by the City in the notice of termination and take actions necessary, or that the City may direct, for the protection and preservation of the work. In the event of a termination for convenience, the Contractor shall be paid only the direct value of its completed work and materials supplied as of the date of termination, and Contractor shall not be entitled to anticipated profit or anticipated overhead or any other claim of damages from the City. Further, in the event a termination of the Contractor for cause is determined to have been without legal right, then the termination shall be deemed to have been a termination for convenience.

- B. If the Contractor refuses or fails to prosecute the work or any separable part thereof with such diligence as will ensure its completion within the time specified herein, or any extension thereof granted in the manner specified herein, or fails to complete the work within such time, or if the Contractor fails to comply with any written order of the Engineer or the City or fails to timely pay Subcontractors, material, men, or laborers, or if the Contractor should be adjudged bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he or any of his Subcontractors should violate any of the provisions of the Contract, then the City may serve written notice upon the Contractor and his surety of its intention to terminate the Contract and, unless within ten (10) days after the service of such notice such violations of the Contract cease and satisfactory arrangements for the corrections thereof are made, the Contract shall without further notice, upon the expiration of said ten (10) days or such extensions thereof as may be expressly granted by the City in writing, cease and terminate.

- C. In the event of any such termination, the Contract shall be deemed terminated and not rescinded. Following such termination of the Contract, the City will take possession of the Project and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor, and finish the Project by whatever method the City may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the work is finished, or completion is permanently suspended by the City. If the unpaid balance of the Contract price exceeds the direct and indirect costs of completion of the project, including compensation for additional professional service, including but not limited to fees charged by the City's attorney, such excess shall be paid to the Contractor. If such costs or liquidated or actual damages as provided by this Contract exceed such unpaid balance, the Contractor shall pay the difference to the City. Such additional costs and any liquidated or actual damages due to the City under this Contract will be determined by the City Manager and be submitted to the City Council in the form of a Change Order to the Contract.

- D. Any extensions of time granted by Change Order or other extensions granted by the Council do not constitute a waiver of the City's right to terminate the Contract pursuant to this section for the Contractor's failure to complete the Project within the time specified in the Contract

and any authorized extensions thereto, nor do such extensions constitute a waiver of the City's right to collect liquidated damages.

- E. If the work is stopped by order of a court, public authority, or the City for a period of ninety (90) calendar days or more, through no act or fault of the Contractor, anyone employed by such Contractor or his Subcontractors, then the Contractor may terminate the Contract in accordance with these Contract Documents.

60. TIME IS OF THE ESSENCE

It is mutually understood and agreed by and between the parties to the Contract that in the execution of the same, time is an essential element of the Contract, and it is important that the work progress vigorously to completion.

61. LIQUIDATED DAMAGES

For each and every calendar day that work shall remain uncompleted after the time specified for the completion of the work in the Contract, or as adjusted by a change order, the sum per calendar day, as stipulated in the Advertisement for Bids, shall be deducted from any money due or to become due to the Contractor, not as forfeit or penalty, but as liquidated damages. This sum is fixed and agreed upon between the parties because the actual loss to the City and to the public caused by delay in completion will be impractical and extremely difficult to ascertain and determine. It is agreed that the City has made a good faith attempt to estimate the loss caused by any delays and that the estimate is incorporated in the sum, which is agreed to be reasonable. If the City allows the Contractor to complete or attempt to complete the work subsequent to the date of completion specified herein, such action shall not constitute a waiver by the City of the imposition of the liquidated damages provision as specified herein.

62. CITY'S REMEDIES CUMULATIVE AND NONWAIVER

No right or remedy conferred upon or reserved to the City by the Contract shall be considered exclusive of any other remedy or contractual right, but the same shall be distinct, separate, and cumulative, and shall be in addition to every other remedy existing at law or in equity or by statute; and every remedy given by the Contract to the City may be exercised from time to time as often as the occasion may arise, or as may be deemed expedient. No delay or omission on the part of the City to exercise any right or remedy arising from any default on the part of the Contractor shall impair such right or remedy or shall be construed to be a waiver of any such default or an acquiescence thereto, or otherwise affect the right of the City to enforce the same in the event of any subsequent breach or default by the Contractor.

63. SEVERABILITY CLAUSE, DISPUTE RESOLUTION, APPLICABLE LAW

- A. This Contract shall be governed by the laws of the State of Arizona, and venue for any litigation arising out of this Contract shall be in the Superior Court of the State of Arizona in and for the County of Coconino or the County of Yavapai, depending upon the location of the work, if the amount in dispute is in excess of \$5,000.00. If the amount in dispute is less than \$5,000.00, jurisdiction and venue shall lie in the nearest Justice of the Peace Court of the appropriate county. Arbitration shall not be an alternative method of settling disputes unless separately agreed upon in writing by the parties. This Contract shall not be construed to create any contractual relationship of any kind between the Engineering Dept., and the

Contractor or any Subcontractor, or between the City and any Subcontractor. During any dispute arising hereunder, the Contractor shall continue to perform all work in accordance with the Contract Documents. In the event of any dispute arising hereunder, the prevailing party in the resolution of such dispute shall be entitled to recover its attorney's fees and costs incurred.

- B. The provisions of this Contract shall be deemed to be severable, and if any term, phrase or portion of the Contract shall be determined to be unlawful or otherwise unenforceable, the remainder of the Contract shall remain in full force and effect.
- C. Any and all disputes relating to this Contract shall be subject to the provisions of Chapter 3.10 of the Sedona City Code. The City Code can be viewed on the City of Sedona website, as well as, the City Clerk's Office, City Hall, Sedona, Arizona.
- D. Notwithstanding the mediation provisions set forth in Paragraph 62.C above, either party may submit, by demand letter, correspondence or notice, to the other party, any claim, counterclaim, dispute or other matter in question between the Contractor and the City arising out of or relating to this Contract, the Contract Documents, the Plans, the Project or the work, or breach thereof, and such claim, counter claim, dispute or other matter in question shall be subject to and decided by arbitration in accordance with the Rules for Non-Administered Arbitration of Business Disputes (the "Rules") of the Center for Public Resources ("CPR") currently in effect, except as provided herein and except where modified by the provisions hereof.
- E. Any arbitration arising out of this Contract, the Contract Documents, the Plans, the Project or the work, or any breach thereof may include, by consolidation or joinder, or in any other manner, at the discretion of either the Contractor or the City, any other entities or persons whom the Contractor or the City, as the case may be, believes to be substantially involved in a common question of law or fact.
- F. All demands for arbitration and all responses thereto that include any monetary claim, must contain a statement that the total sum or value in controversy as alleged by the party making such demand or response is not more than \$150,000.00 (exclusive of interest and arbitration fees and costs). The arbitrators will not have jurisdiction, power or authority to consider or make findings except the denial of their own jurisdiction concerning any controversy where the amount at issue is more than \$150,000.00 (exclusive of interest and arbitration fees and costs) or to render a monetary award in response thereto against any party which totals more than \$150,000.00 (exclusive of interest and arbitration fees and costs). Notwithstanding the foregoing provisions, the parties may mutually agree to waive the jurisdictional limitations set forth in this sub-paragraph. In the event of such mutual waiver, all other provisions in this sub-paragraph shall apply.
- G. Demand for arbitration shall be filed with the other party in accordance with Rules. A demand for arbitration shall be made within a reasonable time after the claim, dispute, or other matter in question has arisen. In no event shall the demand for arbitration be made after the date when institution of legal or equitable proceedings based on such claim, dispute or other matter in question could be barred by the applicable statute of limitations.
- H. In the event the amount in controversy is less than \$50,000.00 a sole arbitrator shall be appointed in accordance with Rules. In the event the amount in controversy is \$50,000.00,

the demanding party shall appoint one party-appointed arbitrator in its notice demand for arbitration. The responding party may within ten (10) days, appoint a second party-appointed arbitrator. The party-arbitrators shall appoint a third arbitrator in accordance with the Rules. If the party-arbitrators fail to appoint a third arbitrator, the third arbitrator shall be appointed in accordance with the Rules. If the responding party fails to appoint a second party-appointed arbitrator within the time so provided, selection of the second arbitrator shall be in accordance with the Rules.

- I. The decision of the arbitrators shall be in accordance with laws of the State of Arizona and the United States. The arbitrators shall prepare written findings of fact and conclusions of law upon which the decision and award shall be based. The arbitrators may award compensatory damages and attorneys' fees and costs to the prevailing party. The arbitrators shall have no authority to award consequential damages or punitive damages, and the parties hereby waive any claim to those damages to the fullest extent allowable by law.
- J. The demanding party shall select the locale of arbitration, but shall not choose a location greater than twenty-five (25) miles from the Project site.
- K. This agreement to arbitrate shall be specifically enforceable by either party under the prevailing laws of the State of Arizona and the United States. Any award rendered by the arbitrators shall be final and enforceable by any party to the arbitration, and judgment shall be made upon it in accordance with the applicable laws of any court having jurisdiction thereof. The arbitrators' decision shall be final and conclusive as to the facts. Either party may appeal manifest errors of law to a court of competent jurisdiction within fifteen (15) days of the award.
- L. Unless otherwise agreed in writing, and notwithstanding any other rights or obligations of either of the parties under the Contract, the Contractor and the City shall carry on with the performance of their respective duties, obligations and services hereunder during the pendency of any claim, dispute or other matter in question giving rise to arbitration or mediation, as the case may be. The City shall be under no obligation to make payments to the Contractor on or against such claims, disputes or other matters in question giving rise to arbitration or mediation, during the pendency of such arbitration or mediation or other proceedings to resolve such claims, disputes or other matters in question.

64. POTHOLING REQUIREMENTS

The Contractor shall pothole all existing utilities 1,000 feet ahead of trenching activities to allow adequate time and distance to allow for the adjustment of grade or location of the construction activities. The contractor shall pothole at least two (2) working days ahead of installing facilities such as manholes, sidewalks, storm drainage inlets, footing, headwalls, and similar non-longitudinal installations. The Contractor shall backfill the pothole after verifying the depth, size and location of the utility. If a potential conflict is encountered, temporarily plating the potholed utility will be allowed for review and coordination of a resolution of the conflict with the City and affected utilities representatives.

The City requests a minimum of five (5) working days notification of a potential conflict for marked utilities. This requirement does not relieve the Contractor of the responsibility to make the City aware of conflicts timely of the Contractor's awareness. If potholing 1,000 feet in advance of trenching activities has not been kept up and a conflict creates down time or delays in

work no extension of time or compensation for down time will be considered for that conflict.

65. UNMARKED UTILITY REPAIR

If in the course of work, a conflicting utility line that was not shown on the plans is discovered, the Contracting Agency will either negotiate with the owner of the Utility for relocation, change the alignment and grade of the trench or roadbed, provide encasement or sleeving, relocate the utility, or as a last resort, declare the conflict as “extra work” to be accomplished by the Contractor in accordance with Section 47 of these General Specifications. In the case of unmarked or incorrectly marked utilities the Contractor shall consider that responsibilities are per Arizona State Statutes Section 40 –360.

The Contractor shall contact the City and utility affected immediately upon damaging or breaking an unmarked utility. If an unmarked utility is found the Contractor shall take every precaution to not damage the utility and work around the conflict with the City and Utility representatives. No interpretation of this provision that changes the responsibility for non-located and improperly located utilities per Arizona State Statutes Section 40 –360 shall be valid.

66. UTILITY SEPARATION

The Contractor shall maintain as a minimum one (1) foot of vertical clearance and three (3) feet of horizontal clearance for all utility crossings. Water/sewer minimum separations will be two (2) feet vertical clear and six (6) feet horizontal clear. If less than one (1) foot but more than six (6) inches clearance is all that can be accommodated concrete encasement shall be provided.

67. NOTIFICATION TO RESIDENTS & COMMUNITY RELATIONS

The Contractor shall inform the residents along the construction area of the proposed work. This notification and community relations shall include, but not necessarily be limited to:

A. Mailings

The Contractor shall prepare a letter for mailing to the residents located adjacent to the project. This mailing will include a description of work to be done, work hours, date's for begin and end construction, Contractor representative contact name and phone number. The cost for the mailings shall be incidental to the project.

B. Informational Signage

The Contractor shall provide and install advance information signs and project information signs before beginning construction to inform the public of the forthcoming project, construction dates, and suggested alternate routes. Sign layout shall be as approved by the Engineer. Signs shall not be constructed or installed prior to approval by the Engineer for the designs, sizes and locations. The Contractor shall maintain the signs as necessary and update the information as requested by the Engineer. The information signs shall be shown on the traffic control plan. The cost for this work shall be included in the unit bid price for Mobilization.

C. Meetings

The Contractor may be requested to attend and participate in a pre-construction public meeting if deemed necessary by the Engineer. Meeting time, location and agenda will be determined by the Engineer. The cost for this meeting if held shall be incidental to the

project.

D. Driveway impact notification

The Contractor shall notify any resident or business of any access restrictions at least 48 hours prior to access restriction. Notification to residents is considered incidental to the projects activities and included in the unit price of the various activities.